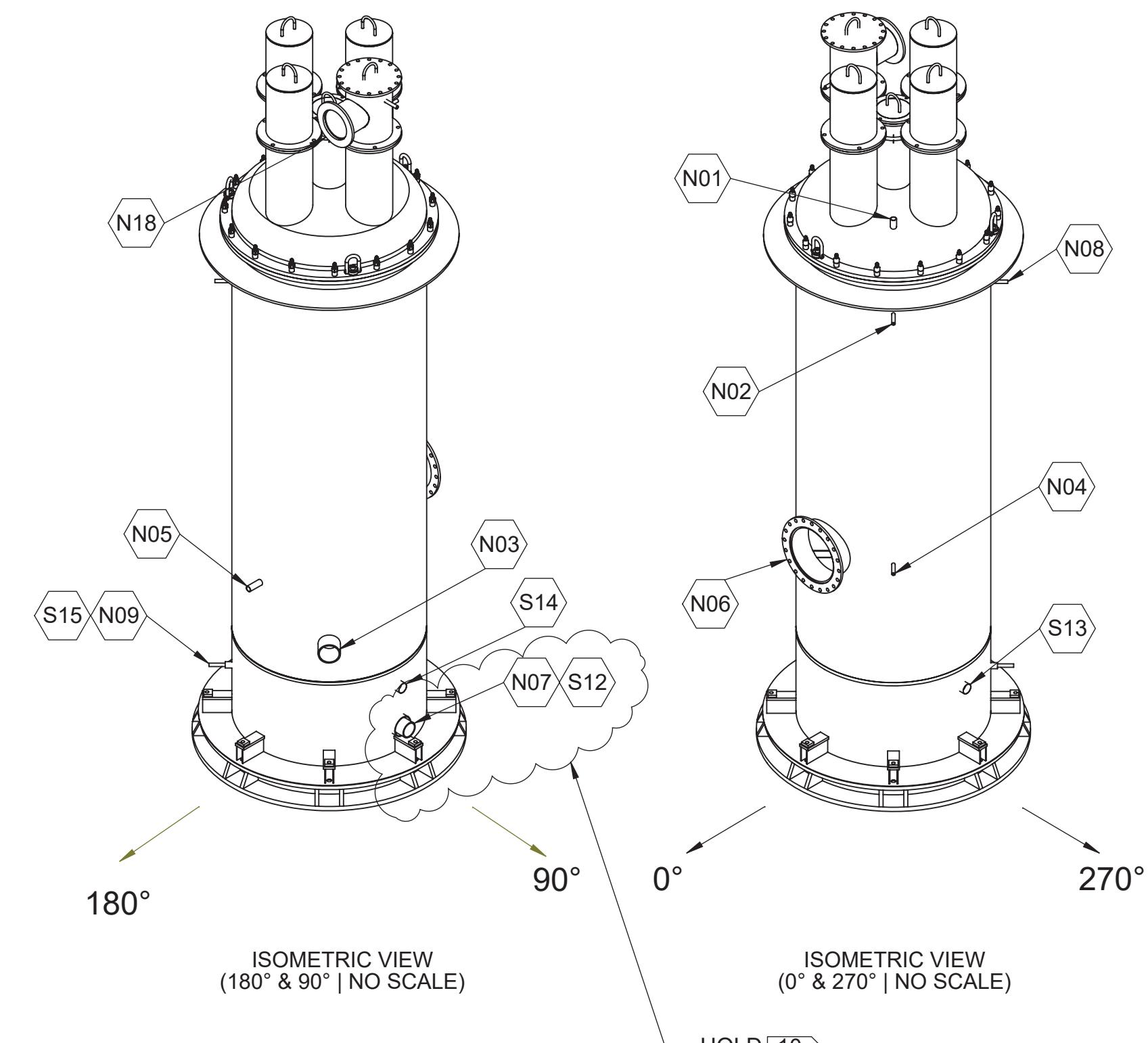
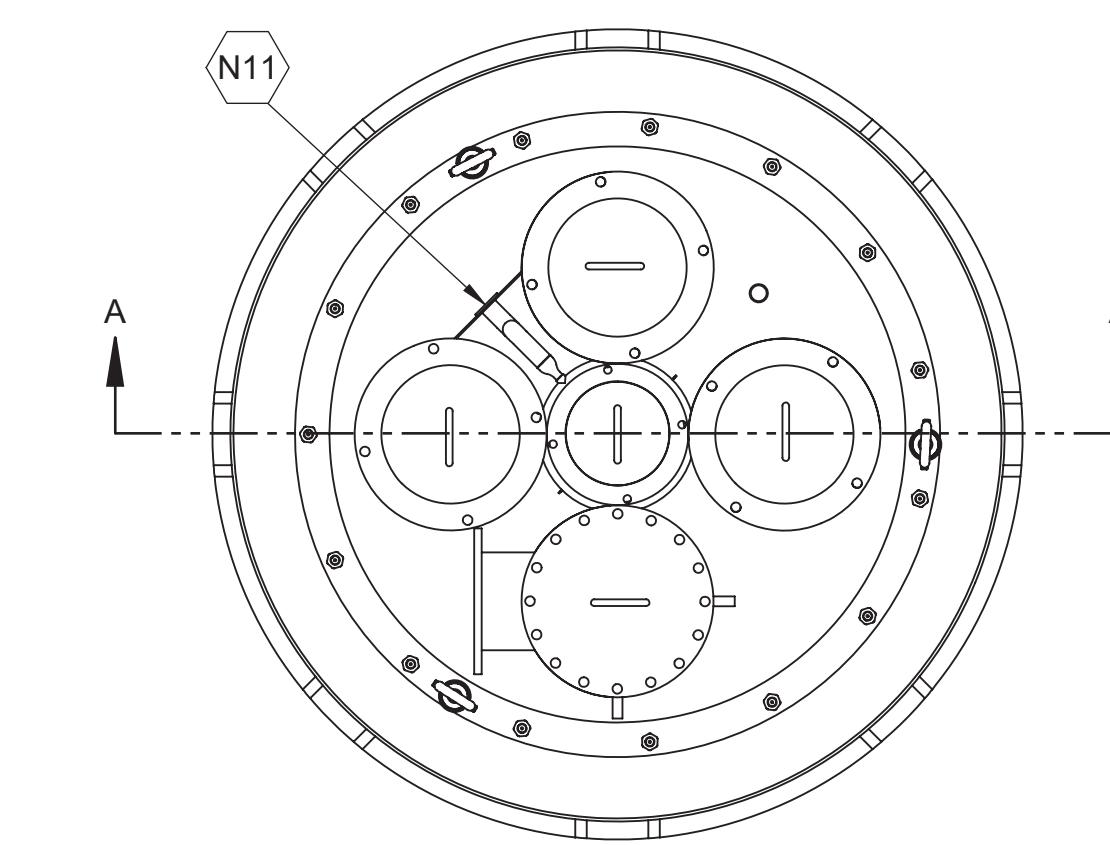
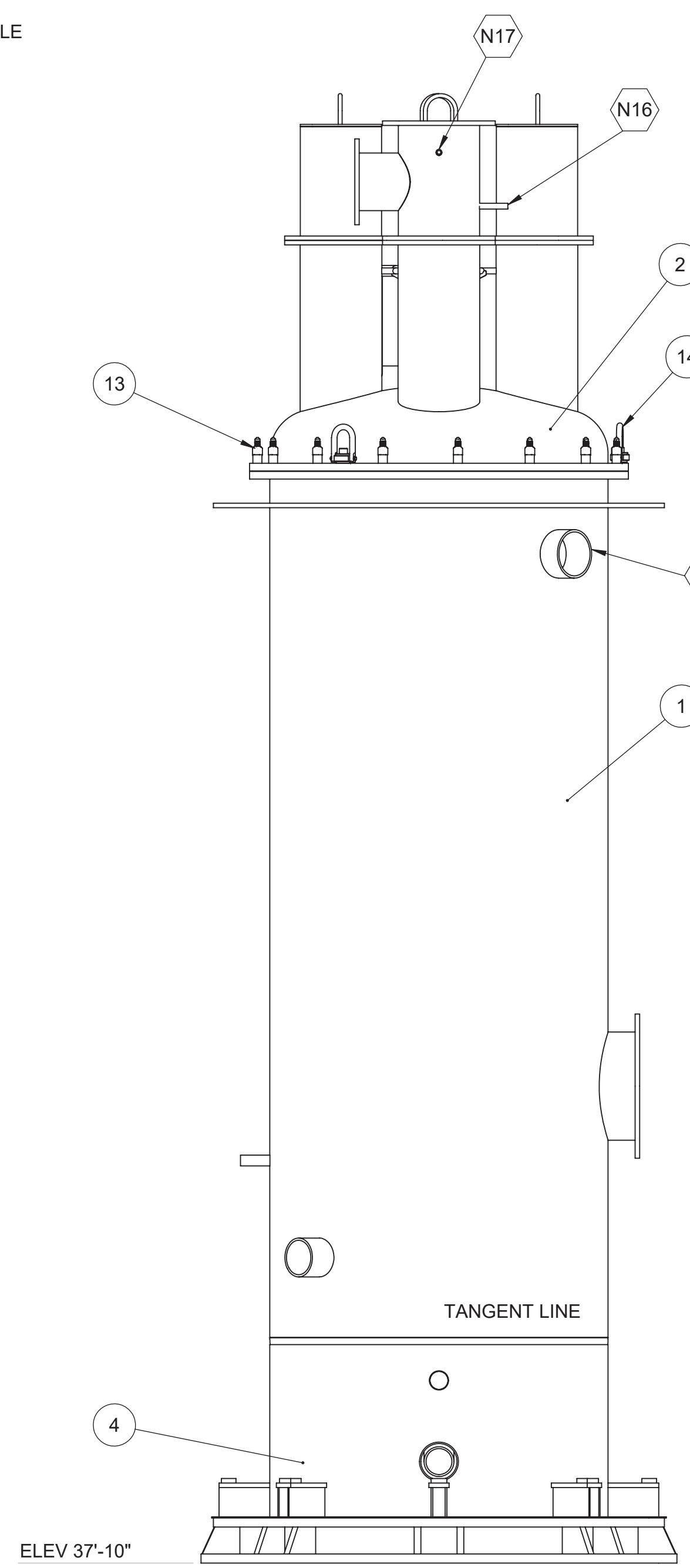
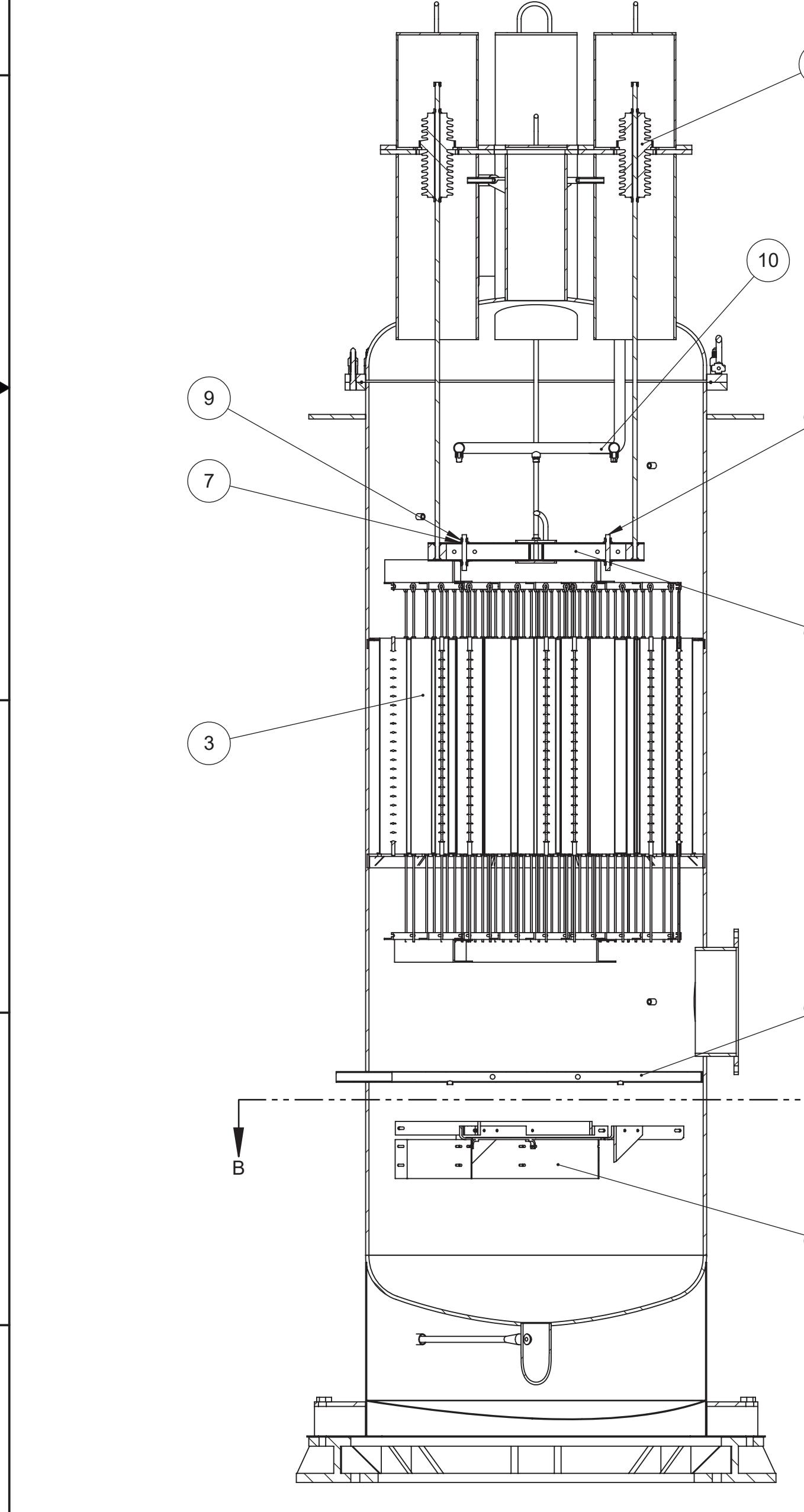


NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ENGINEERING SPECIFICATION PROVIDED IN PURCHASE ORDER.
2. SELECTION OF COMPONENTS ON THIS DRAWING IS A PROPOSAL ONLY. THE SELLER SHALL BE RESPONSIBLE FOR FULL VALIDATION OF THE COMPONENTS SELECTED FOR THE CONTRACTUAL APPLICATION, WHETHER IDENTICAL TO THE BUYER PROPOSAL OR OTHERWISE.
3. THIS DRAWING PROVIDES BASIC OUTLINES, DESIGN OBJECTIVES AND BOUNDING DIMENSIONS FOR THE CONTRACTED DESIGN OR FABRICATION SUPPLIER(S) AND SHALL NOT BE USED TO CONFIRM THE AS BUILT WTP STRUCTURE, SYSTEM OR COMPONENT IDENTIFIED HEREIN. SEE SELLER INFORMATION FOR FINAL CONFIGURATION PROVIDED IN CONFORMANCE TO PURCHASE ORDER.
4. ALL DIMENSIONS, TOLERANCES, LIMITS OF SIZE, FORM, LOCATION AND RELATED TERMINOLOGY AND SYMBOLS SHALL BE INTERPRETED IN ACCORDANCE WITH ASME Y14.5-2018.
5. BREAK ALL SHARP EDGES AND REMOVE ALL BURRS.
6. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACE FINISH SHALL BE 125 MICROINCHES OR GREATER.

- 7. WELDS OF ALL NOZZLES SHALL BE INSPECTED THROUGH PT/RT METHODS.
- 8. SUPPLIER TO PROVIDE PROOF OF OPERABILITY TOWARDS MAINTAINANCE OF THE VESSEL.
- 9. APPLY NO FINISH TO THE VESSEL.
- 10. THIS AREA IS NOT FINALIZED PENDING AN UPDATED STRESS ANALYSIS REPORT
- 11. ALL "Z" DIMENSIONS MEASURED FROM THE 37' 10" ELEVATION TO THE CENTER LINE OF NOZZLES UNLESS OTHERWISE NOTED.



BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	DOCUMENT NUMBER	MATERIAL
1	1	WESP MAIN VESSEL ASSEMBLY	24590-HLW-MV-HOP-00004002	-
2	1	WESP TOP VESSEL HEAD ASSEMBLY	24590-HLW-MV-HOP-00004003	-
3	1	WESP COLLECTING TUBE ARRAY ASSEMBLY	24590-HLW-MV-HOP-00004005	-
4	1	WESP LOWER SKIRT ASSEMBLY	24590-HLW-MV-HOP-00004006	-
5	1	WESP MAIN BEAM ASSEMBLY	24590-HLW-MV-HOP-00004008	-
6	4	WESP INSULATOR ASSEMBLY	24590-HLW-MV-HOP-00004007	-
7	8	316 STAINLESS STEEL WASHER	-	316 Stainless Steel
8	4	WESP MAIN BEAM THREADED ROD	-	18-8 Stainless Steel
9	8	18-8 STAINLESS STEEL HEX NUT	-	18-8 Stainless Steel
10	1	WESP UPPER SPRAY RING ASSEMBLY	24590-HLW-MV-HOP-00004009	-
11	1	WESP BAFFLE PLATE ASSEMBLY	24590-HLW-MV-HOP-00004010	-
12	1	WESP INTERNALS LOWER FLUSH WATER HEADER	24590-HLW-MV-HOP-00004004	-
13	15	WESP REMOTE NUT	-	ASTM A194 Steel
14	3	STEEL HOIST RING FOR LIFTING	-	ASME B30.26 Steel

NOZZLE SCHEDULE					
NOZZLE	SIZE	SERVICE/REMARKS	SCH.	"Z" DIM.	WELD CONNECTION DETAIL PER 24590-WTP-MV-M59T-00016001
N01	2"	FLUSH WATER UPPER	80	21'-9"	DETAIL 3
N02	1"	PRESSURE TRANSMITTER 1	160	18'-8"	DETAIL 2
N03	8"	OFF GAS INLET	80	5'-8"	DETAIL 2
N04	1"	PRESSURE TRANSMITTER 2	160	8'-10"	DETAIL 2
N05	2"	FLUSH WATER LOWER	80	7'-5"	DETAIL 2
N06	24"	VESSEL INSPECTION PORT	40	8'-10"	DETAIL 2
N07	6"	VESSEL DRAIN	80	1'-11"	DETAIL 1
N08	1"	LEVEL TRANSMITTER 1	160	17'-9"	DETAIL 2
N09	1"	LEVEL TRANSMITTER 2	80	2'-8"	DETAIL 6
N10	10"	OFF GAS OUTLET	NA	18'-8"	DETAIL 2
N11	2"	TOP PURGE AIR	80	21'-11"	DETAIL 10
S12	8"	SKIRT SLEEVE 1	40	1'-11"	DETAIL 2
S13	4"	SKIRT VENT 1	40	3'-5"	DETAIL 2
S14	4"	SKIRT VENT 2	40	3'-5"	DETAIL 2
S15	2"	SKIRT SLEEVE 2	40	2'-8"	DETAIL 2
N16	1"	TOP PURGE AIR 2	160	-	DETAIL 2
N17	1"	TOP PURGE AIR 3	160	-	DETAIL 2
N18	12"	ELECTRICAL PORT	NA	25'-7"	DETAIL 8

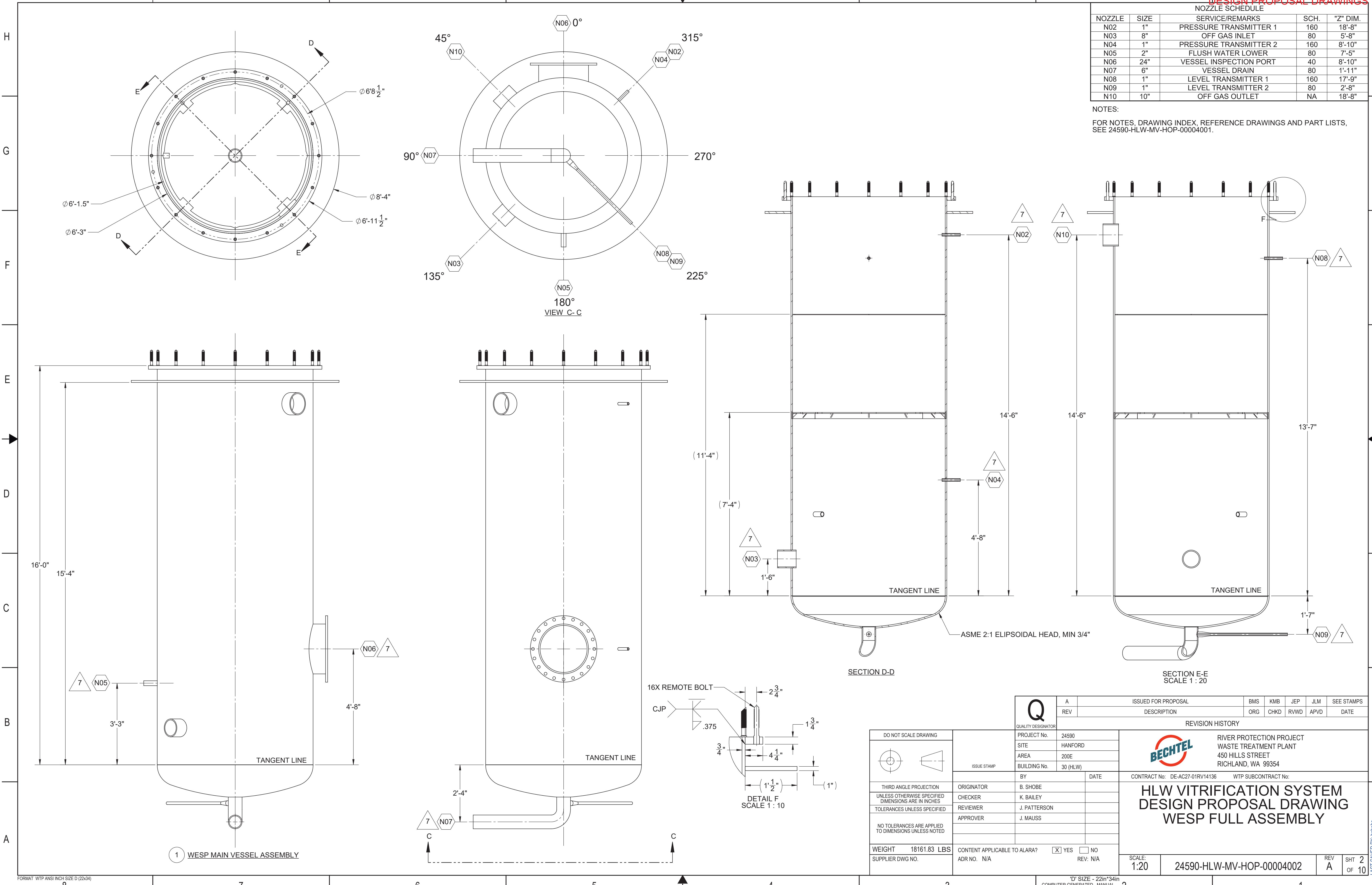
DRAWING INDEX		
SH	DWG NO.	TITLE
001	24590-HLW-MV-HOP-00004001	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
002	24590-HLW-MV-HOP-00004002	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
003	24590-HLW-MV-HOP-00004003	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
004	24590-HLW-MV-HOP-00004004	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
005	24590-HLW-MV-HOP-00004005	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
006	24590-HLW-MV-HOP-00004006	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
007	24590-HLW-MV-HOP-00004007	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
008	24590-HLW-MV-HOP-00004008	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
009	24590-HLW-MV-HOP-00004009	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY
010	24590-HLW-MV-HOP-00004010	HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY

		010		24590-HLW-MV-HOP-00004010		HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY						
		Q QUALITY DESIGNATOR	A	ISSUED FOR PROPOSAL				BMS	KMB	JEP	JLM	SEE STAMPS
REV	DESCRIPTION				ORG	CHKD	RVWD	APVD	DATE			
REVISION HISTORY												
DO NOT SCALE DRAWING		ISSUE STAMP	PROJECT No.	24590		 <b>RIVER PROTECTION PROJECT</b> <b>WASTE TREATMENT PLANT</b> <b>450 HILLS STREET</b> <b>RICHLAND, WA 99354</b>						
			SITE	HANFORD								
			AREA	200E								
			BUILDING No.	30 (HLW)								
			BY				DATE	CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:				
THIRD ANGLE PROJECTION		ORIGINATOR	B. SHOBE			<h1>HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY</h1>						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CHECKER	K. BAILEY									
TOLERANCES UNLESS SPECIFIED		REVIEWER	J. PATTERSON									
NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED		APPROVER	J. MAUSS									
WEIGHT	18851 LBS	CONTENT APPLICABLE TO ALARA?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	SCALE: 1:25 24590-HLW-MV-HOP-00004001 REV A SHT 1 OF 10 LAST SAVED BY: bshobe						
SUPPLIER DWG NO.		ADR NO. N/A		REV: N/A								

ACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:

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**ILW VITRIFICATION SYSTEM  
DESIGN PROPOSAL DRAWING  
WESP FULL ASSEMBLY**

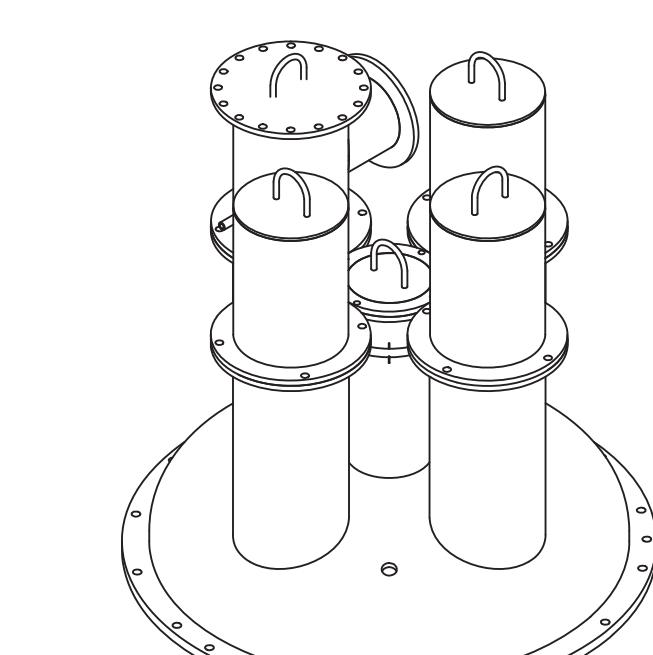


## NOZZLE SCHEDULE

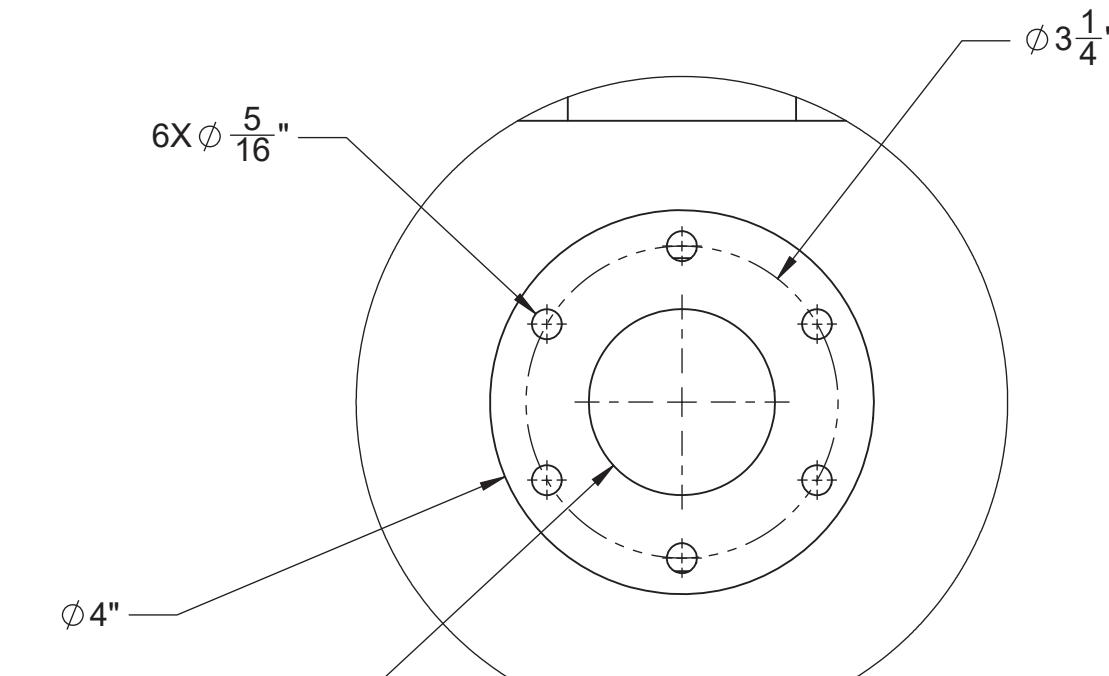
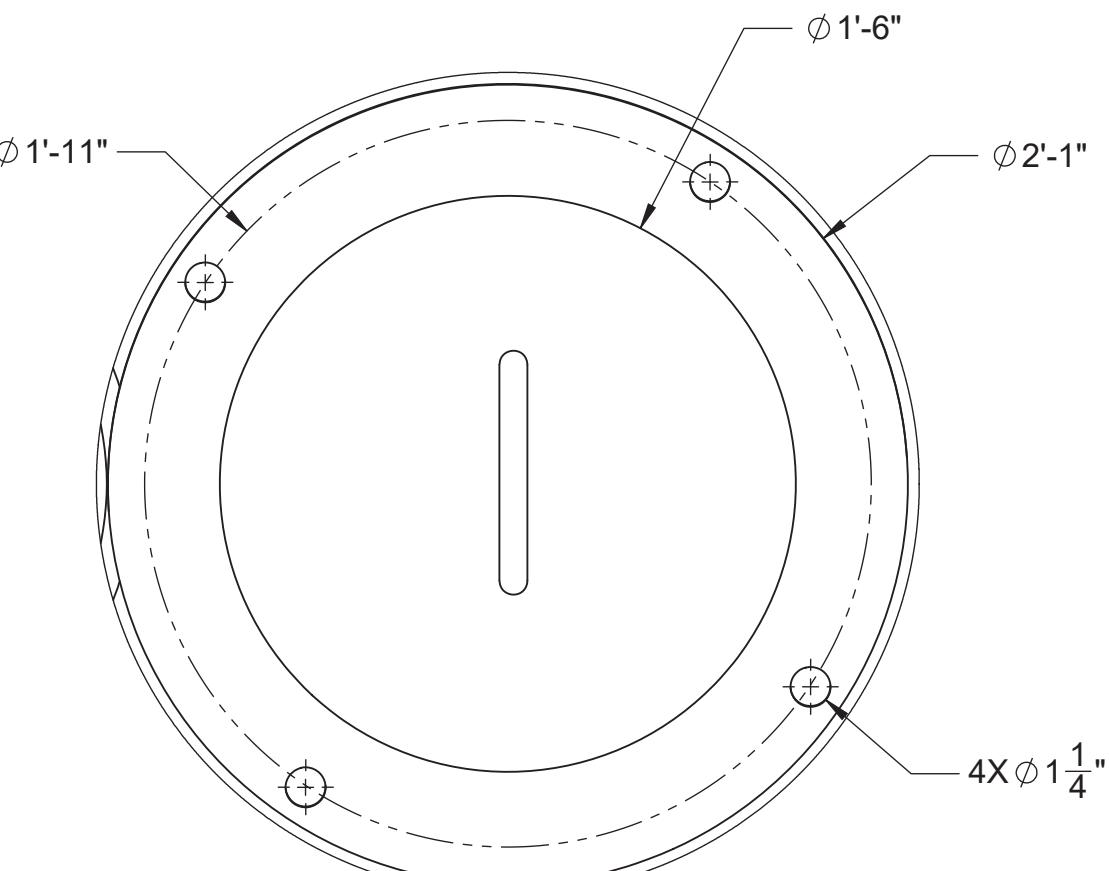
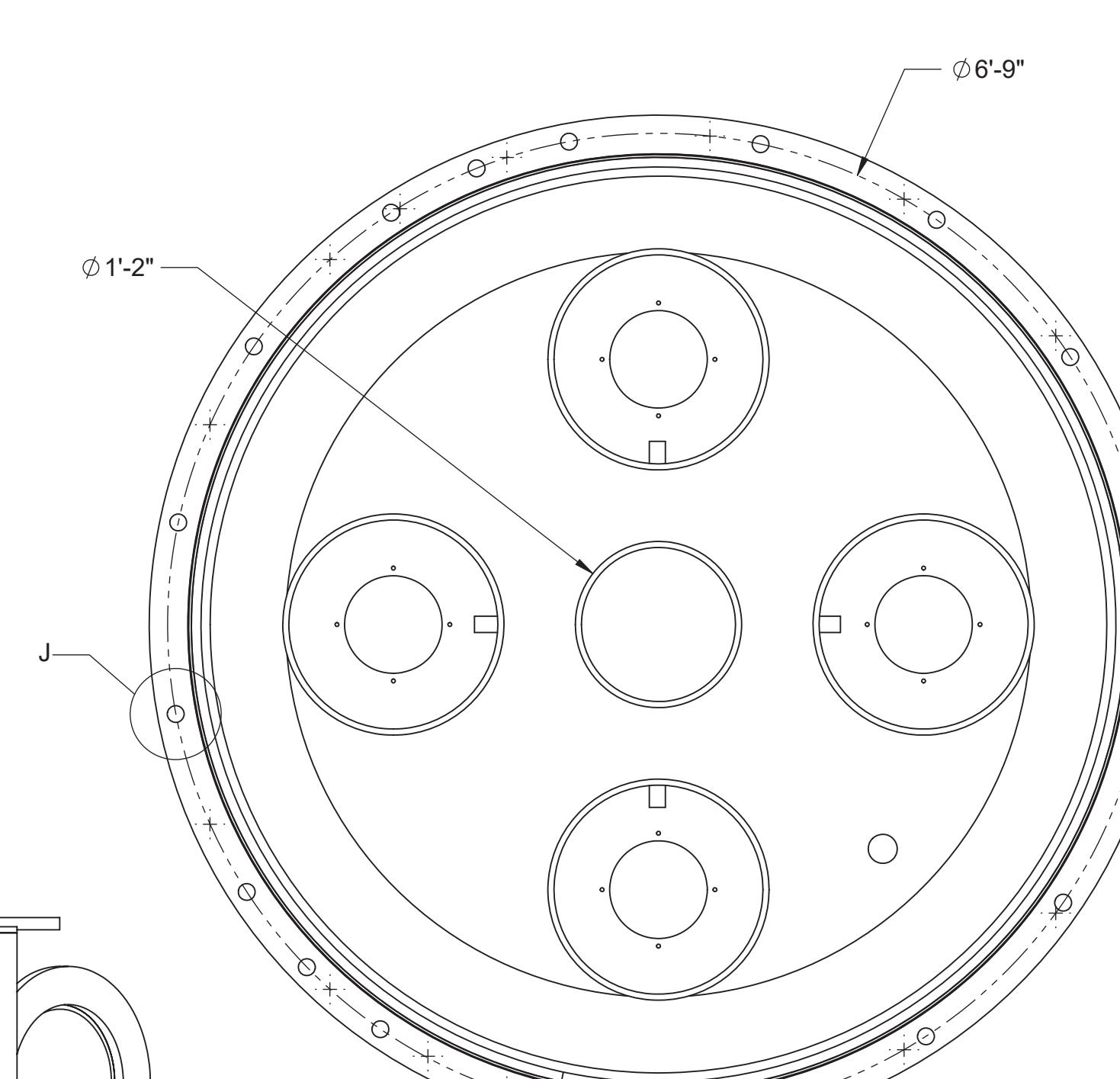
NOZZLE	SIZE	SERVICE/REMARKS	SCH.	"Z" DIM.
N11	2"	TOP PURGE AIR	80	21'-11"
N16	1"	TOP PURGE AIR 2	160	25' - 1"
N17	1"	TOP PURGE AIR 3	160	26' - 1"
N18	12"	ELECTRICAL PORT	NA	25'-7"

## NOTES

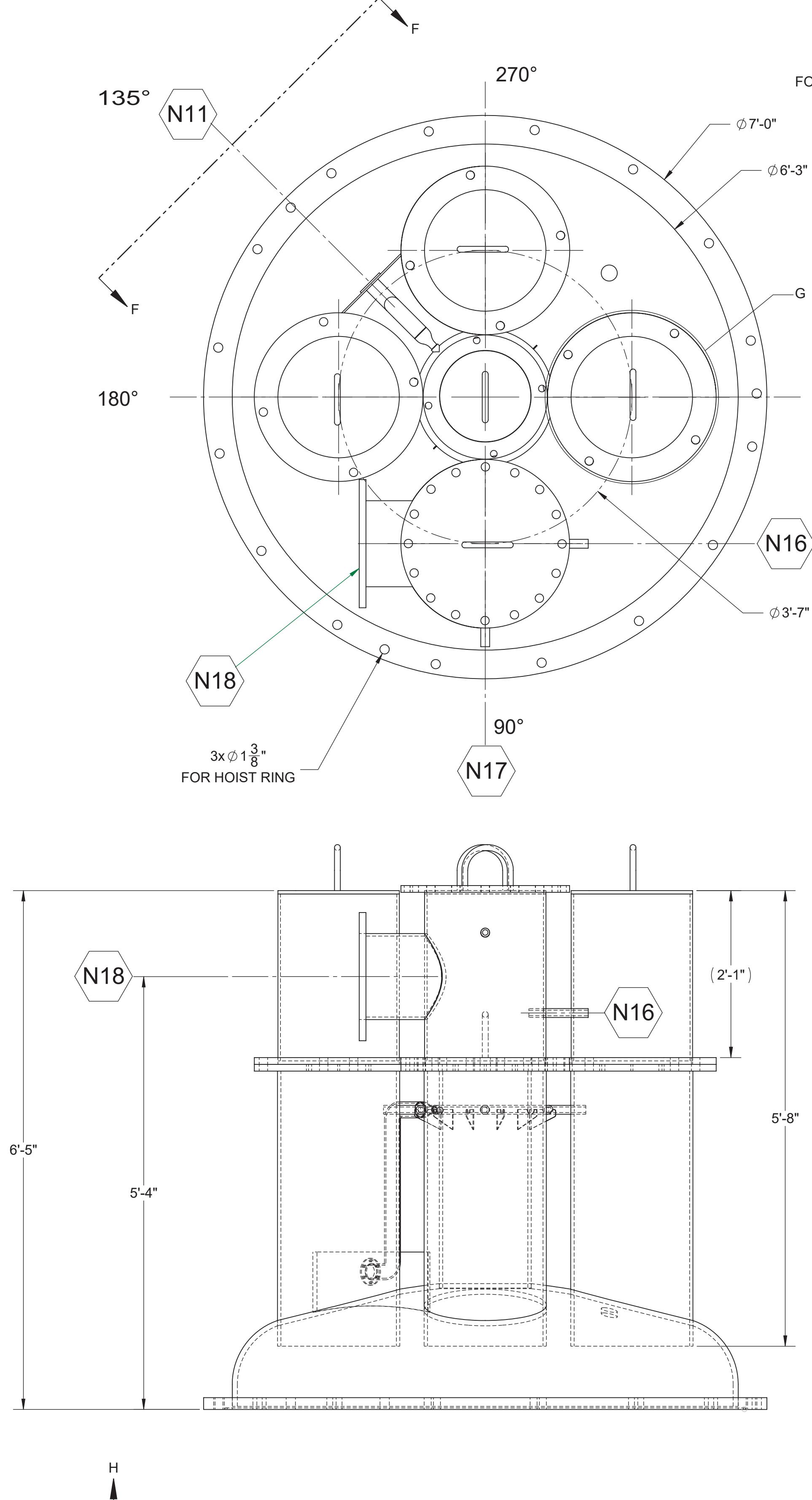
FOR NOTES, DRAWING INDEX, REFERENCE DRAWINGS AND PART LISTS, SEE  
24590-HLW-MV-HOP-00004001.



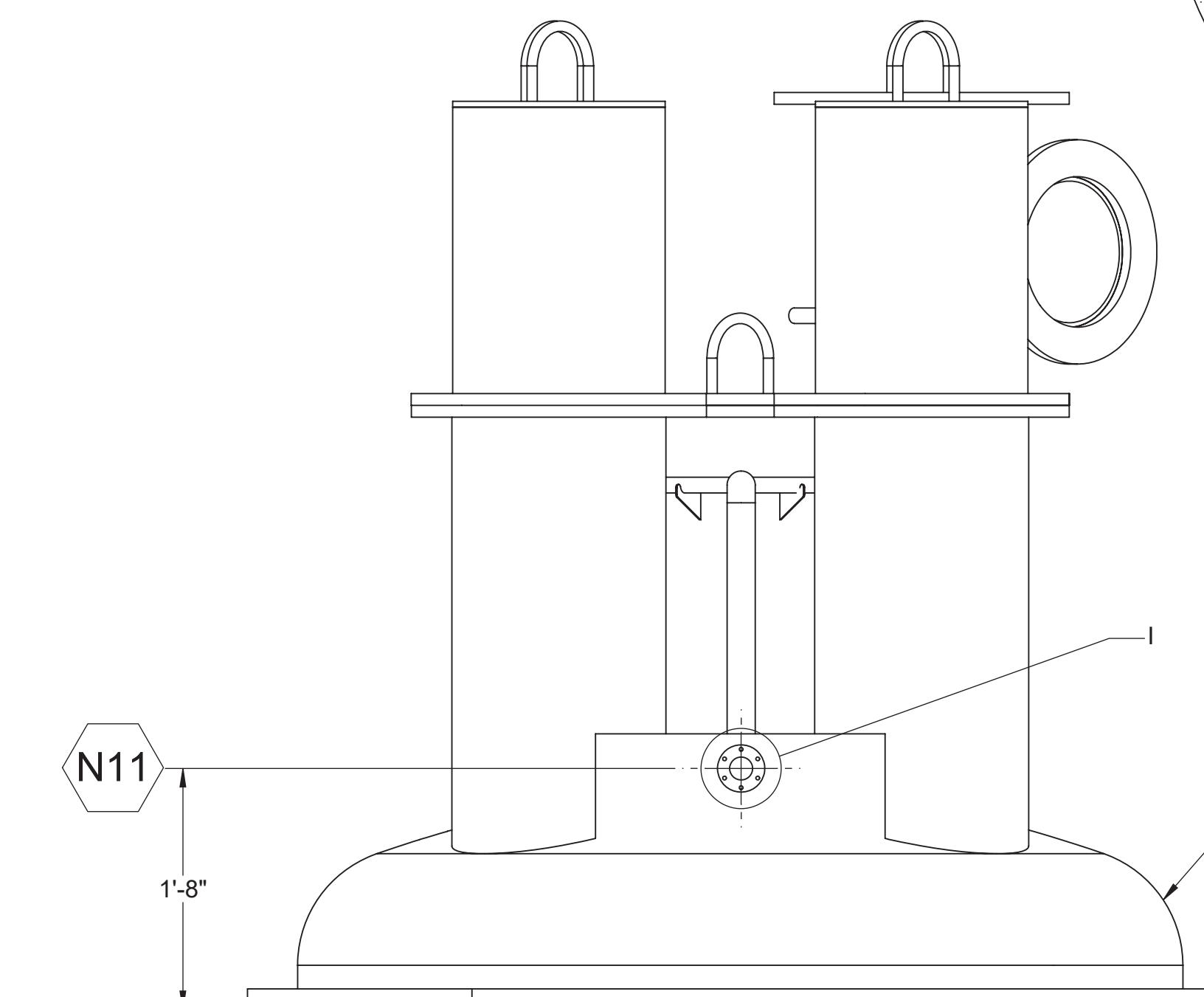
## ISOMETRIC VIEW (NO SCALE)



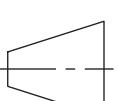
DETAIL I  
SCALE 1:2



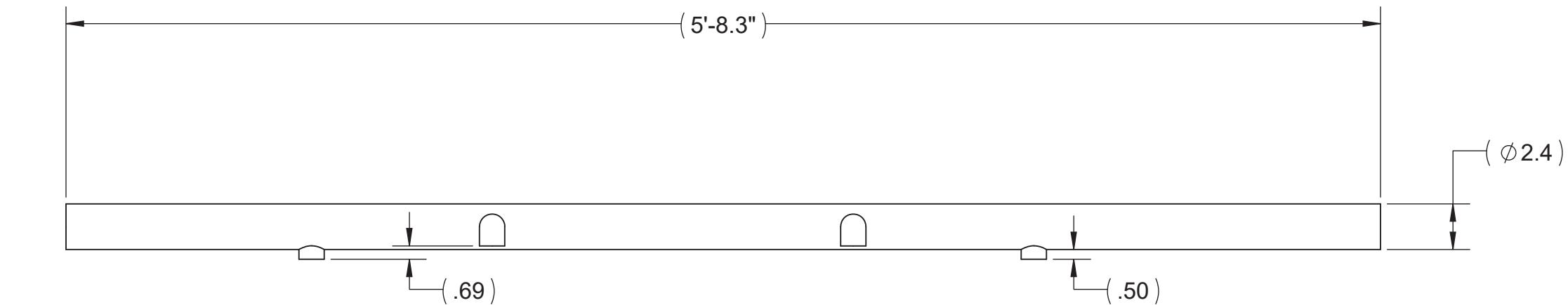
2 WESP TOP VESSEL HEAD ASSEMBLY



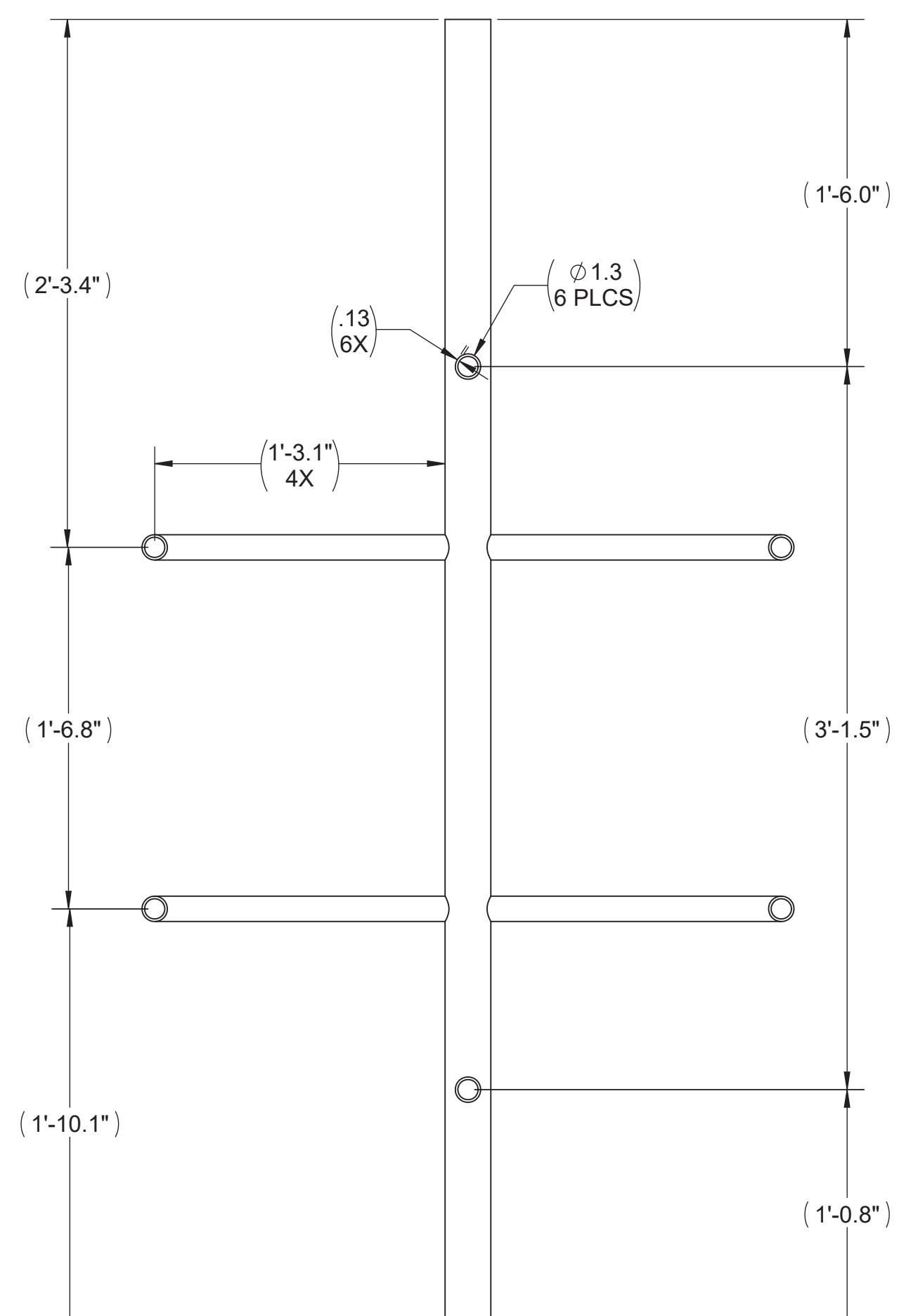
VIEW F- F  
135 00°

Q QUALITY DESIGNATOR		A	ISSUED FOR PROPOSAL		BMS	KMB	JEP	JLM	SEE STAMPS	
		REV	DESCRIPTION		ORG	CHKD	RVWD	APVD	DATE	
		REVISION HISTORY								
DO NOT SCALE DRAWING		ISSUE STAMP	PROJECT No.	24590		 RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 450 HILLS STREET RICHLAND, WA 99354				
 			SITE	HANFORD						
			AREA	200E						
			BUILDING No.	30 (HLW)						
			BY	DATE						
THIRD ANGLE PROJECTION		ORIGINATOR	B. SHOBE		CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CHECKER	K. BAILEY							
TOLERANCES UNLESS SPECIFIED		REVIEWER	J. PATTERSON							
NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED		APPROVER	J. MAUSS							
WEIGHT 18161.83 LBS		CONTENT APPLICABLE TO ALARA?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO					
SUPPLIER DWG NO.		ADR NO. N/A		REV: N/A		SCALE: 1:12	24590-HLW-MV-HOP-00004003		REV A	SHT 3 OF 10
3		'D' SIZE - 22in*34in		2		LAST SAVED BY: bshobe				
COMPUTER GENERATED - MANUAL										

NOTES:  
FOR NOTES, DRAWING INDEX, REFERENCE DRAWINGS AND PART LISTS, SEE 24590-HLW-MV-HOP-00004001.

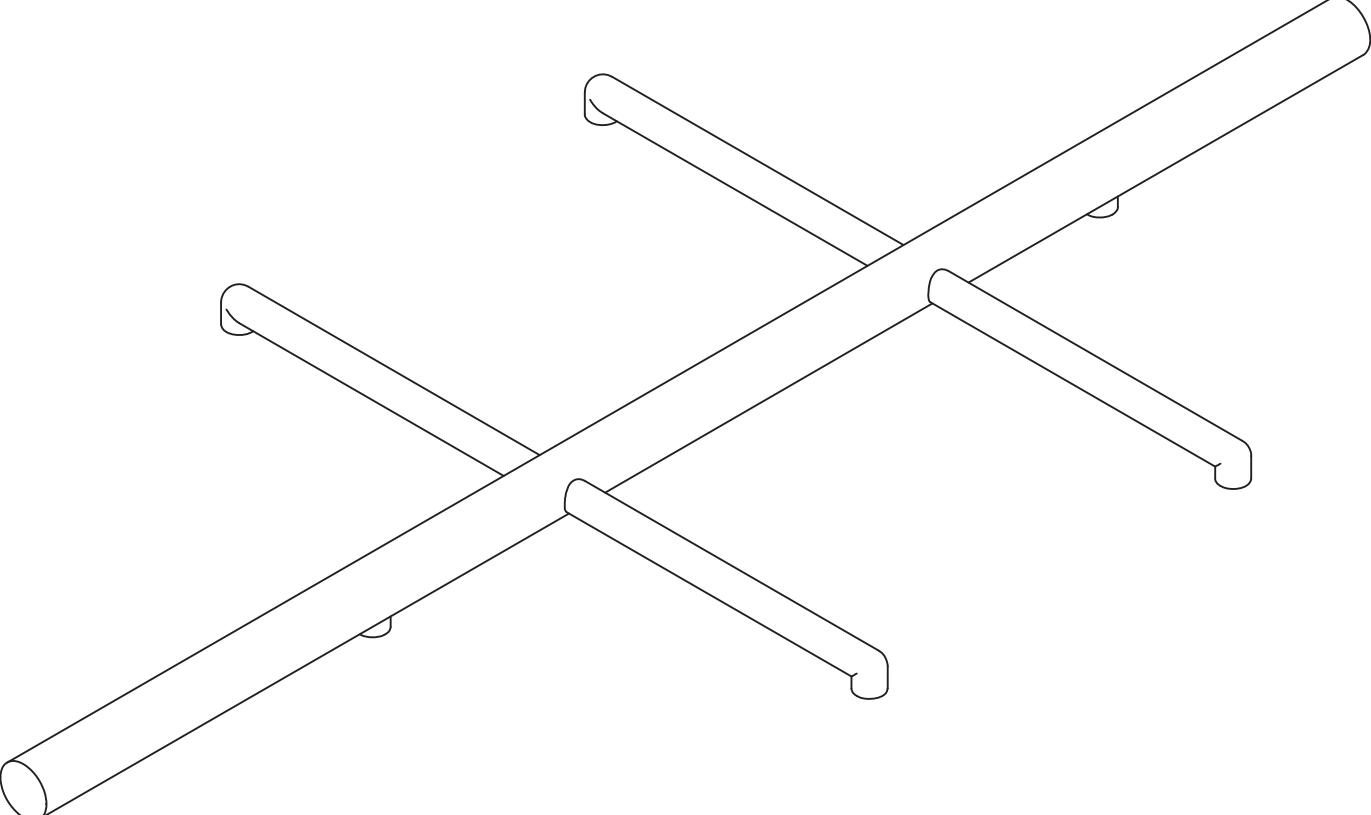


SIDE VIEW



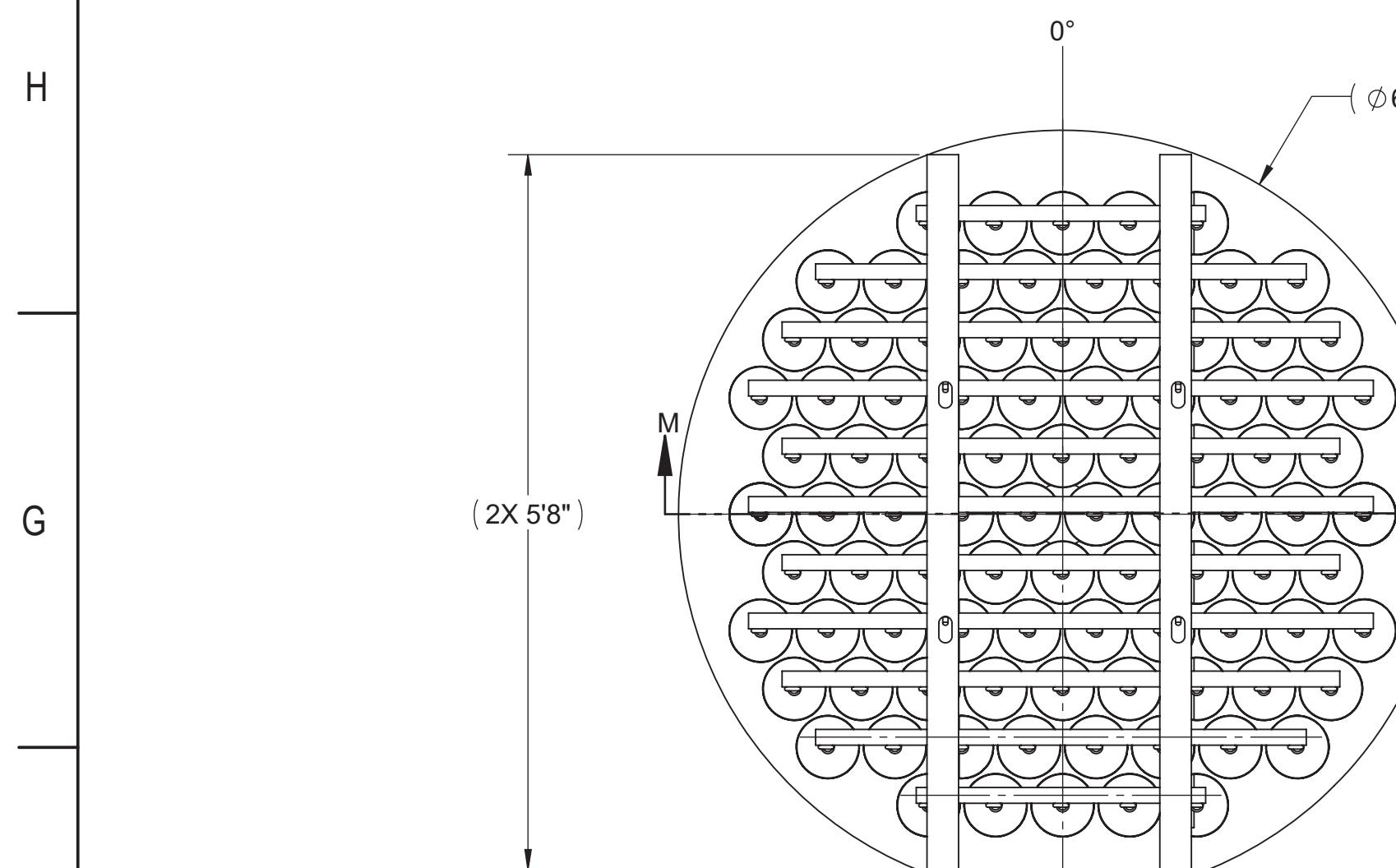
TOP VIEW

⑫ WESP INTERNALS LOWER FLUSH WATER HEADER

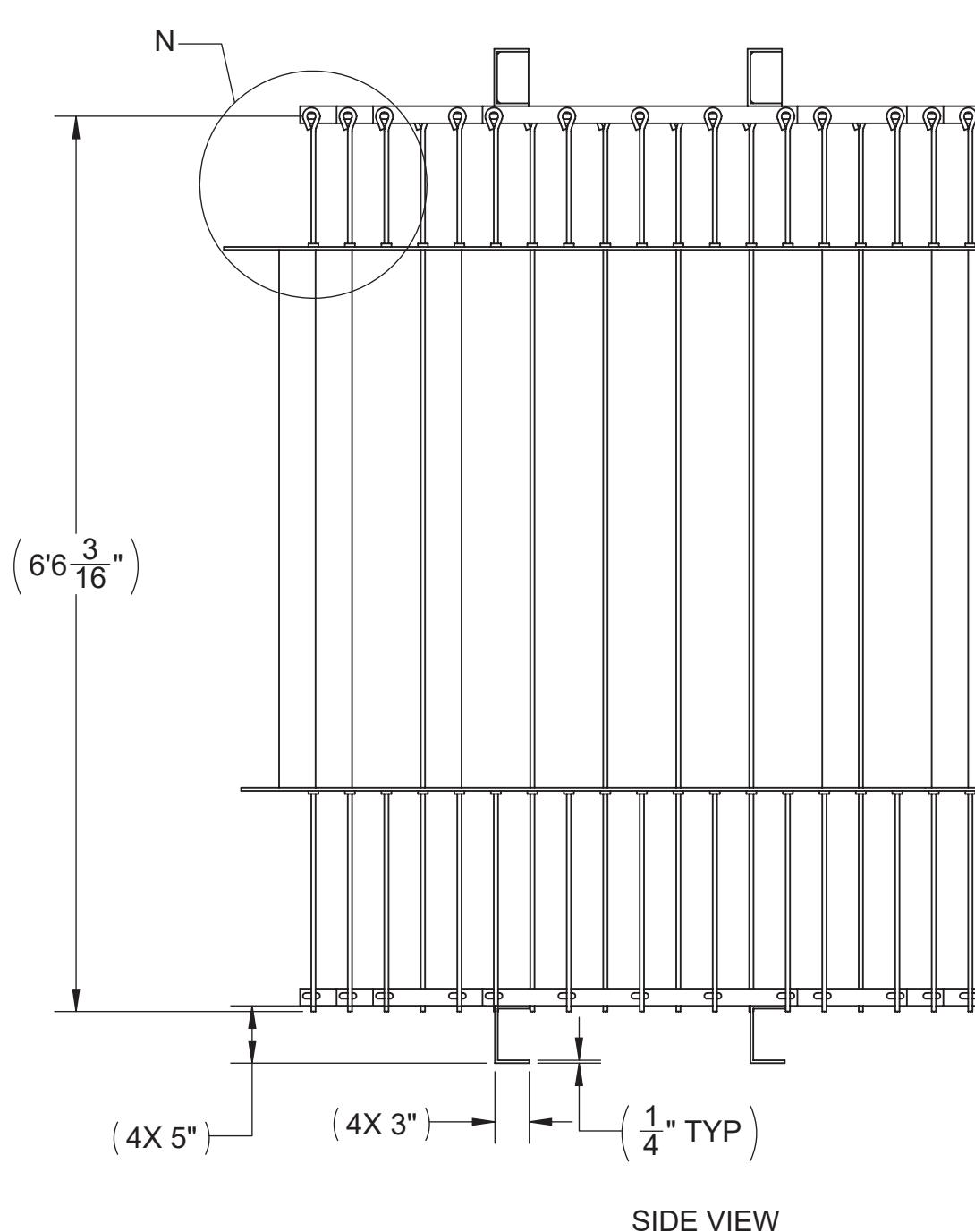
ISOMETRIC VIEW  
(NO SCALE)

Q QUALITY DESIGNATOR	A	ISSUED FOR PROPOSAL			KMB	BMS	JEP	JLM	see stamp
	REV	DESCRIPTION			ORG	CHKD	RWWD	APVD	DATE
	REVISION HISTORY								
DO NOT SCALE DRAWING 	PROJECT No.		24590		RIVER PROTECTION PROJECT				
	SITE		HANFORD		WASTE TREATMENT PLANT				
	AREA		200E		450 HILLS STREET				
	BUILDING No.		30 (HLW)		RICHLAND, WA 99354				
ISSUE STAMP	BY		DATE		CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:				
	ORIGINATOR		K. BAILEY						
	CHECKER		B. SHOBE						
	REVIEWER		J. PATTERSON						
THIRD ANGLE PROJECTION UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES UNLESS SPECIFIED NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED	APPROVER		J. MAUSS						
	WEIGHT		18161.85 LBS		CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
	SUPPLIER DWG NO.		N/A		ADR No. N/A REV: N/A				
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REV		A		SHT 4 OF 10					

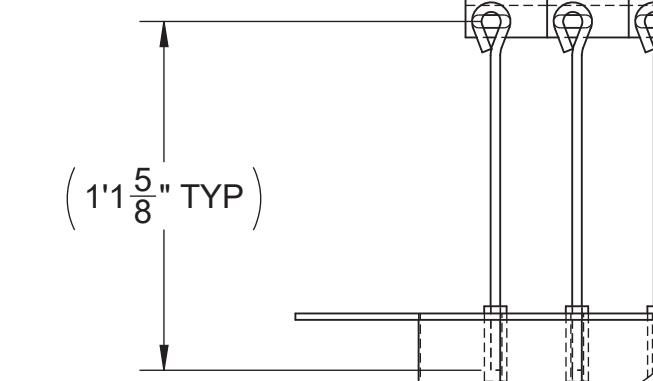
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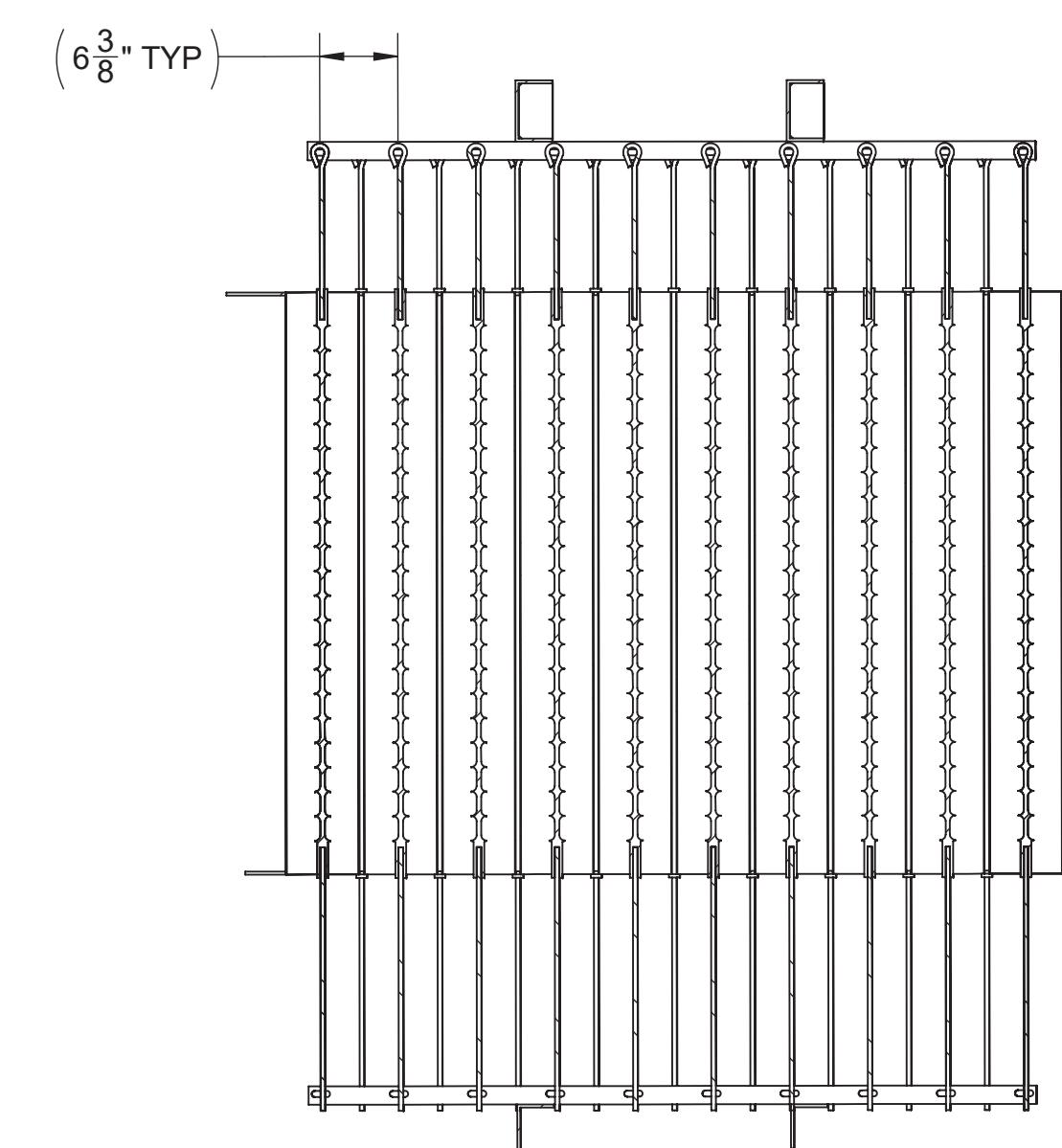
3 WESP COLLECTING TUBE ARRAY ASSEMBLY  
TOP VIEW



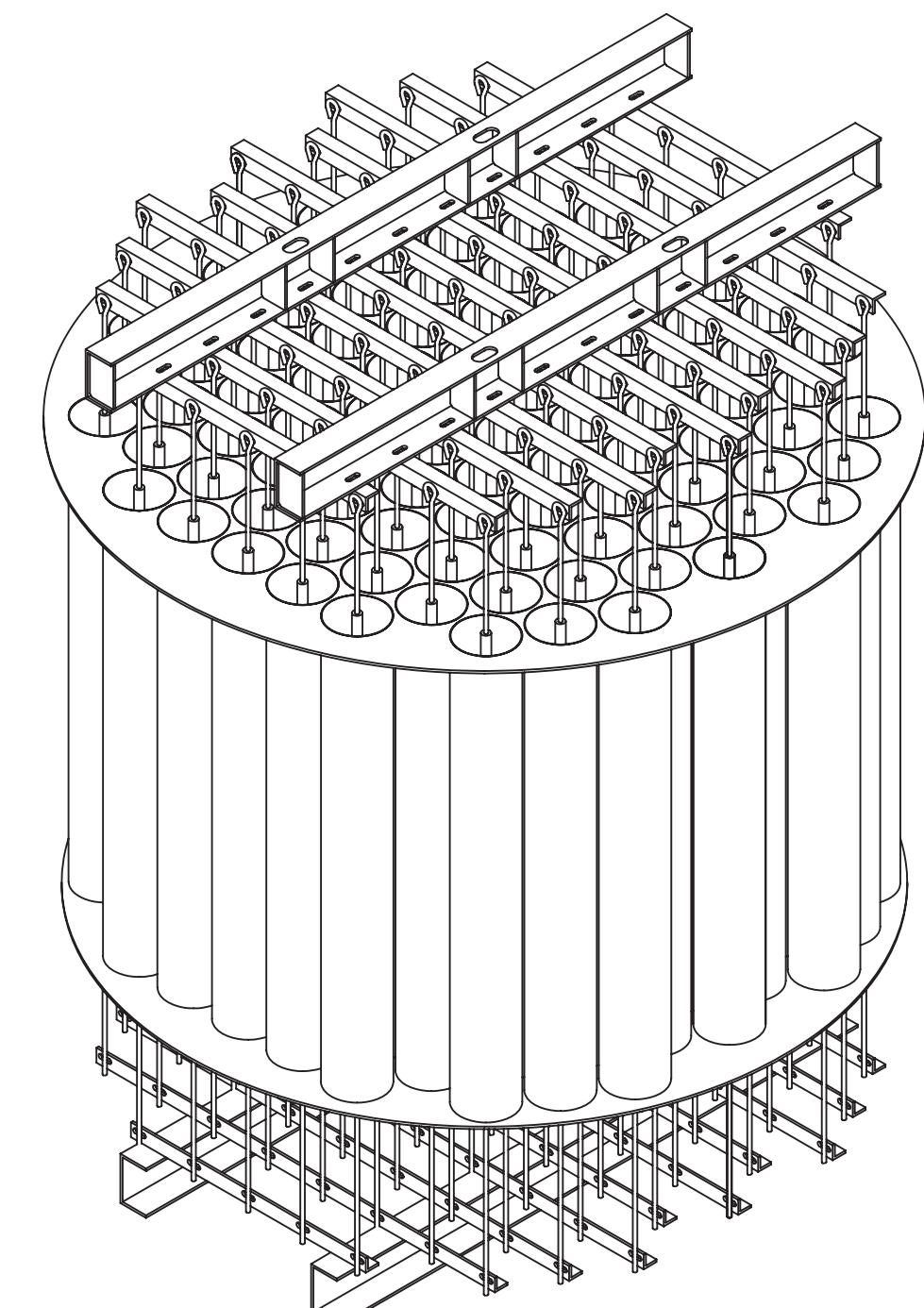
SIDE VIEW



DETAIL N  
SCALE 2 : 15



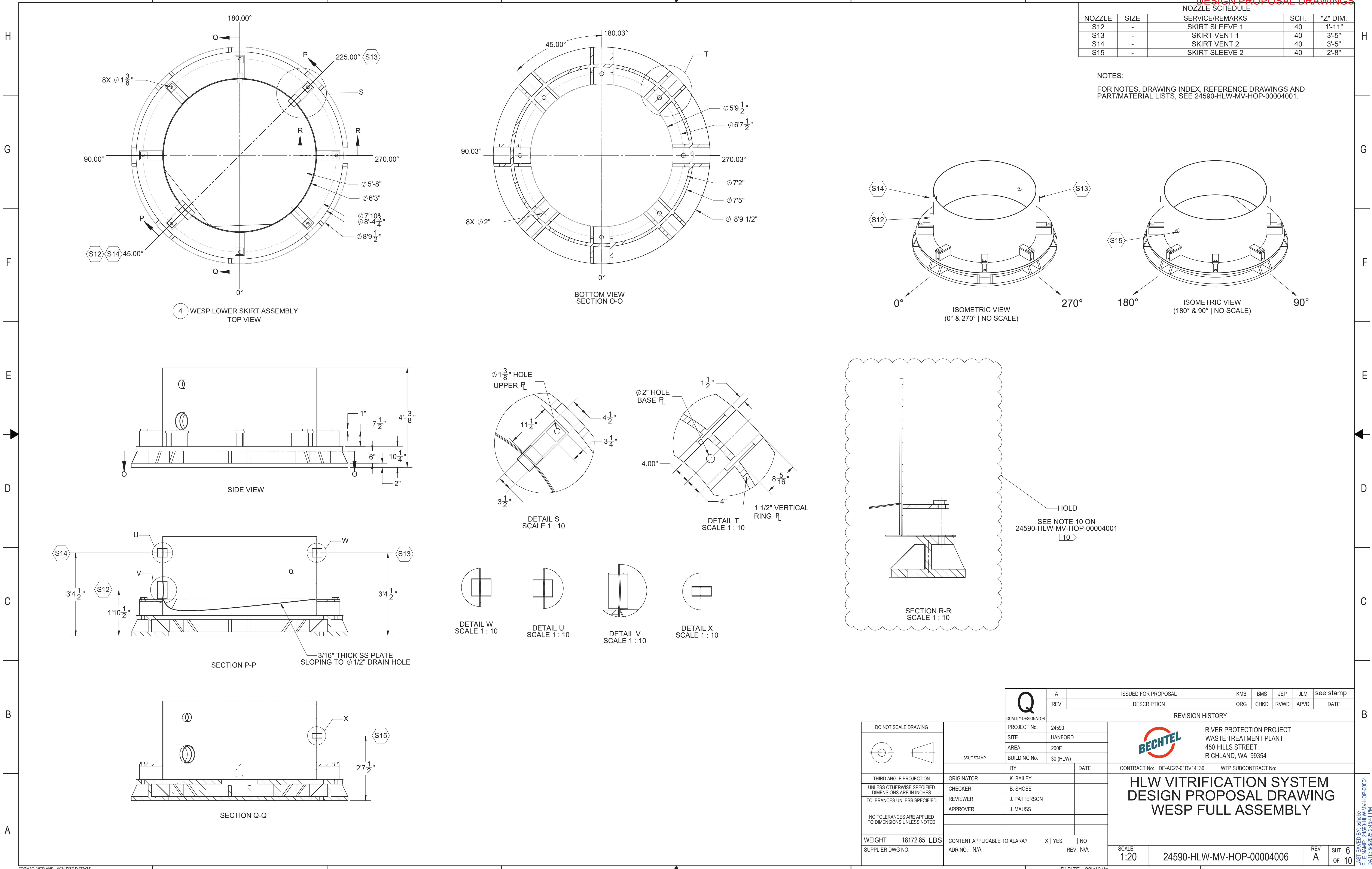
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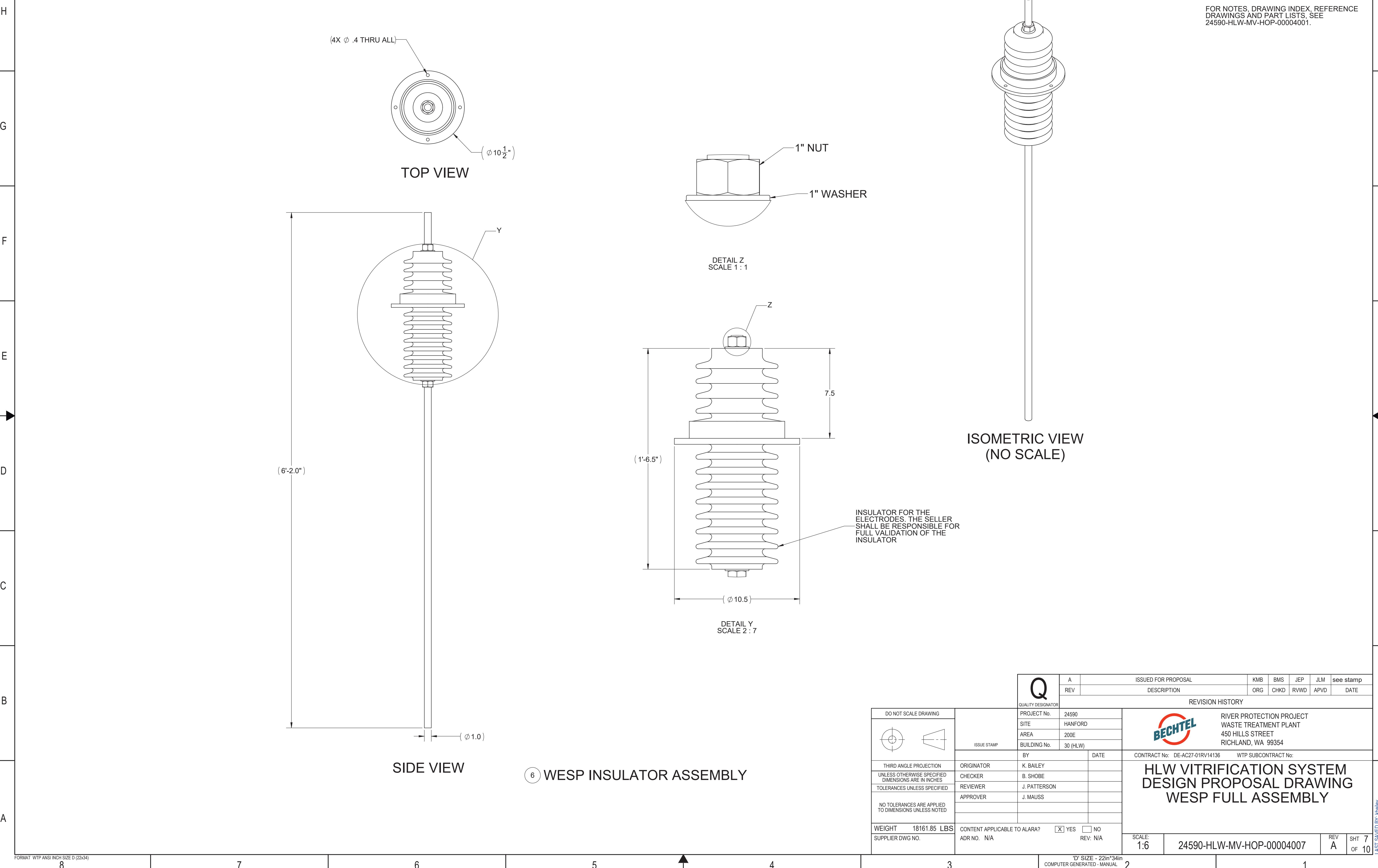
ISOMETRIC VIEW  
(NO SCALE)

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	REV	DESCRIPTION									
	ORG	CHKD	RWWD	APVD	DATE						
REVISION HISTORY											
DO NOT SCALE DRAWING		ISSUE STAMP		PROJECT No.		24590		RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 450 HILLS STREET RICHLAND, WA 99354			
				SITE		HANFORD					
THIRD ANGLE PROJECTION		ORIGINATOR		AREA		200E					
				REVIEWER		J. PATTERSON					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVER		J. MAUSS		CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:					
				NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED						DATE	
TOLERANCES UNLESS SPECIFIED		BY		DATE		BECHTEL					
				K. BAILEY						B. SHOBE	
NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED		CHECKER		J. PATTERSON		LAST SAVED BY: kcalley FILE NAME: 24590-HLW-MV-HOP-00004005 DATE: 5/1/2015 4:51:22 AM					
				J. MAUSS						N/A	
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				ADR NO.		REV: N/A					

HLW VITRIFICATION SYSTEM  
DESIGN PROPOSAL DRAWING  
WESP FULL ASSEMBLY



NOTES:  
FOR NOTES, DRAWING INDEX, REFERENCE DRAWINGS AND PART LISTS, SEE 24590-HLW-MV-HOP-00004001.

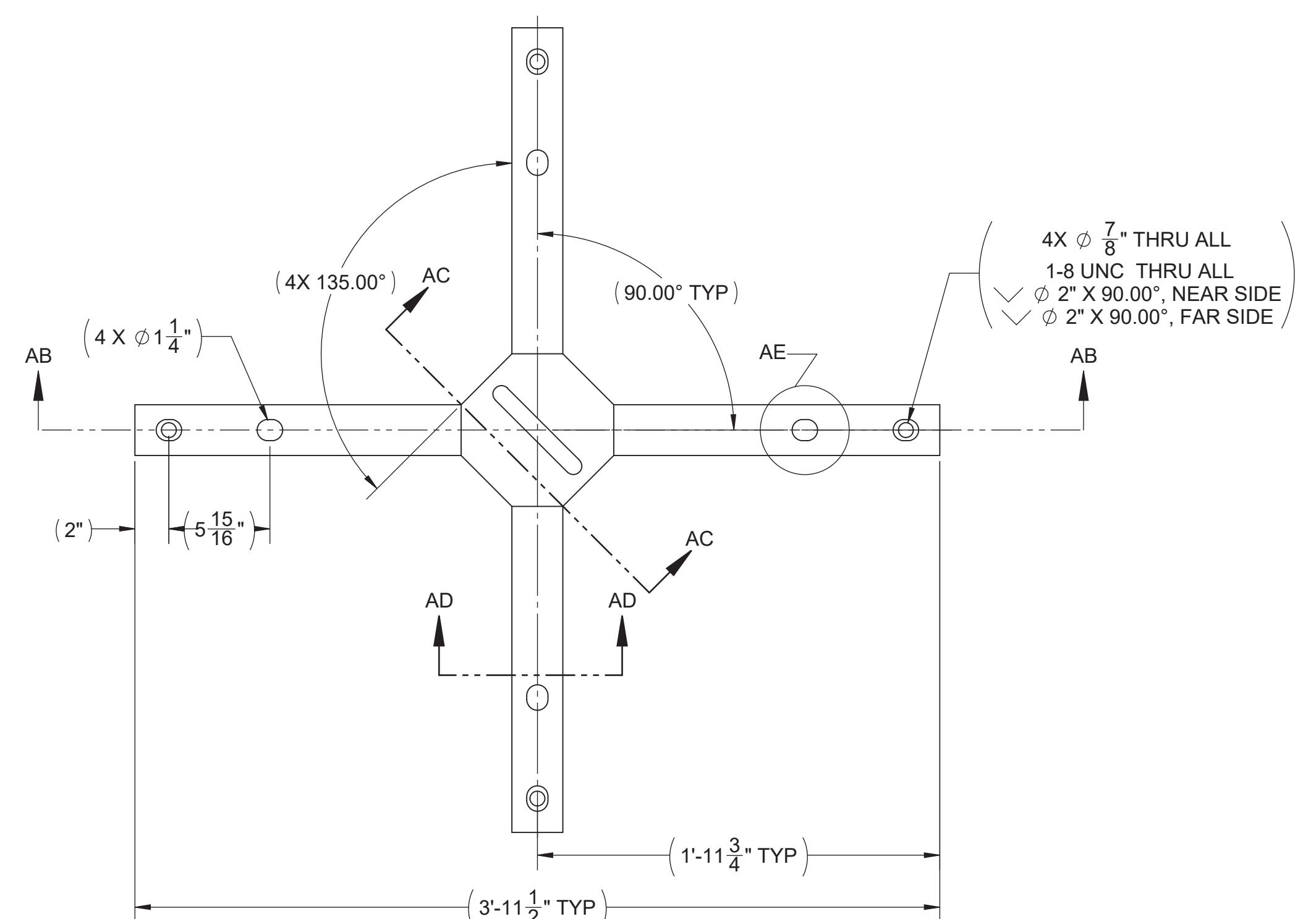


Q		A	ISSUED FOR PROPOSAL	KMB	BMS	JEP	JLM	see stamp
		REV	DESCRIPTION	ORG	CHKD	RWWD	APVD	DATE
REVISION HISTORY								
ISSUE STAMP		PROJECT No.	24590		RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 450 HILLS STREET RICHLAND, WA 99354			
		SITE	HANFORD					
		AREA	200E					
		BUILDING No.	30 (HLW)					
		BY	DATE					
DO NOT SCALE DRAWING		ORIGINATOR	K. BAILEY					
THIRD ANGLE PROJECTION			B. SHOBE					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			J. PATTERSON					
TOLERANCES UNLESS SPECIFIED			J. MAUSS					
NO TOLERANCES ARE APPLIED TO DIMENSIONS UNLESS NOTED			CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
WEIGHT 18161.85 LBS			ADR No. N/A					
SUPPLIER DWG No.			REV: N/A					
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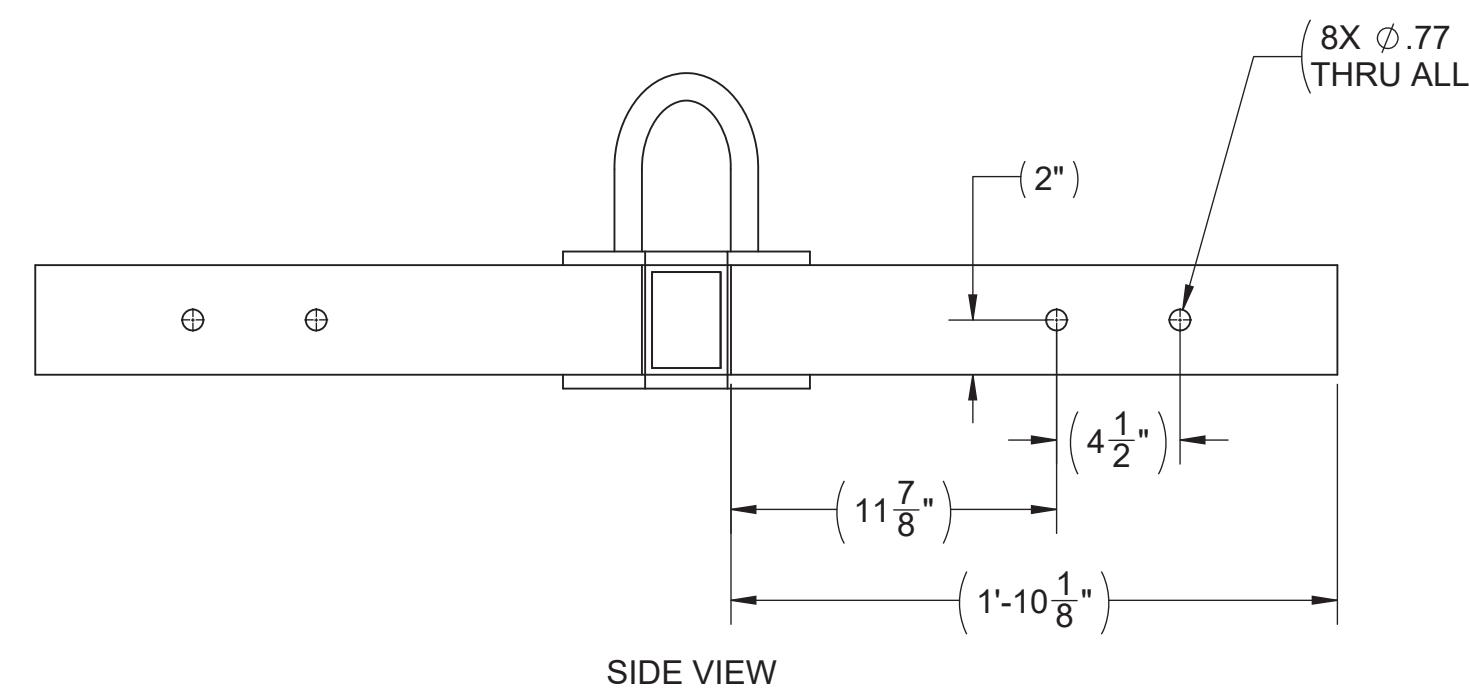
BECHTEL

HLW VITRIFICATION SYSTEM  
DESIGN PROPOSAL DRAWING  
WESP FULL ASSEMBLY

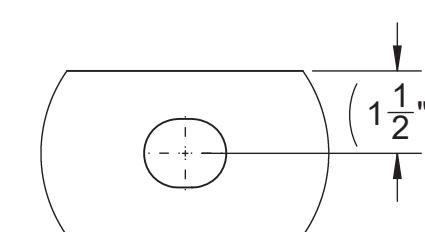
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FILE NAME: 24590-HLW-MV-HOP-00004004  
DATE: 5/1/2012 AM



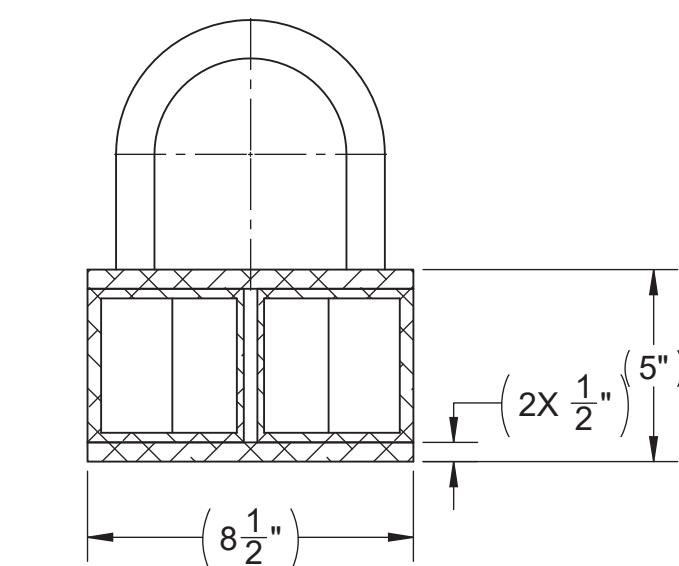
5 MAIN BEAM ASSEMBLY  
TOP VIEW  
SCALE 1:7



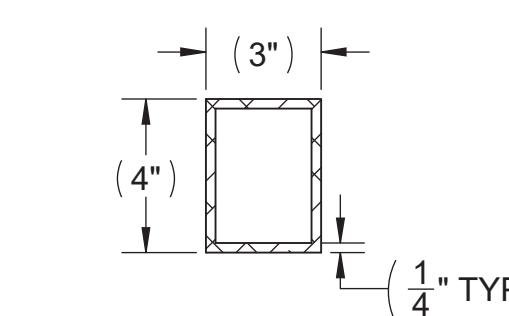
SIDE VIEW



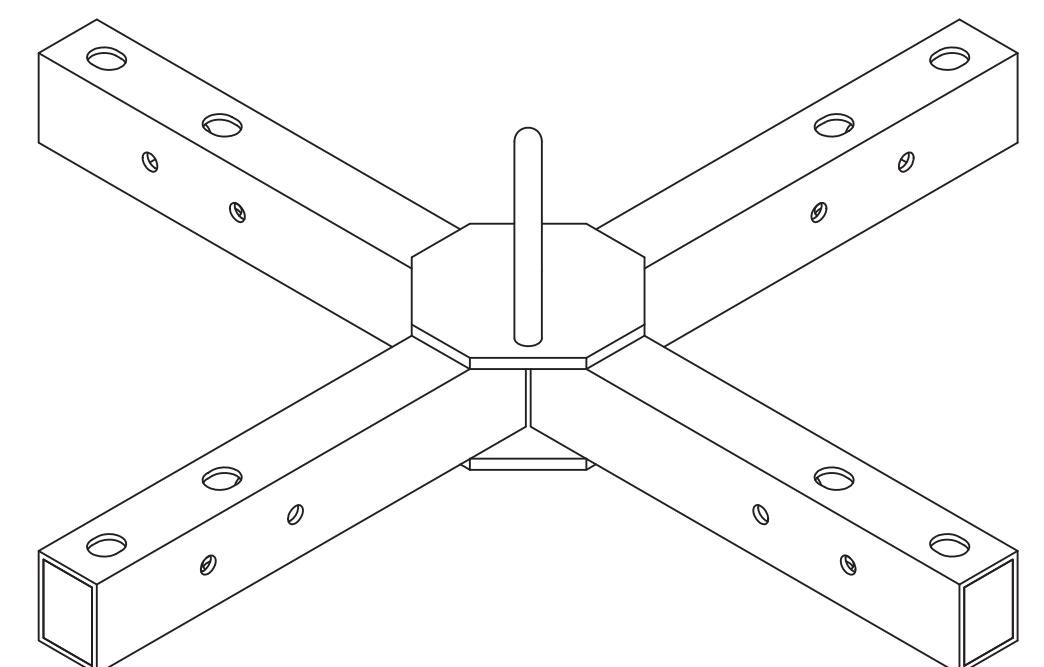
DETAIL AE  
SCALE 2 : 7



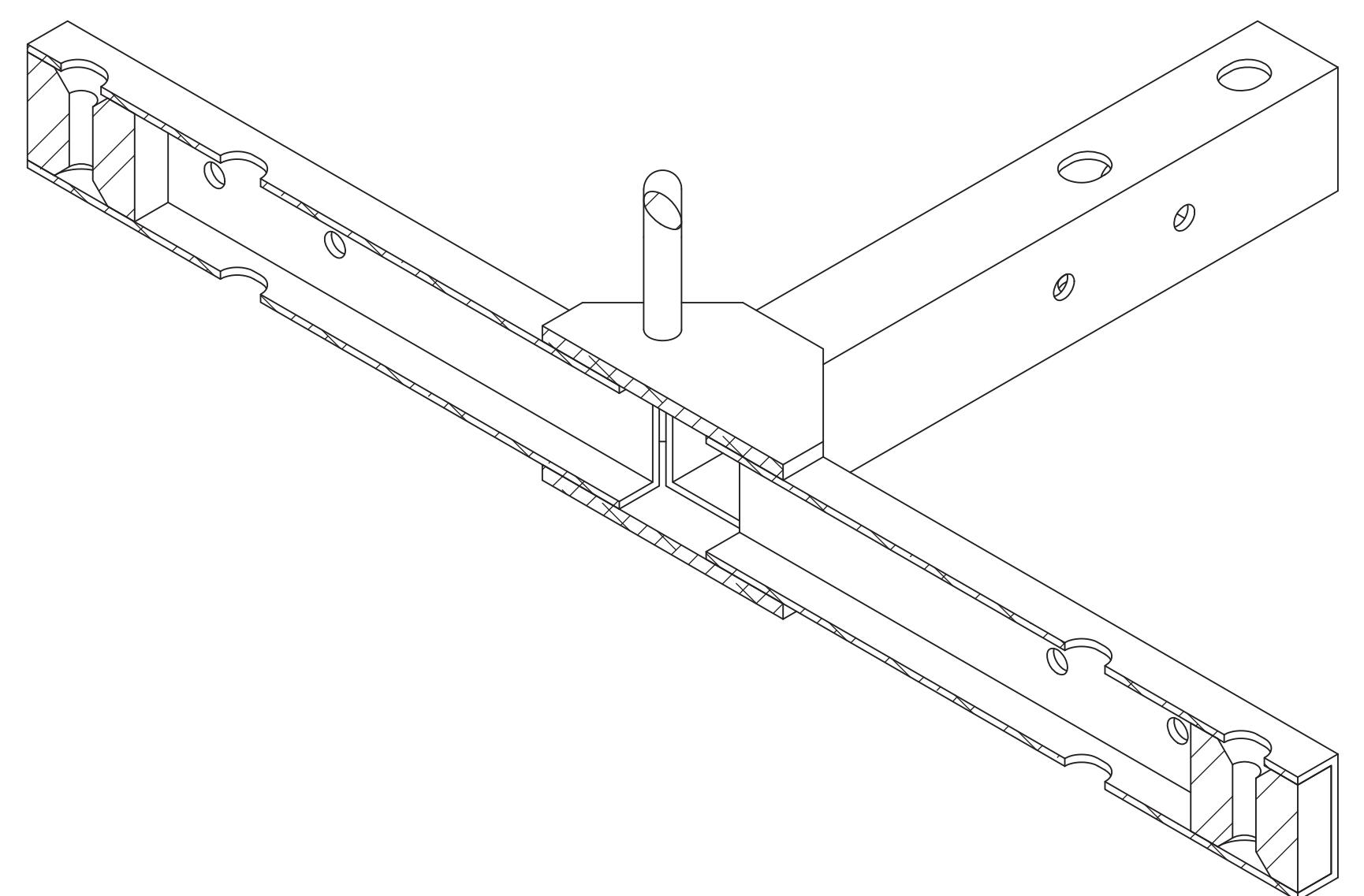
SECTION AC-AC  
SCALE 1 : 5



SECTION AD-AD TYP  
SCALE 1 : 5



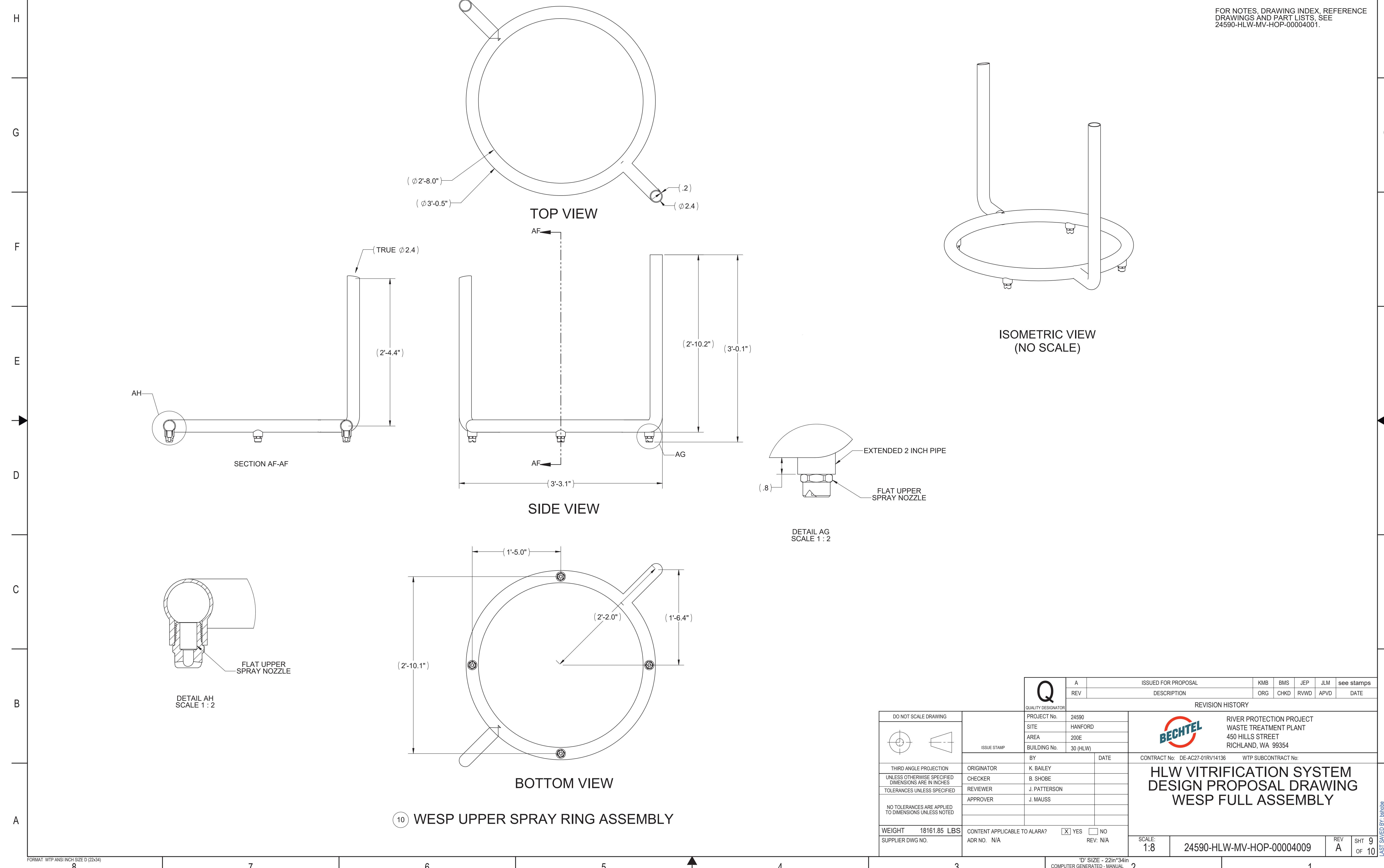
ISOMETRIC VIEW  
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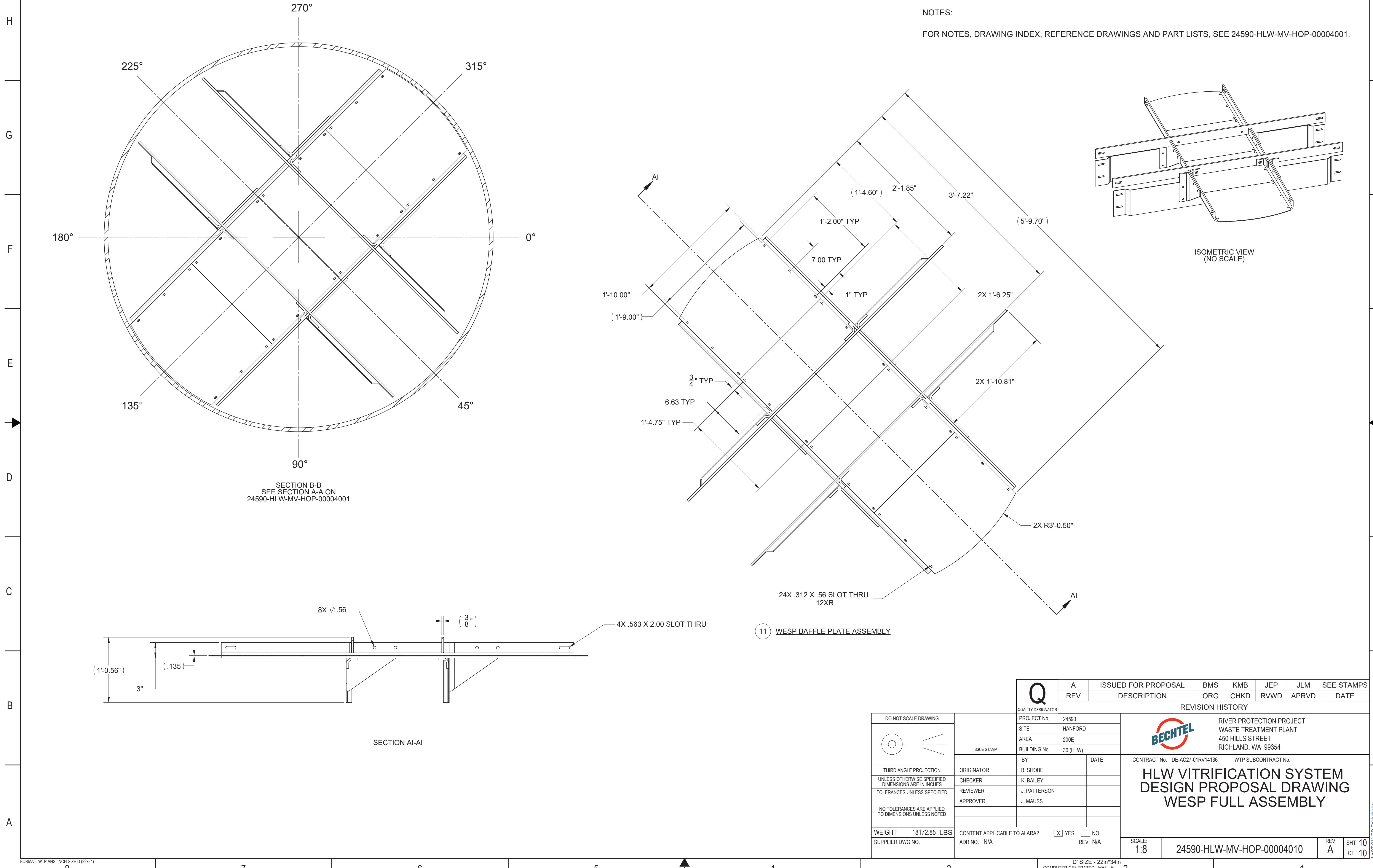


ISOMETRIC  
SECTION AB-AB  
SCALE 1 : 4

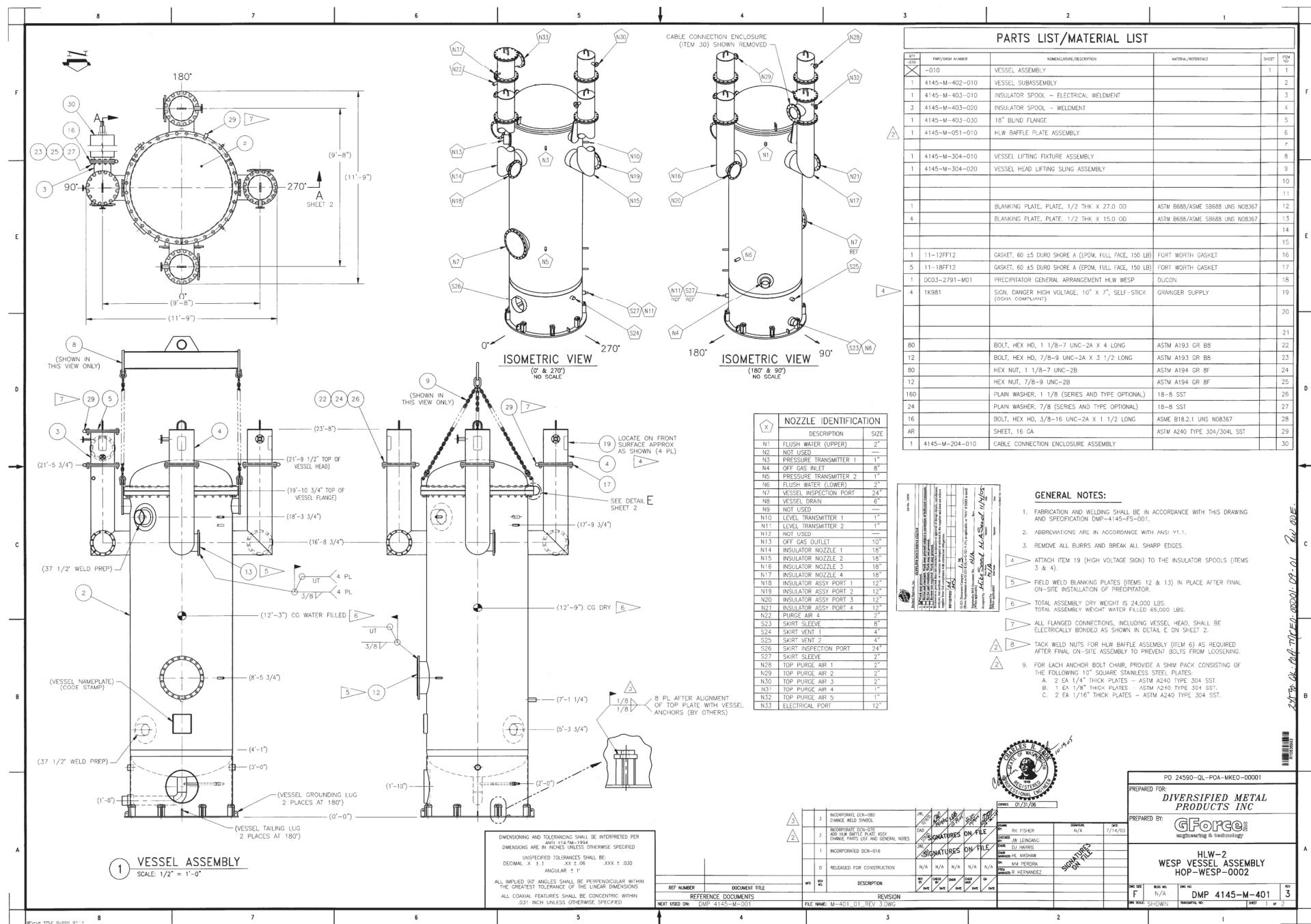
Q	A	ISSUED FOR PROPOSAL			see stamp				
	REV	DESCRIPTION							
ISSUE STAMP	PROJECT No.		ORG		KMB	BMS	JEP	JLM	
	24590		CHKD		RWHD	APVD	DATE		
REVISION HISTORY						RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 450 HILLS STREET RICHLAND, WA 99354			
BECHTEL									
CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No:						HLW VITRIFICATION SYSTEM DESIGN PROPOSAL DRAWING WESP FULL ASSEMBLY			
LAST SAVED BY: kcalley FILE NAME: 24590-HLW-MV-HOP-00004008 DATE: 5/12/2012 AM									
DO NOT SCALE DRAWING	ISSUE STAMP	PROJECT No.		24590		RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 450 HILLS STREET RICHLAND, WA 99354			
SITE		HANFORD							
AREA		200E							
BUILDING No.		30 (HLW)							
BY		DATE							
ORIGINATOR		K. BAILEY							
CHECKER		B. SHOBE							
REVIEWER		J. PATTERSON							
APPROVER		J. MAUSS							
WEIGHT		18161.85 LBS							
SUPPLIER DWG No.		CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
		ADR No. N/A		REV: N/A					
SCALE:		1:7		24590-HLW-MV-HOP-00004008		REV	A	SHT	8
OF		10							

NOTES:  
FOR NOTES, DRAWING INDEX, REFERENCE  
DRAWINGS AND PART LISTS, SEE  
24590-HLW-MV-HOP-00004001.

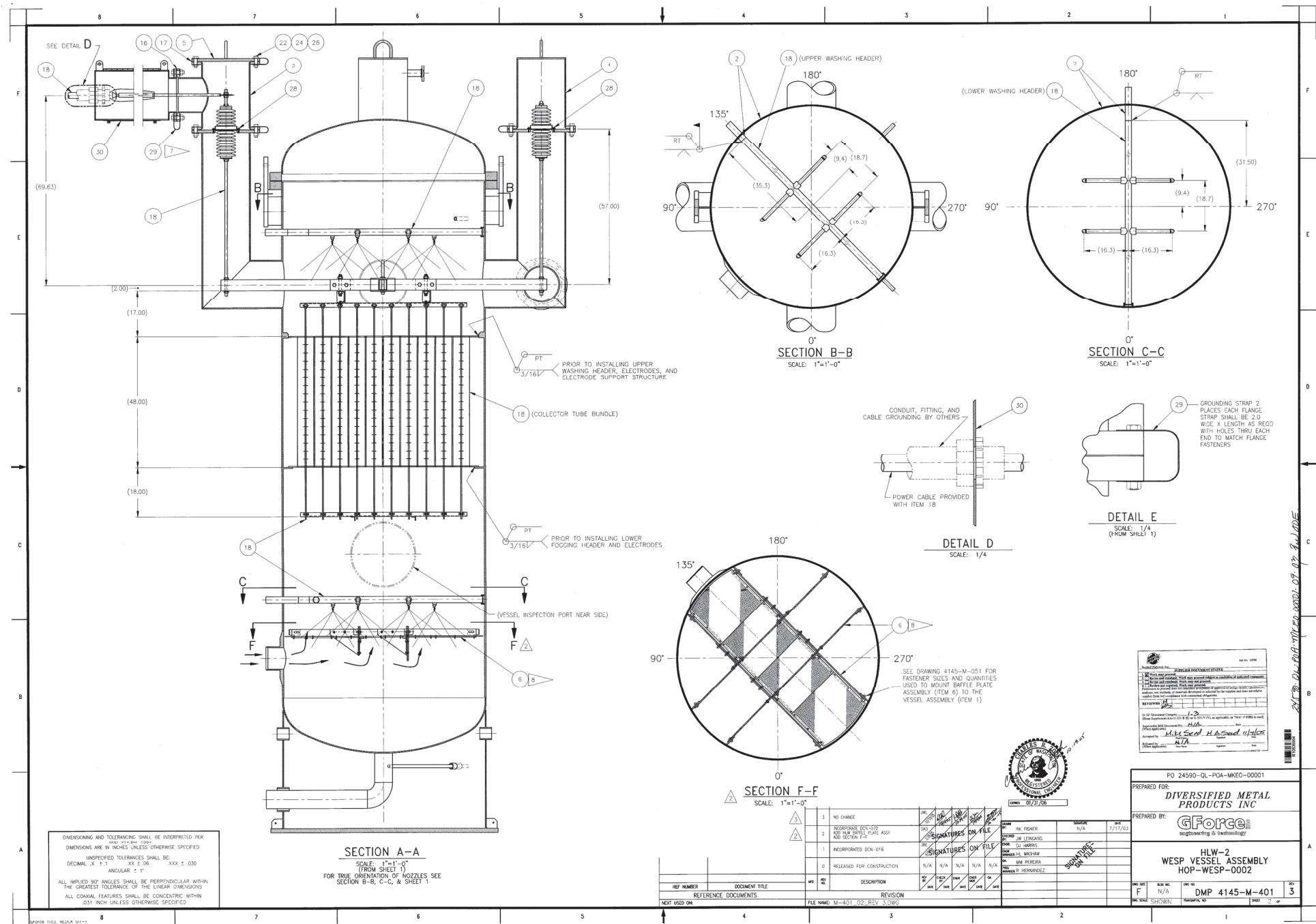




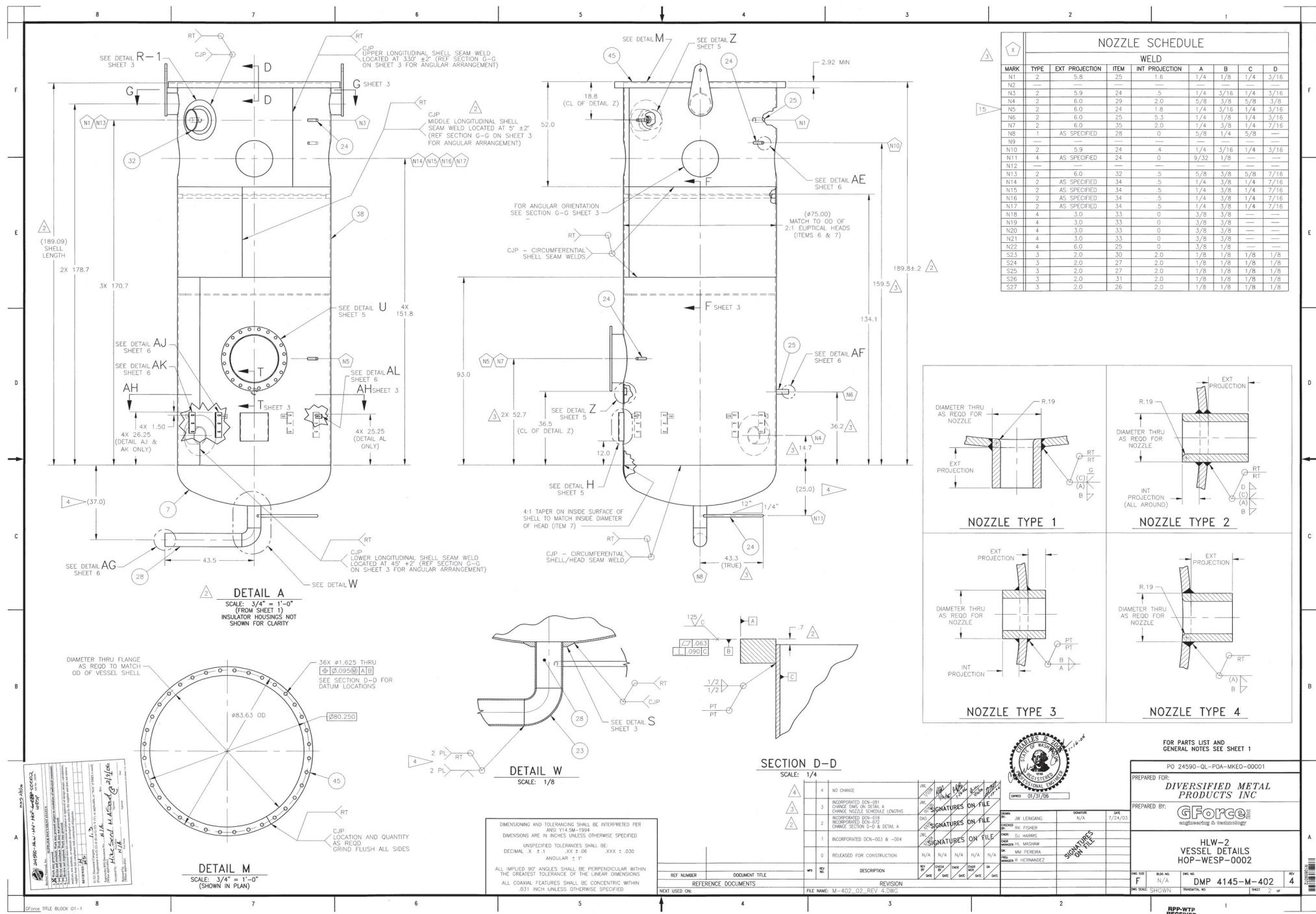
## ATTACHMENT B



## ATTACHMENT B



## ATTACHMENT B



FOR PARTS LIST AND  
GENERAL NOTES SEE SHEET

PO 24590-QL-POA-MKEO-00001

PARED FOR:

DIVERSIFIED METAL  
PRODUCTS INC

**GEORG**  
engineering & technology

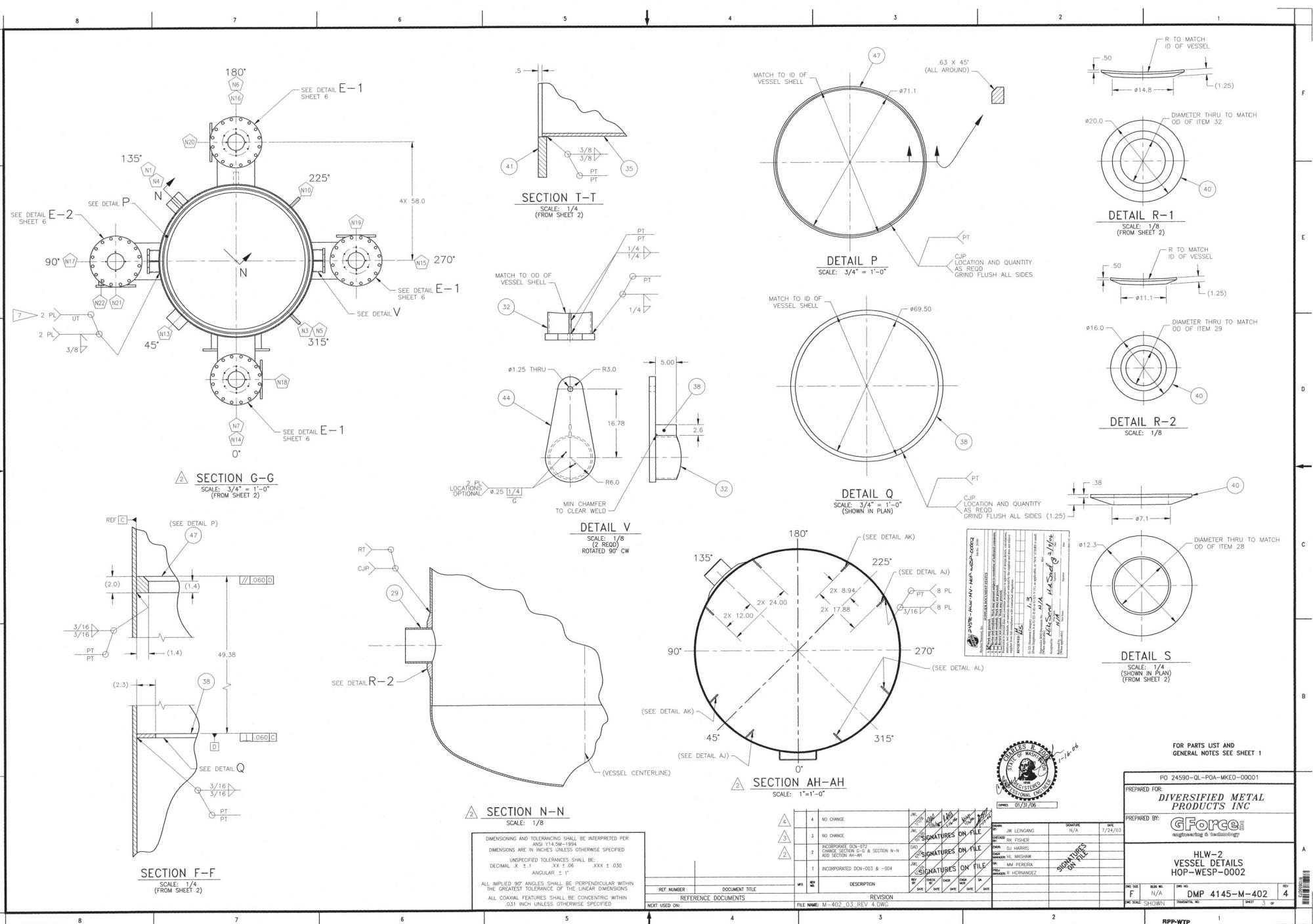
NOT WEST 0002

RE	BLDG NO.	DRG NO.	
	N/A	DMP 4145-M-402	
DATE	SHOWN	TRANSMITAL NO.	SHOOT 2 OF

RPP-WTP  
RECEIVED

JAN 19 2006  
**BY PDC**

## ATTACHMENT B



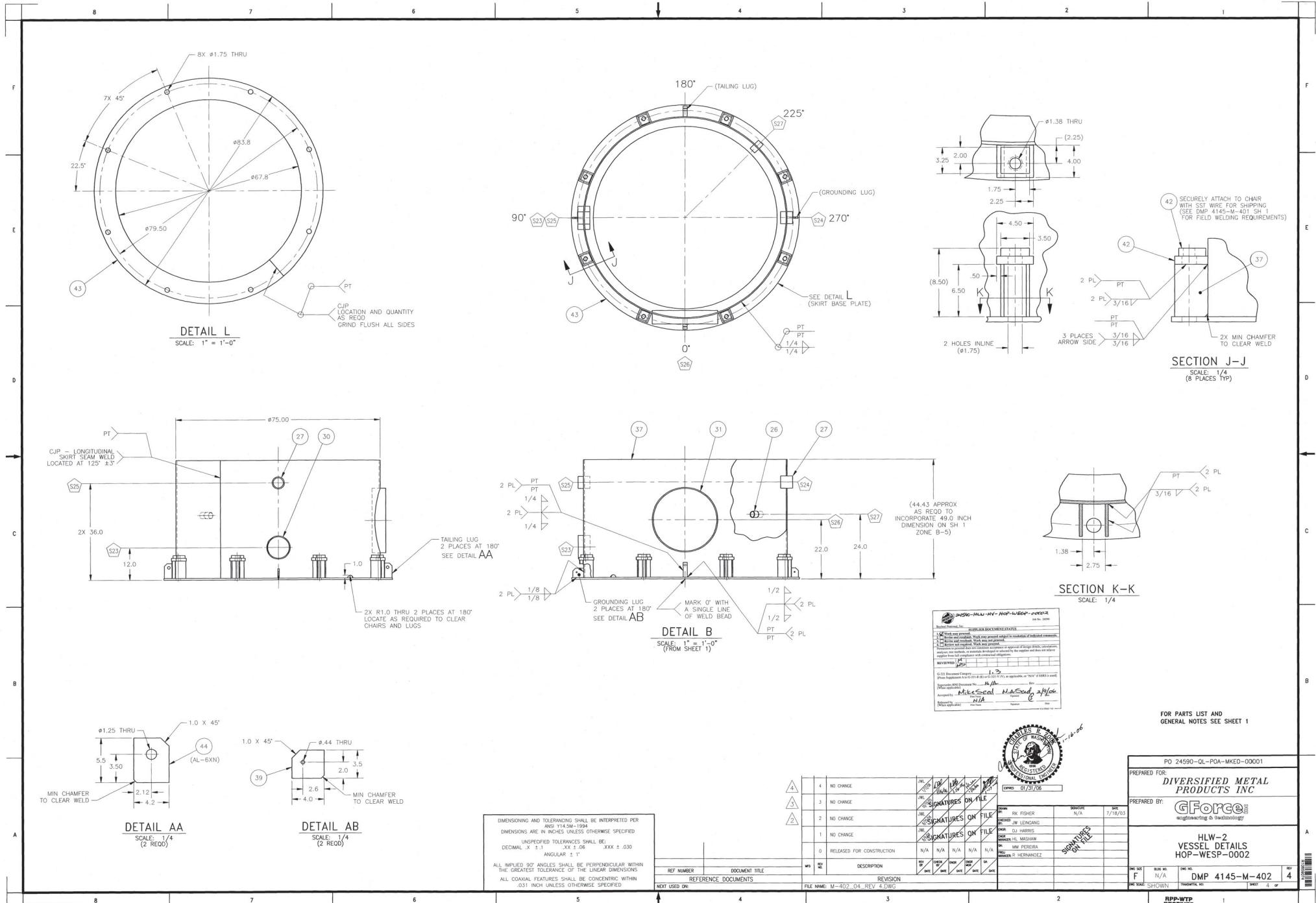
FOR PARTS LIST AND  
GENERAL NOTES SEE SHEET 1

PO 24590-QL-POA-MKEO-00001  
D FOR: **DIVERSIFIED METAL  
PRODUCTS INC**  
D BY: **GForce**

HLW-2  
VESSEL DETAILS  
HOP-WESP-0002

RPP-WTP  
RECEIVED  
JAN 19 2006

## ATTACHMENT B



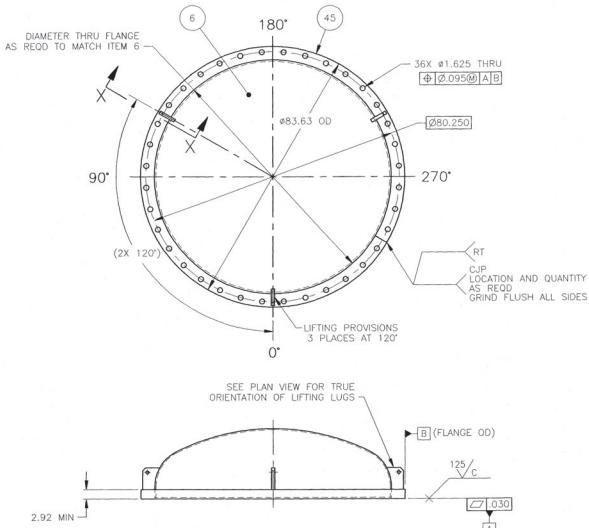
GForce TITLE BLOCK 01-1

— 1 —

RECEIVED  
JAN 19 2006  
BY PDC

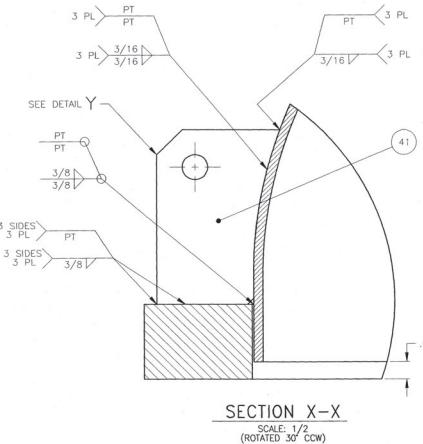
24590-QL-POA-MKE0-00001-09-07  
Rev 00E

# ATTACHMENT B



2) VESSEL HEAD WELDMENT

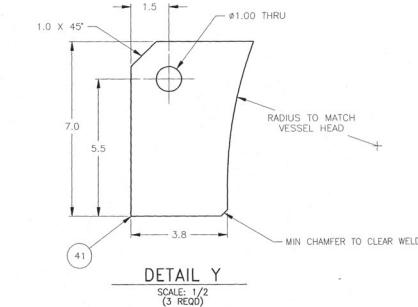
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SECTION X-X

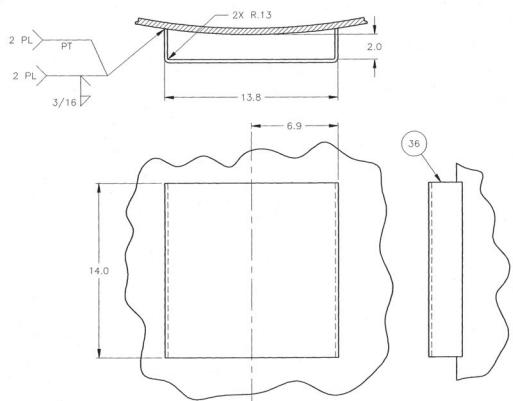
SCALE:  $1/2''$   
(ROTATED 30° CCW)

DIMENSIONING AND TOLERANCING SHALL BE INTERPRETED PER  
ASME Y14.5M-1994  
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED  
UNSPECIFIED TOLERANCES SHALL BE:  
DECIMAL X  $\pm .1$ , ANGULAR  $\pm 1^\circ$   
ALL IMPLIED 90° ANGLES SHALL BE PERPENDICULAR WITHIN  
THE GREATEST TOLERANCE OF THE LINEAR DIMENSIONS  
ALL COAXIAL FEATURES SHALL BE CONCENTRIC WITHIN  
.031 INCH UNLESS OTHERWISE SPECIFIED



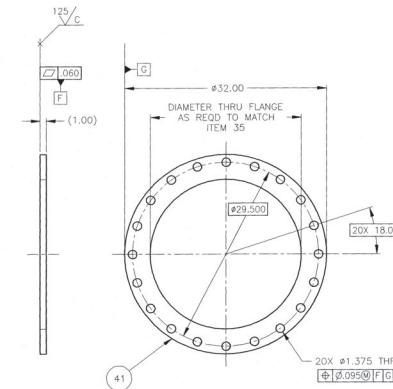
DETAIL Y

SCALE:  $1/2''$   
(3 REQS)



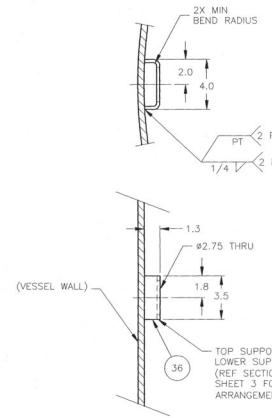
DETAIL H

SCALE:  $1/4''$   
(TYPICAL 2 PLACES)



DETAIL U

SCALE:  $1/8''$   
(FROM SHEET 2)



DETAIL Z

SCALE:  $1/4''$   
(TYPICAL 2 PLACES)



FOR PARTS LIST AND  
GENERAL NOTES SEE SHEET 1

REF. NUMBER	DOCUMENT TITLE	MD	REV.	COMPTOR	DATE
4	NO CHANGE	W/			
3	NO CHANGE	W/			
2	NO CHANGE	W/			
1	INCORPORATED DCN-003 & -006	W/		RK FISHER DR. J.W. LENCIANO DR. D.J. HARRIS DR. V.M. PEREIRA DR. R. HERNANDEZ	07/22/03
0	RELEASED FOR CONSTRUCTION	N/A		SIGNATURES ON FILE	
	REFERENCE DOCUMENTS				
	REVISION				
	NEXT USED ON				
	FILE NAME: M-402_05_REV 4.DWG				

PO 24590-QL-POA-MKEO-00001

PREPARED FOR: DIVERSIFIED METAL PRODUCTS INC

PREPARED BY: GForce, INC.  
engineering & technology

HLW-2  
VESSEL DETAILS  
HOP-WESP-0002

DOC. NO. 4145-M-402

REV. NO. 4

SHOWN

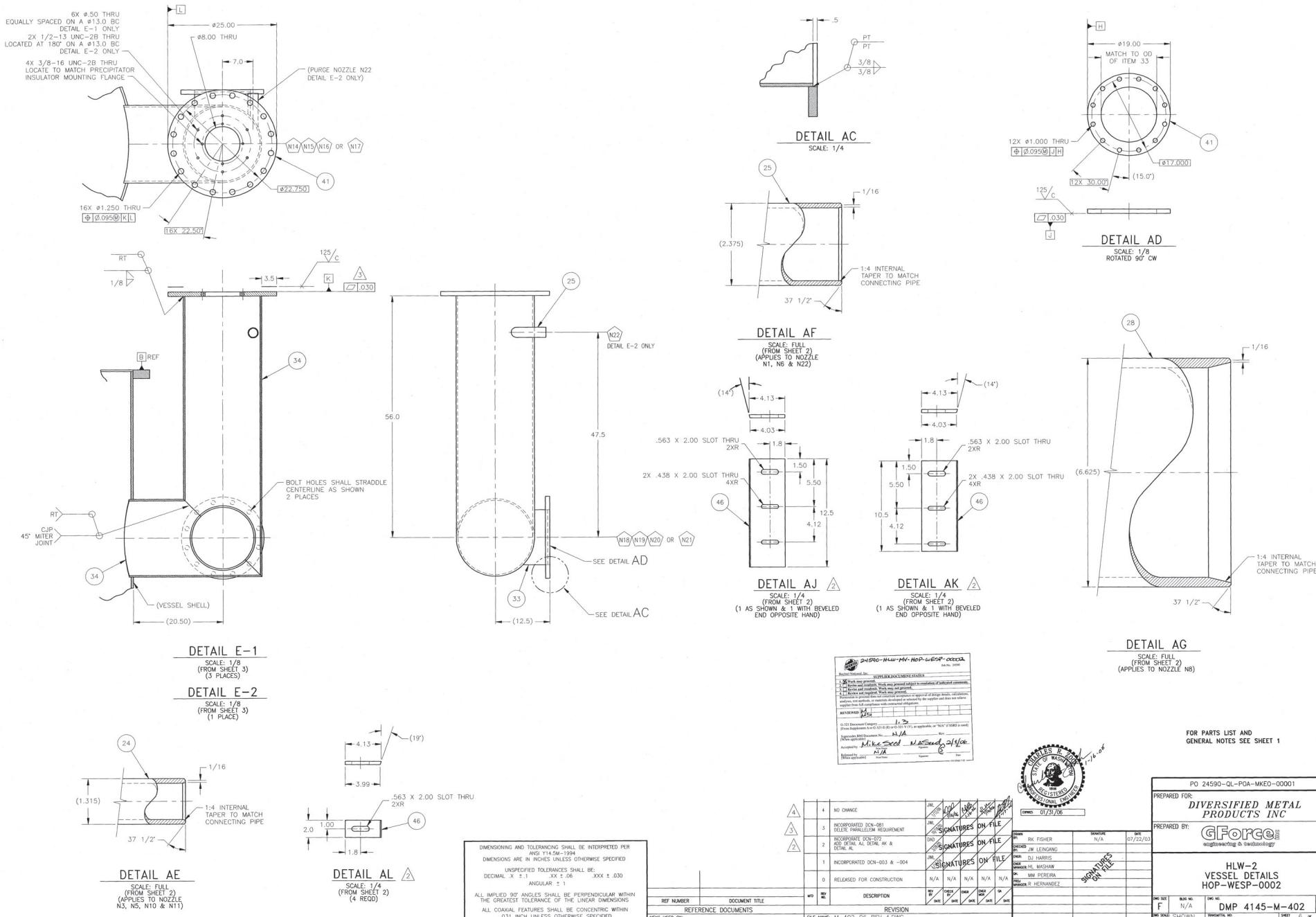
REVISION NO. 5

DATE 09/19/2006

BY PDC

24590-QL-POA-MKEO-00001-0908  
Rev 000

## ATTACHMENT B



FOR PARTS LIST AND  
GENERAL NOTES SEE SHEET 1

 <b>2450-1-HLW-MV-HOP-WEST</b>		SEARCHED	INDEXED
SEARCHED INDEXED SERIALIZED FILED JUN 12 2009 1. Work item process 2. Materials and methods, which may present a danger to health or safety of individuals 3. Results of work 4. Review and inspection. Work may proceed 5. Work may proceed, but with certain restrictions or approval of design details, analytical methods, test methods, or materials developed or selected by the supplier and does not require inspection 6. Work may proceed with controlled inspection			
G-321 Document Category (Check one box)		<b>13</b>	
G-321 (a) (1) (i) or (1) (i) (ii) or (1) (v) or (1) (v) (v), as applicable, or "N/A" if SRS is not applicable			
G-321 (b) Document Number (When applicable)		<b>N/A</b>	
Accepted by (Signature)		<b>Mike Sneed</b> <i>MSneed</i> <b>2/14</b>	
Registered by (Signature)		<b>N/A</b>	



  	4	NO CHANGE	JULY 1992	1992	1992	1992	1992	1992	1992
	5	INCORPORATED DCH-103 DELETE PARAGRAPH 10 RENUMBER DCH-103 ADD DETAIL AL, DETAIL AK & DETAIL AL	JULY 1992	1992	1992	1992	1992	1992	1992
	2	INCORPORATED DCH-003 & -004	JULY 1992	1992	1992	1992	1992	1992	1992
	0	RELEASED FOR CONSTRUCTION	N/A	N/A	N/A	N/A	N/A	N/A	N/A
REF NUMBER	DOCUMENT TITLE	REV M.	DESCRIPTION						
REFERENCE DOCUMENTS							REVISION		
NEXT USED ON		FILE NAME: M-402_06 REV 4.DWG							

PO 24590-QL-POA-MKEO-00001					
PREPARED FOR: <b>DIVERSIFIED METAL PRODUCTS INC</b>					
PREPARED BY: <b>GForce</b> <small>engineering &amp; technology</small>					
5/10/03					
HLW-2 VESSEL DETAILS HOP-WESP-0002					
ITEM NO.	BLDG NO.	ITEM NO.	DMP 4145-M-402		REV 4
F	N/A	N/A	HOP-WESP-0002		
SHEET 6 OF 6					
DRAWN BY: DATE: 5/10/03					
SHOWN: HAMILTON, WI					

## In-Progress 24590-WTP-NCR-MGT-22-0489

[Attach ...](#)[View Full PDF](#)Press F5 To refresh  
Responsible Individual Creates Conditional Releases  
and Dispositions[New Interim Disposition](#)[New Disposition](#)

24590-WTP-NCR-MGT-22-0489

NCR Header



## In-Progress 24590-WTP-NCR-MGT-22-0489

Attach ...



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New Interim Disposition



New Disposition

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Responsible Individual Creates Conditional Releases  
and Dispositions

Email

rajanys@bechtel.us

NCR Priority

2

Supplier/SubContractor

Diversified Metal Products, Inc

Contract Number / Purchase Order

24590-QL-POA-MKE0-00001

Quality Level

Q

Custody Currently With

Construction

ASME Code Stamped Component or Assembly

Suspect/Counterfeit?

No

Commissioning Breakdown Structure

Yes

**Nonconformance Description**

Inspection of all accessible external welds on the HOP-WESP-00001 was performed as per 24590-WTP-RPT-ENG-22-003.

1. Numerous welds were found to be rejectable.
2. There were rejectable surface defects (arc strikes).
3. In one case the weld specified was not actually obtainable due to configuration of the vessel head and flange.

See attachment 1, 2 &amp; 3 of NCR for details

**Additional Information****Drawing/Specification References:**

Document Number	Rev	Document Title	Sections	Comments
24590-WTP-MRR-PROC-0017737	001	DIVERSIFIED METAL PRODUCTS INC		
24590-WTP-MN-CON-01-001-10-26	002	VT-ASME VIII NONDESTRUCTIVE EXAMINATION STANDARD		
24590-QL-POA-MKE0-00001-09-19	00F	DRAWING - HLW-1 VESSEL DETAILS HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-18	00F	DRAWING - HLW-1 VESSEL DETAILS HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-16	00F	DRAWING - HLW-1 VESSEL DETAILS HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-15	00F	DRAWING - HLW-1 VESSEL DETAILS HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-14	00F	DRAWING - HLW-1 VESSEL SUBASSEMBLY HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-13	00E	DRAWING - HLW-1 WESP VESSEL ASSEMBLY HOP-WESP-0001		
24590-QL-POA-MKE0-00001-09-12	00E	DRAWING - HLW-1 WESP VESSEL ASSEMBLY HOP-WESP-0001		

**Applicable Items**

Item Number	Parent ID	Item Description	Item Location	Item Quantity
24590-HLW-MK-HOP-WESP-00001	HOP-WESP-00001	MELTER 1 WET ELECTROSTATIC PRECIPITATOR (WESP)	MHF - 4N545 W407	

## In-Progress 24590-WTP-NCR-MGT-22-0489

[Attach ...](#)[View Full PDF](#)[New Interim Disposition](#)[New Disposition](#)

Press F5 To refresh  
Responsible Individual Creates Conditional Releases  
and Dispositions

Validate and Screen

**Step 1: Is the NCR valid?**

Yes

**NCR Title**

HLW - HOP-WESP-00001 accessible external vendor weld inspection

**Step 2: Are hold tags required?**

Yes

**Comments for Hold Tags****Step 3: Select the NCR Category**

Supplier

**Step 4: Stop Work?**

No

**Occurrence Reporting**

No

**Is this NCR related to an electrical item?**

No

**Step 5. Please check each WTP Area that is affected by this NCR.**

HLW

**Step 6. Select the Disposition Approval Authority to notify.**

Skiffington, Mark

**Step 7. Select the RQO to notify.**

Padilla, Richard

## Condition Reports

**Condition Reports Associated with this NCR**

Are there any Condition Reports associated with this CR? If applicable, identify any Condition Reports associated to this NCR in the Condition Report section below.

If there are no associated Condition Reports, please enter N/A.

**Condition Reports Associated to this NCR****Condition Report Number**[Remove](#)[Add CR Number](#)

## In-Progress 24590-WTP-NCR-MGT-22-0489

[Attach ...](#)[View Full PDF](#)[New Interim Disposition](#)[New Disposition](#)Press F5 To refresh  
Responsible Individual Creates Conditional Releases  
and Dispositions

Enter a Standing/Shift Order Number:

If not applicable please enter N/A.

Related Processes ▲

## Hold Tags

**Hold Tags** - [View](#)

Tags Hung	Tags Removed	All Tags Removed or Accounted For?
0	0	False

## Conditional Releases

## Interim Dispositions

## Dispositions

**Disposition #001 - [View](#) Status: In Progress NOT Ready for Implementation**

Recommended Disposition Type	Marked for Final	Submitted Date	Submitted By	Process Status
Other	No	3/13/2023 6:07 PM	Padilla, Richard	Active

**Process Task** [Is this a superseded Disposition?](#)Checker Concurs, Final Disposition  Check this box to hide this Disposition until closure

## Currently Active Users

Wells, Donnie

VA Concurrence Date	DAA Approval Date	Recommended Disposition
-	5/2/2024 4:26 PM	Route to Engineering to provide Disposition.

Final Disposition Type	Submitted Date	Submitted By
Use-As-Is	5/2/2024 5:58 PM	Sanvictores, Mac

**Final Disposition**

See attached NCR 24590-WTP-NCR-MGT-22-0489 ATTACHMENT 1 - USE-AS-IS

## In-Progress 24590-WTP-NCR-MGT-22-0489

[Attach ...](#)[View Full PDF](#)[New Interim Disposition](#)[New Disposition](#)

Press F5 To refresh  
 Responsible Individual Creates Conditional Releases  
 and Dispositions

Check this box to hide this Disposition until closure

**Currently Active Users**

Mccann, Adam, Hartsfield, Gregg, Yetter, Kevin, Skiffington, Mark, Bhatt, Ajay, Opet, Paul, Bentley, Tom, Rehwalt, Andrew, George, Ronald, Cowan, Chris, Kump, Greg, Rogers, Rich, Walling, Joe

**VA Concurrence Date****DAA Approval Date****Recommended Disposition****Final Disposition Type****Submitted Date****Submitted By**

SEE ATTACHED NCR 24590-WTP-NCR-MGT-22-0489 ATTACHMENT 2-REPAIR

**Final Disposition****Attachments****REQUIRED FOR FINAL RECORD—Files attached here are part of the final record and will print with NCR.**

Please ensure these files are formatted properly, and that documents (i.e. Word, Excel, emails, etc.) are converted to a PDF file format.

24590-WTP-NCR-MGT-22-0489 Rejected inspections HOP-WESP-00001.pdf

[View](#) [Download](#) [History](#) 12/16/2022 6:08 PM Janysek, Roy

NCR-22-0489 photos WESP-00001.pdf

[View](#) [Download](#) [History](#) 12/16/2022 6:09 PM Janysek, Roy

NCR-22-0489 weld maps WESP-00001a.pdf

[View](#) [Download](#) [History](#) 12/16/2022 6:08 PM Janysek, Roy

[Attach ...](#)**Comments****Use this section to add comments to this NCR**[Add Comment](#)**User**

Skiffington, Mark

**Date**

3/13/2023 11:19 AM

**Comment**

reference 24590-HLW-FIR-CON-22-00006

[Save Comments](#)**Routing Slip**

## In-Progress 24590-WTP-NCR-MGT-22-0489

[Attach ...](#)[View Full PDF](#)

Press F5 To refresh

Responsible Individual Creates Conditional Releases  
and Dispositions[New Interim Disposition](#)[New Disposition](#)

Janysiek, Roy	3/13/2023	Notified
RQO Notified for Hold Tags		3/13/2023 2:21 PM
Padilla, Richard	3/13/2023	Notified
Disposition Approval Authority Assigns Responsible Individual		3/13/2023 2:21 PM
Skiffington, Mark	3/13/2023	Completed
<a href="#">Assign Responsible Individual</a>		
Responsible Individual Creates Conditional Releases and Dispositions		3/13/2023 2:23 PM
Padilla, Richard	-	Active

## Attachment 1

HOP-WESP-00001

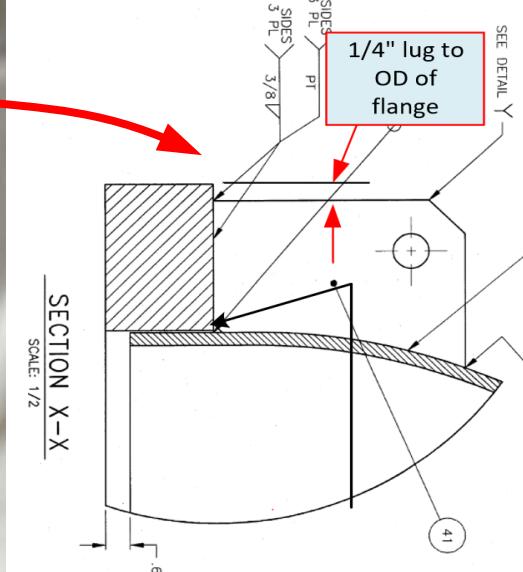
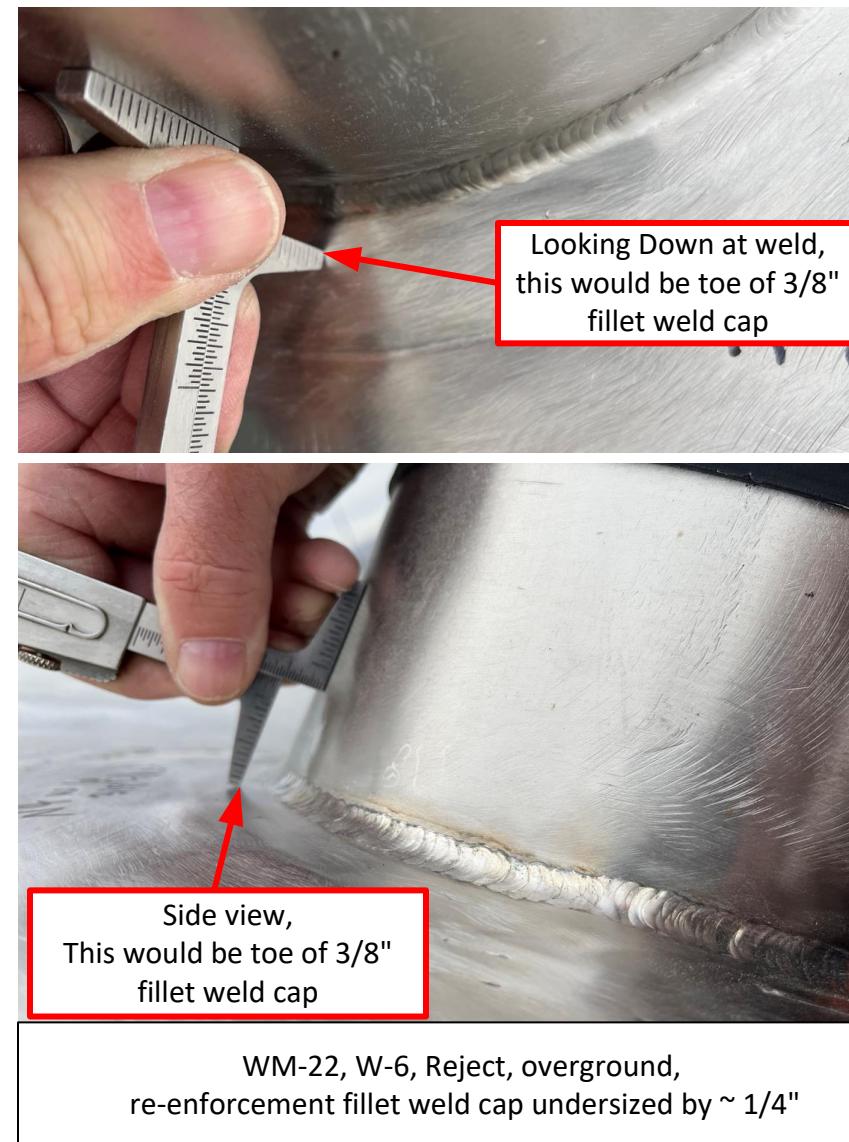
Initial Inspection at MHF

## List of Rejects from 24590-HLW-FIR-CON-22-00006

Attachment 1

Page 1 of 1

Weld ID/Description			See Weld map sht #	Dia.	Weld Type	Weld Size ID	Weld Size OD	Acc/Rej	By /Date	inspection remarks
WM-21 w-1	Skirt to Head	sht 1 detail C	1	NA	fs	NA	3/8"	REJECT	RAJ 10-29-22	~20" was undersized by ~1/16". Not able to inspect area from ~270° to 90°, weld hidden by the vessel support saddle & cribbing
WM-22 W-6	N-04, 8" sch 40 to 1-1/4" plate	sht 2 Nozzle type 2	2	8"	cjp/fw	3/8"	3/8"	REJECT	RAJ 10-28-22	Weld undersized
adjacent to WM-22 W-32	N-08, 6" pipe to repad insert	sht 2 Nozzle type 1, detail W sht 2	2	6"	cjp/fw	NA	1/4"	REJECT	RAJ 10-29-22	Arc strikes adjacent to W32
WM-23 W-1	10" tube to shell Lifting Lug Assembly @ Az 90	Section G-G sht 3	3	10"	cjp/fw	NA	3/8"	REJECT	TRB 10-29-22	insufficient throat at 2-3 O'clock
WM-23 W-2	10" tube to shell Lifting Lug Assembly @ Az 270	Section G-G sht 3	3	10"	cjp/fw	NA	3/8"	REJECT	TRB 10-29-22	insufficient throat at 7-10 O'clock
WM25 W-6	Det Y lug to flange @ Az 0	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
WM25 W-7	Det Y lug to flange @ Az 120	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
WM25 W-8	Det Y lug to flange @ Az 240	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
Adjacent to WM26 W-12	N-17, 18" tube, 45 degree Girth Seam @ Az 90	Detail E-1	6	18"	cjp	NA	3/32"	REJECT	RAJ 10-29-22	Arc strikes adjacent to W12 on nozzle N-17 shell
WM26 W-21	N-18 tie-in weld to 18" N14 tube @ Az 0	Nozzle Type 4 sht2	2 /6	12"	cjp/FW	NA	3/8"	REJECT	TRB 10-29-22	Insufficient weld throat @ 7 O'clock to 1 O'clock
WM26 W-22	N-19 tie-in weld to 18" N15 tube @ Az 270	Nozzle Type 4 sht2	2 /6	12"	cjp/FW	NA	3/8"	REJECT	TRB 10-29-22	Undersized weld, & Insufficient weld throat @ 11-12 O'clock and 2-3 O'clock
WM26 W-23	N-20 tie-in weld to 18" N16 tube@ Az 180	Nozzle Type 4 sht2	2 /6	12"	cjp/FW	NA	3/8"	REJECT	RAJ 10-28-22	Undersized ~ 12" long section
WM26 W-30	N-20, flange to 12" tube @ Az 180	Detail E-1, A-C	6	12"	fw	NA	3/8"	REJECT	RAJ 10-28-22	Undersized weld ~12" long @ 9 & 3 O clock.
WM26 W-32	N-21, flange to 12" tube @ Az 90	Detail E-1, A-C	6	12"	fw	NA	3/8"	REJECT	TRB 10-29-22	Insufficient weld throat for 90% of weld length
Adjacent to WM26 W-32	N-21, flange to 12" tube @ Az 90	Detail E-1, A-C	6	12"	fw	NA	3/8"	REJECT	RAJ 10-29-22	Arc Strikes adjacent to W-32 on N-21 shell
Adjacent to WM27 W-18 & 19	7/8" bar to 1" flange w/with N-16	sec C-C, 303, sh1	7	NA	fw	NA	1/4"	REJECT	RAJ 10-28-22	Arc strikes adjacent to W18 & 19



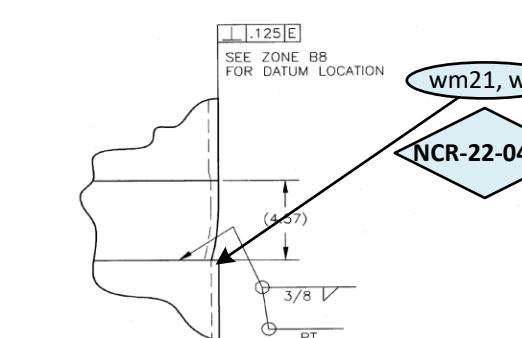
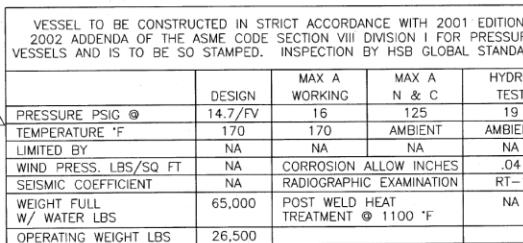
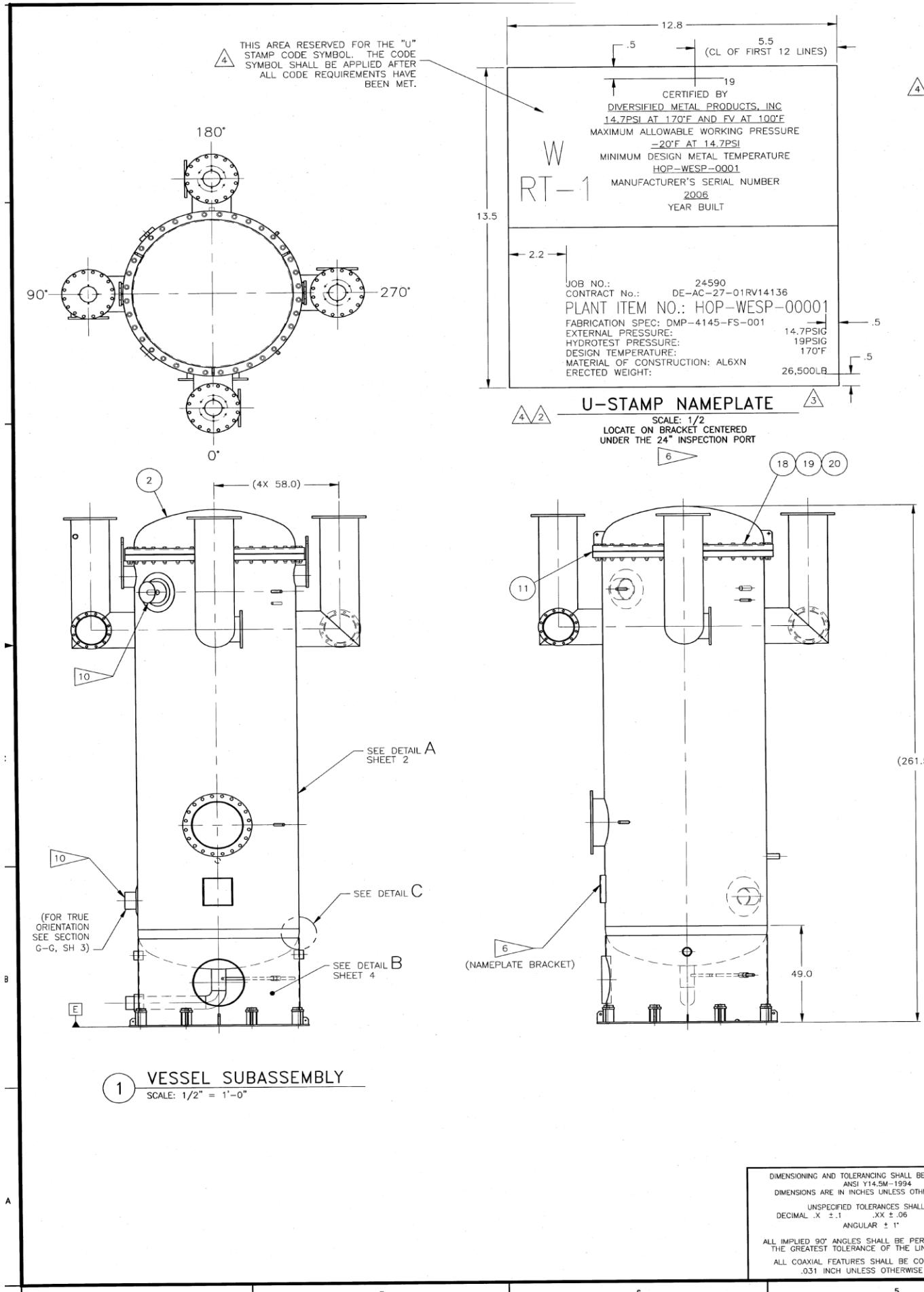
WM-25 W-6, 7 & 8 - 3/8" fillet weld not achievable.  
Configuration of lug to head only permits 1/4" fillet on Outside edge of lug to Top head Flange.

24590-WTP-NCR-MGT-22-0489  
Attachment 3,  
1 of 3  
Photos of areas rejected

24590-HLW-FIR-CON-22-00006  
Attachment 3  
HOP-WESP-00001  
Rejected welds - Sheet 1 of 3

24590-HLW-FIR-CON-22-00006

Page \_\_\_\_ of \_\_\_\_



## DETAIL

SCALE: 1/4

## GENERAL NOTE

1. FABRICATION AND WELDING SHALL BE IN ACCORDANCE WITH THIS DRAWING AND SPECIFICATION DMP-4145-FS-001.
  2. ABBREVIATIONS ARE IN ACCORDANCE WITH ANSI Y1.1.
  3. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
  4. ATTACH DRAIN LINE AND LEVEL TRANSMITTER LINE AFTER THE SKIRT IS WELDED TO THE VESSEL TO ENSURE PROPER FIT UP WITH NOZZLE OUTLETS THROUGH SKIRT.
  5. OVERSIZE THICKNESS OF PLATES FOR FINISH MACHINING OF HEAD, VESSEL FLANGES AND REINFORCEMENT PADS IF REQD.
  6. U-STAMP NAMEPLATE SHALL BE IN ACCORDANCE WITH ASME PRESSURE VESSEL STANDARDS. WELD NAMEPLATE TO NAMEPLATE BRACKET WITH CONTINUOUS FILLET AFTER FINAL TESTING.
  7. THE LOCATION OF THE SHELL DIRECTLY UNDER THE LIFTING LUG WILL BE ULTRASONICALLY EXAMINED OVER 100% OF THE AREA EXTENDING OUT 3 INCHES BEYOND THE PIPE WELDMENT.
  8. TUBES (ITEMS 32, 33, 34, & 35) SHALL BE FABRICATED FROM 3/8" THK PLATE WITH FULL PENETRATION SEAM WELDS. SEAM WELDS SHALL BE 100% RADIOPGRAPHED. SEAM LOCATIONS OPTIONAL.
  9. VESSEL HEADS ARE 2:1 ELLIPSOIDAL WITH A 75.00 OD X 3/8 WALL THICKNESS. (ITEM 7) SHALL HAVE A 1.5 INCH STRAIGHT FLANGE AND SHALL BE WELD PREPARED. (ITEM 6) SHALL HAVE A 3.3 INCH STRAIGHT FLANGE AND SHALL NOT BE WELD PREPARED.
  10. PREP NOZZLES N4 & N13 FOR A 37 1/2" BEVEL WELD.
  11. PRIOR TO WELDING, ULTRASONIC EXAMINATION OF THE VESSEL BOUNDARY IS REQUIRED IN THE VICINITY WHERE COMPONENTS ARE ATTACHED BY FULL OR PARTIAL PENETRATION WELD.
  12. ITEM 31 MAY BE FABRICATED FROM 3/8" THK PLATE (ITEM 37) WITH FULL PENETRATION SEAM WELD. SEAM WELD REQUIRES PENETRANT EXAMINATION. SEAM LOCATION OPTIONAL.
  13. THE SPIRAL WOUND GASKET (ITEM 11) SHALL BE A RWI, OUTER RING 78 1/2" OD X 77 1/4" ID, INNER RING 76" OD X 75 1/2" ID, INNER RING, OUTER RING, AND WINDING MATERIAL SHALL BE ALGXN UNS N08367. FILLER MATERIAL SHALL BE GRAFOIL.
  14. POST WELD HEAT TREAT AS REQD AT A LATER DATE.
  15. ON NOZZLE N5 DUE TO SIZE AND SPACE RESTRAINTS RADIOPGRAPHIC TESTING FOR THE WELD MAY NOT BE ACCURATELY COMPLETED. ULTRASONIC TESTING OF THE WELD IS AN ACCEPTABLE SUBSTITUTE IF NECESSARY.

PARTS LIST/MATERIAL LIST				
QTY	PART/DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET
-020	-010	VESSEL SUBASSEMBLY		1 1
X 1	-020	VESSEL HEAD WELDMENT		5 2
				3
				4
				5
9	1	TOP VESSEL HEAD	ASTM B688/ASME SB688 UNS N08367	6
9	1	BOTTOM VESSEL HEAD	ASTM B688/ASME SB688 UNS N08367	7
				8
				9
W1				10
0489	1	SPIRAL WOUND GASKET	GARLOCK	11
				12
				13
				14
				15
				16
				17
36		BOLT, HEX HD, 1 1/2-6 UNC-2A X 8" LONG	ASTM A193 GR B8	18
36		HEX NUT, 1 1/2-6 UNC-2B	ASTM A194 GR 8F	19
72		PLAIN WASHER, 1 1/2 (SERIES AND TYPE OPTIONAL)	18-8 SST	20
				21
				22
1		ELBOW, 90° 6" SR, SCHED 40, BUTT WELD	ASTM B366/ASME SB366 UNS N08367	23
AR		PIPE, 1" SCHED 40	ASTM B675/ASME SB675 UNS N08367	24
AR		PIPE, 2" SCHED 40	ASTM B675/ASME SB675 UNS N08367	25
AR		PIPE, 2" SCHED 40	ASTM A312/ASME SA312 GR TP 304L	26
AR		PIPE, 4" SCHED 40	ASTM A312/ASME SA312 GR TP 304L	27
AR		PIPE, 6" SCHED 40	ASTM B675/ASME SB675 UNS N08367	28
AR		PIPE, 8" SCHED 40	ASTM B675/ASME SB675 UNS N08367	29
AR		PIPE, 8" SCHED 40	ASTM A312/ASME SA312 GR TP 304L	30
AR		PIPE, 24" SCHED 40S	ASTM A312/ASME SA312 GR TP 304L	31
8	AR	TUBE, 10.75 OD X 10.00 ID	ASTM B688/ASME SB688 UNS N08367	32
8	AR	TUBE, 12.75 OD X 12.00 ID	ASTM B688/ASME SB688 UNS N08367	33
8	AR	TUBE, 18.00 OD X 17.25 ID	ASTM B688/ASME SB688 UNS N08367	34
8	AR	TUBE, 24.00 OD X 23.25 ID	ASTM B688/ASME SB688 UNS N08367	35
AR		PLATE, 1/4 THK	ASTM B688/ASME SB688 UNS N08367	36
AR		PLATE, 3/8 THK	ASTM A240/ASME SA240 TYPE 304L	37
AR		PLATE, 1/2 THK	ASTM B688/ASME SB688 UNS N08367	38
AR		PLATE, 1/2 THK	ASTM A240/ASME SA240 TYPE 304L	39
AR		PLATE, 1 1/4 THK	ASTM B688/ASME SB688 UNS N08367	40
AR		PLATE, 1" THK	ASTM B688/ASME SB688 UNS N08367	41
AR		PLATE, 1" THK	ASTM A240/ASME SA240 TYPE 304L	42
AR		PLATE, 5/8 THK	ASTM A240/ASME SA240 TYPE 304L	43
AR		PLATE, 1 1/2 THK	ASTM B688/ASME SB688 UNS N08367	44
AR AR		PLATE, 3 THK	ASTM B688/ASME SB688 UNS N08367	45
AR AR		PLATE, 3/8 THK	ASTM B688/ASME SB688 UNS N08367	46
AR		PLATE, 2 THK	ASTM B688/ASME SB688 UNS N08367	47
2		PIPE, 2" SCHED 40 X 1 1/4" LONG	ASTM B675/ASME SB675 UNS N08367	48

24590-WTP-NCR-MGT-22-0489

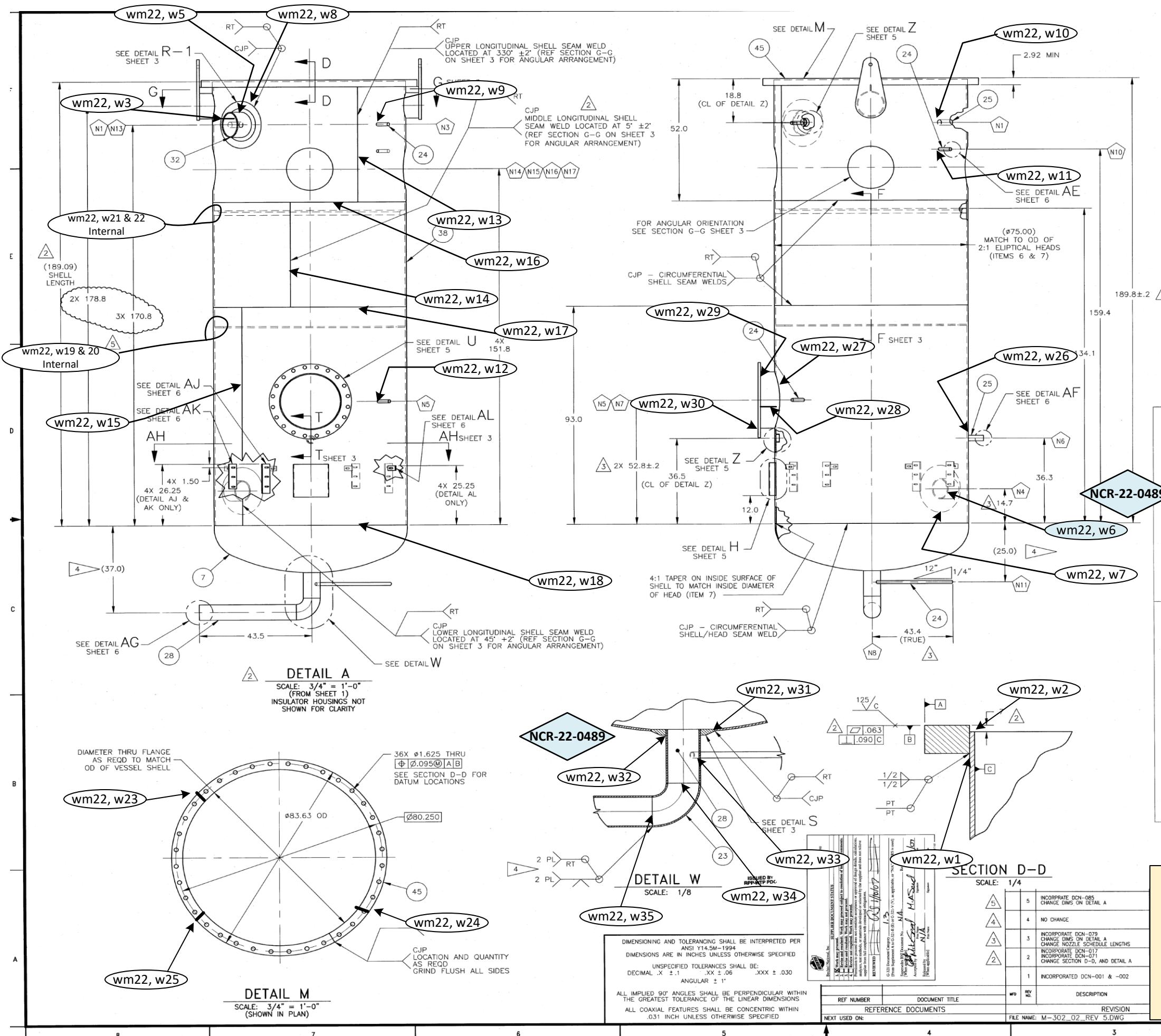
## **Attachment 2,**

## Weld Maps locating rejected welds or area adjacent to weld that was rejected

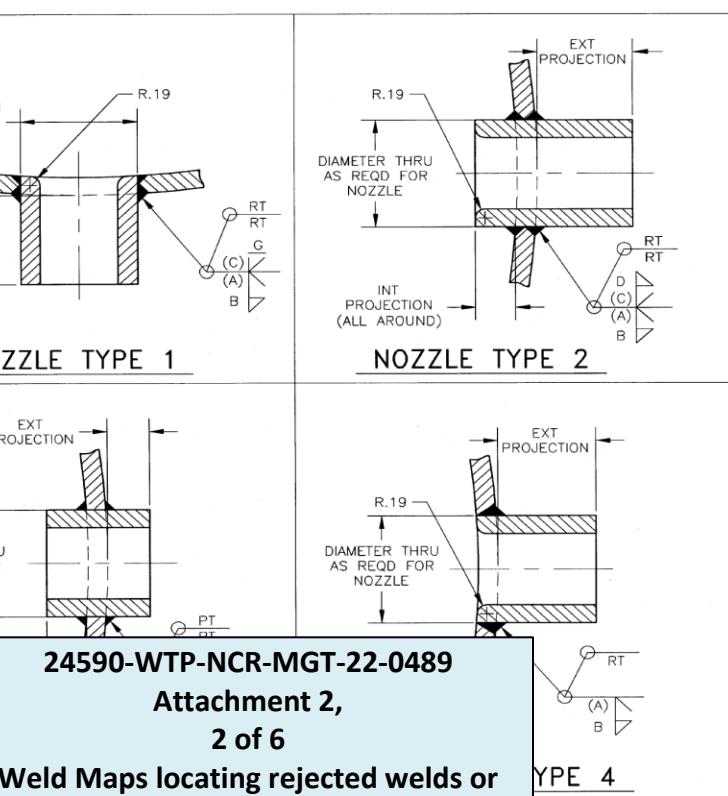


24590-HLW-FIR-CON-22-00006  
Attachment 2  
Weld Map - Sheet 1 of 10  
From 24590-QL-POA-MKE0-00001-09-14  
24590-HLW-FIR-CON-22-00006

PO 24590-QL-POA-MKEO-00001-09-14		
EPARED FOR: <i>Ren OOF</i>		
<b>DIVERSIFIED METAL PRODUCTS INC</b>		
EPARED BY: 		
HLW-1 VESSEL SUBASSEMBLY HOP-WESP-0001		
SIZE	BLDG NO.	ENV NO.
F	N/A	DMP 4145-M-302
		REV 5



NOZZLE SCHEDULE								
MARK	WELD		ITEM	INT PROJECTION	A	B	C	D
	TYPE	EXT PROJECTION						
N1	2	5.9	25	1.7	1/4	1/8	1/4	3/16
N2	—	—	—	—	—	—	—	—
N3	2	5.9	24	.5	1/4	3/16	1/4	3/16
N4	2	6.0	29	2.0	5/8	3/8	5/8	3/8
N5	2	5.9	24	1.9	1/4	3/16	1/4	3/16
N6	2	5.9	25	5.5	1/4	1/8	1/4	3/16
N7	2	6.0	35	2.0	1/4	3/8	1/4	7/16
N8	1	AS SPECIFIED	28	0	5/8	1/4	5/8	—
N9	—	—	—	—	—	—	—	—
N10	2	5.9	24	.5	1/4	3/16	1/4	3/16
N11	4	AS SPECIFIED	24	0	9/32	1/8	—	—
N12	—	—	—	—	—	—	—	—
N13	2	6.0	32	.5	5/8	3/8	1/4	7/16
N14	2	AS SPECIFIED	34	.5	1/4	3/8	1/4	7/16
N15	2	AS SPECIFIED	34	.5	1/4	3/8	1/4	7/16
N16	2	AS SPECIFIED	34	.5	1/4	3/8	1/4	7/16
N17	2	AS SPECIFIED	34	.5	1/4	3/8	1/4	7/16
N18	4	3.0	33	0	3/8	3/8	—	—
N19	4	3.0	33	0	3/8	3/8	—	—
N20	4	3.0	33	0	3/8	3/8	—	—
N21	4	3.0	33	0	3/8	3/8	—	—
N22	4	6.0	25	0	3/8	1/8	—	—
S23	3	2.0	30	2.0	1/8	1/8	1/8	1/8
S24	3	2.0	27	2.0	1/8	1/8	1/8	1/8
S25	3	2.0	27	2.0	1/8	1/8	1/8	1/8
S26	3	2.0	31	2.0	1/8	1/8	1/8	1/8
S27	3	2.0	26	2.0	1/8	1/8	1/8	1/8

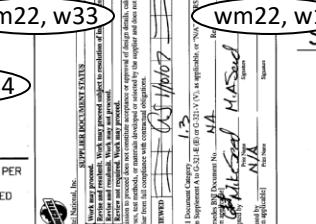


24590-WTP-NCR-MGT-22-0489

Attachment 2,

2 of 6

Weld Maps locating rejected welds or area adjacent to weld that was rejected

FOR PARTS LIST AND  
GENERAL NOTES SEE SHEET 1

REF NUMBER	DOCUMENT TITLE	REV. NO.	DESCRIPTION
45 #67	REVISION	PT	IN PROJE
45 #67	REFERENCE DOCUMENTS	PT	IN PROJE

24590-HLW-FIR-CON-22-00006

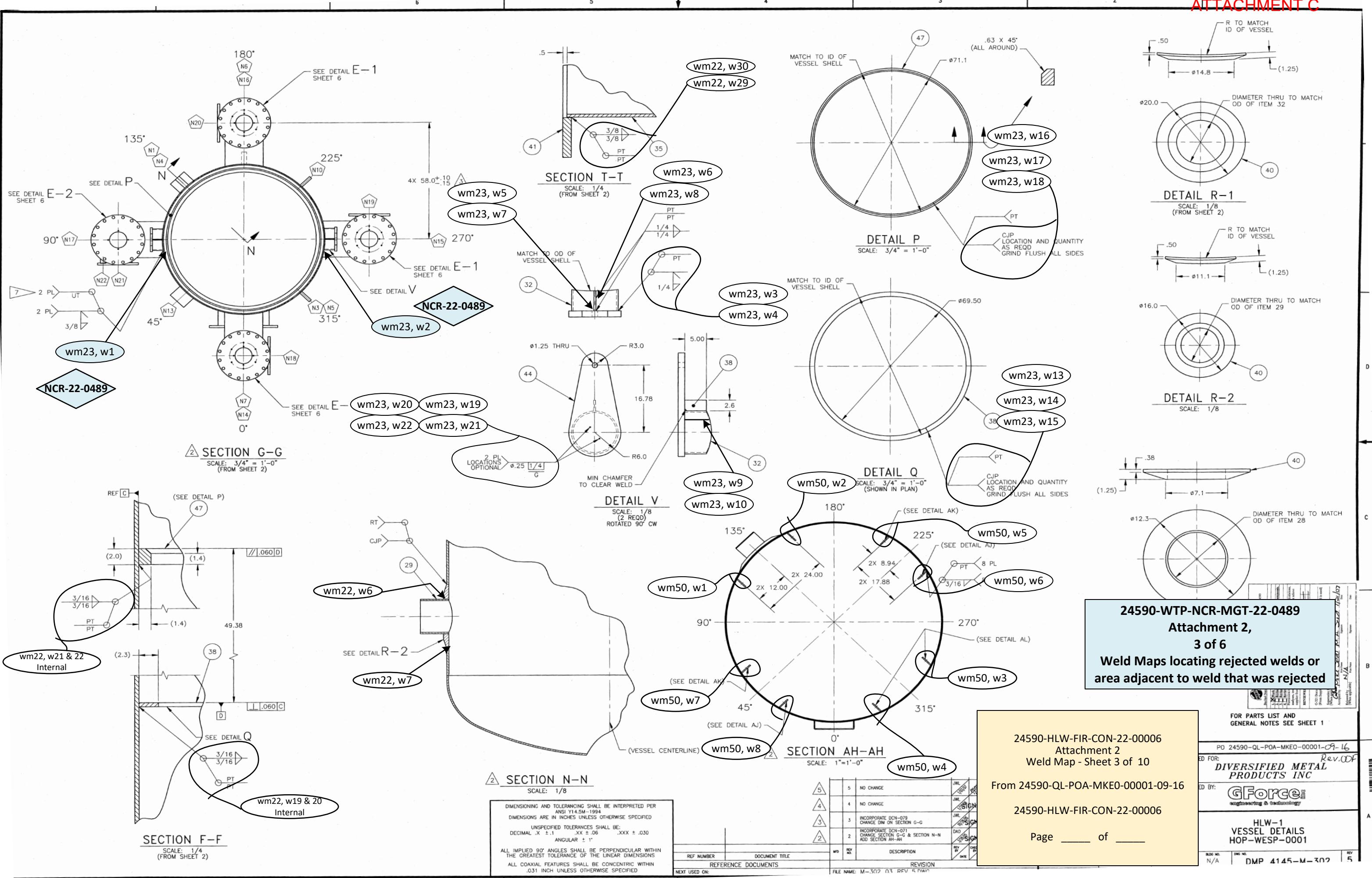
Attachment 2  
Weld Map - Sheet 2 of 10

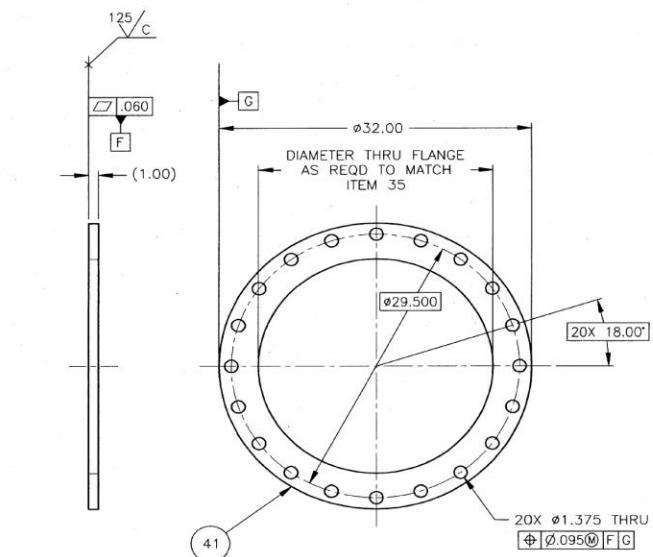
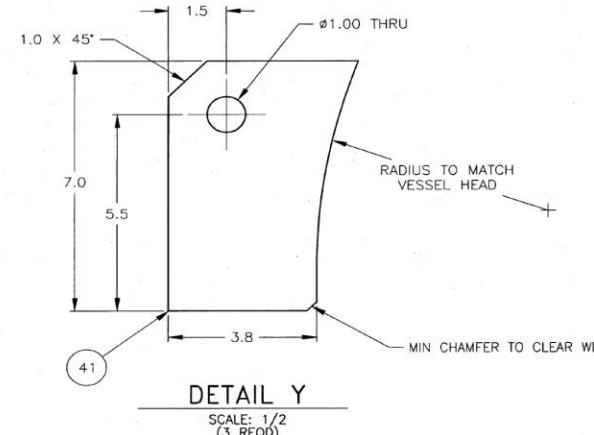
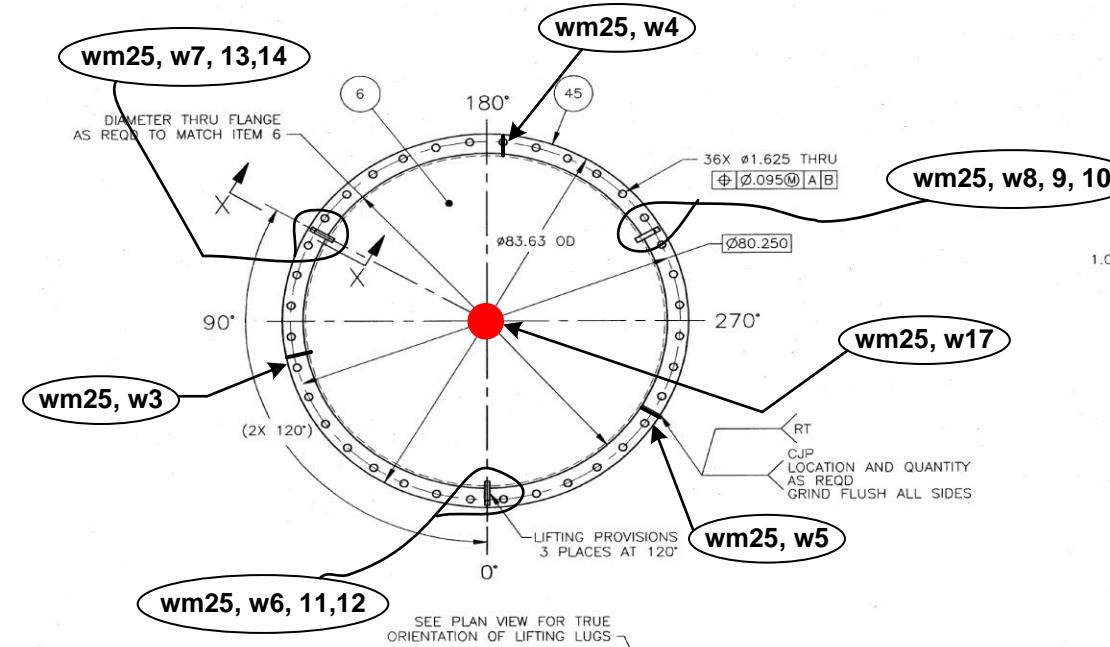
From 24590-QL-POA-MKE0-00001-09-15

24590-HLW-FIR-CON-22-00006

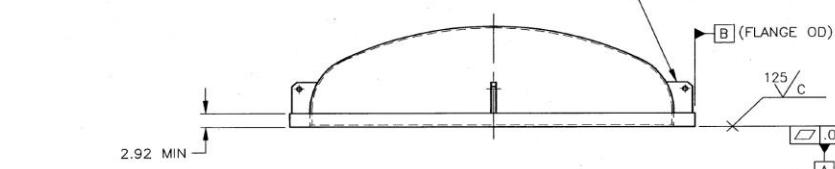
Page \_\_\_\_\_ of \_\_\_\_\_

DMG SIZE	BLDG. NO.	DMG NO.	REV
F	N/A	DMP 4145-M-302	5
SHOWN	TRANSMITTED NO.	FILE NAME: M-302_02.REV.5.DWG	SHEET 2 of 5



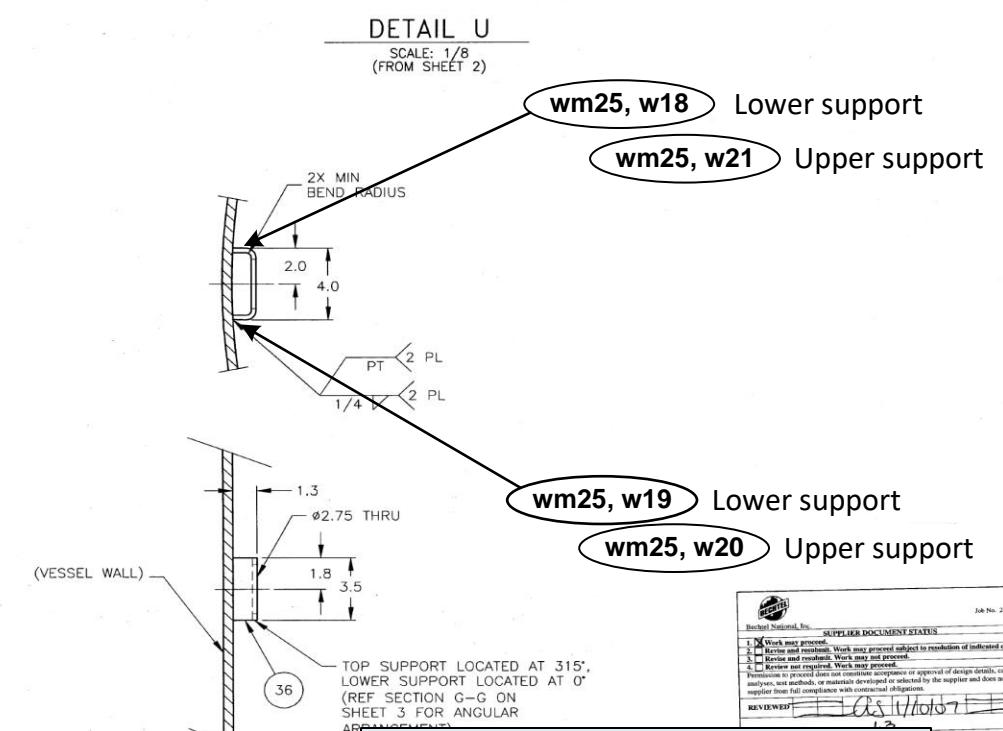
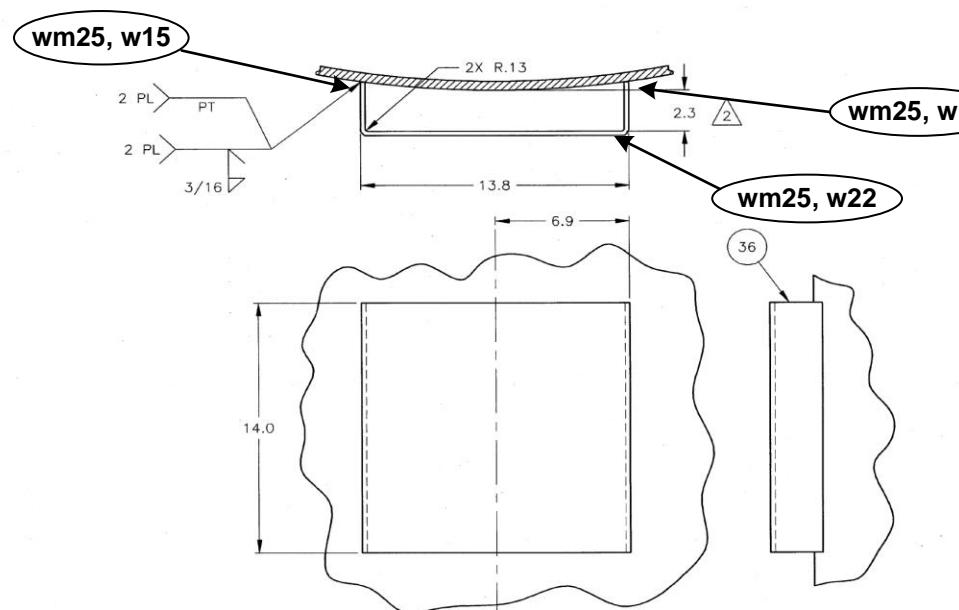
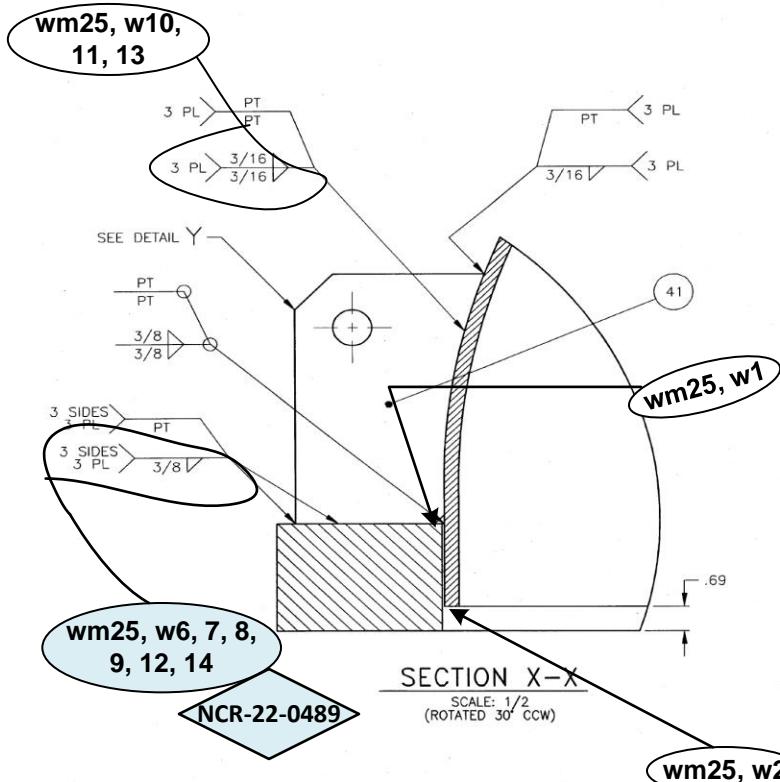


Lower support  
w21 Upper support



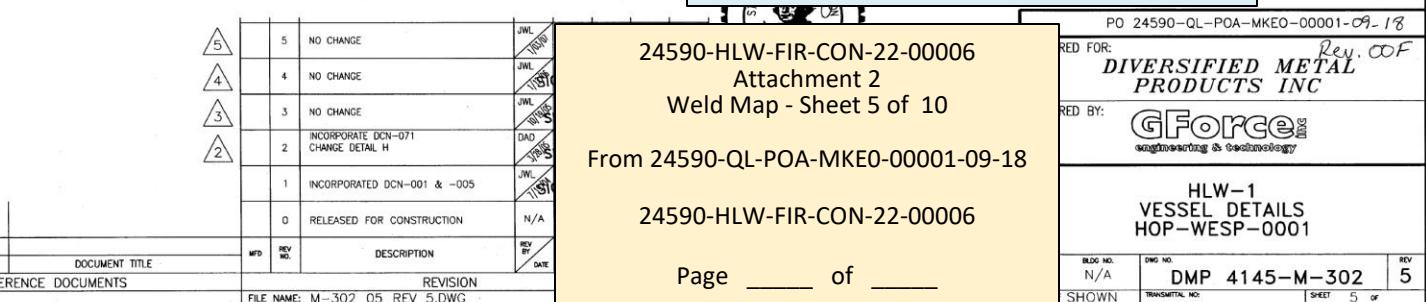
2 VESSEL HEAD WELDMENT

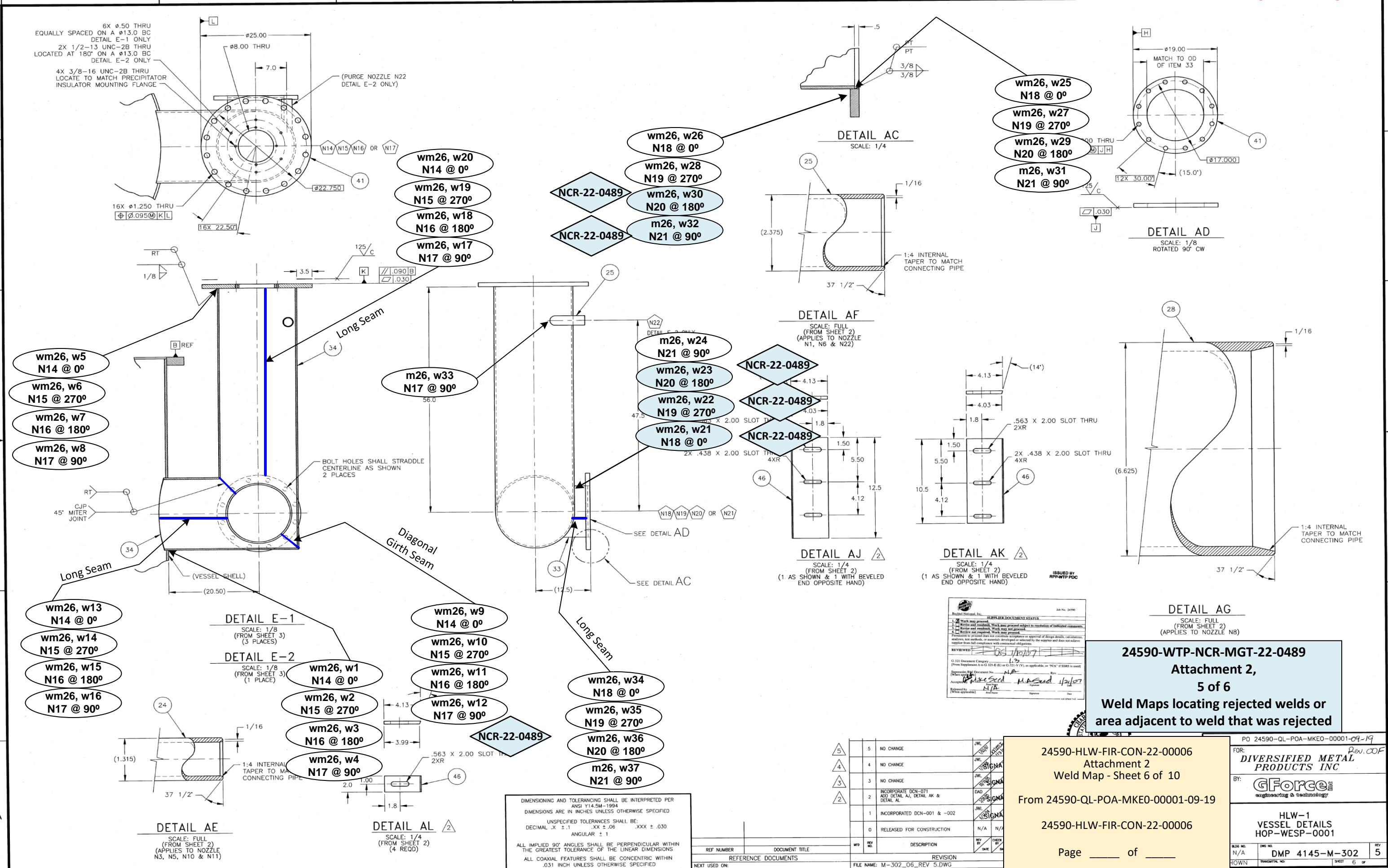
2 SCALE:  $3/4"$  = 1'

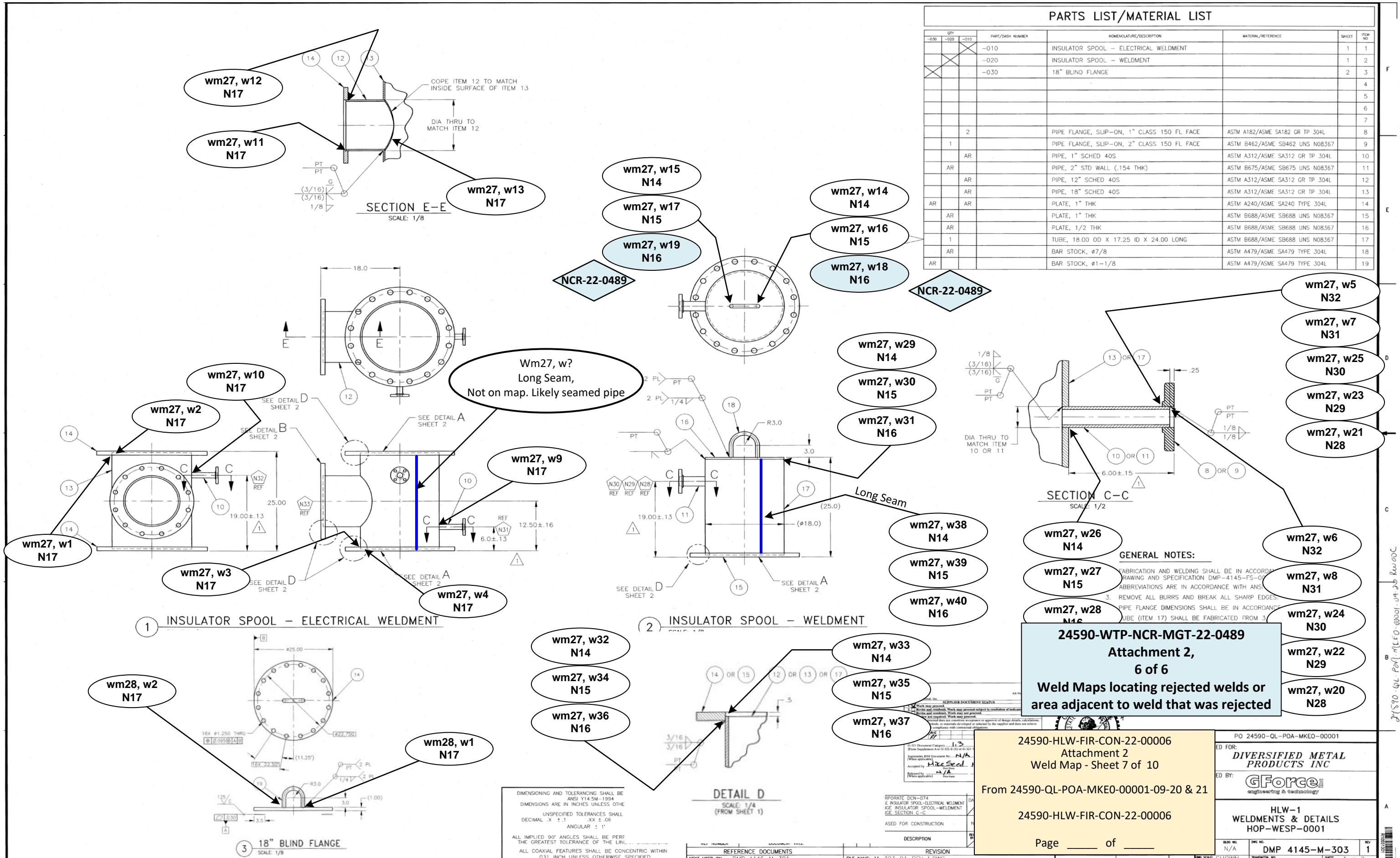


24590-WTP-NCR-MGT-22-0489  
Attachment 2,

**Weld Maps locating rejected welds or area adjacent to weld that was rejected**





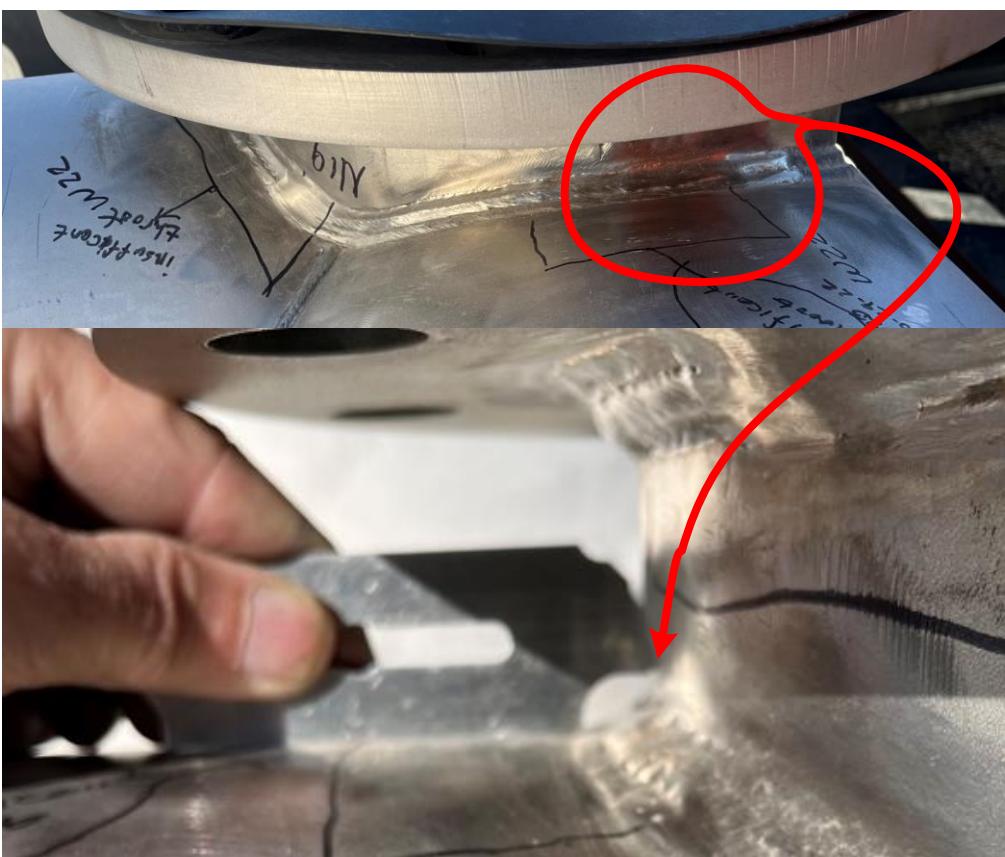




WM-26 W-21  
Insufficient weld throat by ~ 1/16" between 7 to 1 O'clock



WM-26 W-23  
Undersized weld by ~1/16", & Insufficient weld throat



WM-26 W-22  
Undersized weld by ~1/16", & Insufficient weld throat @ 11-12 O'clock and 2-3 O'clock



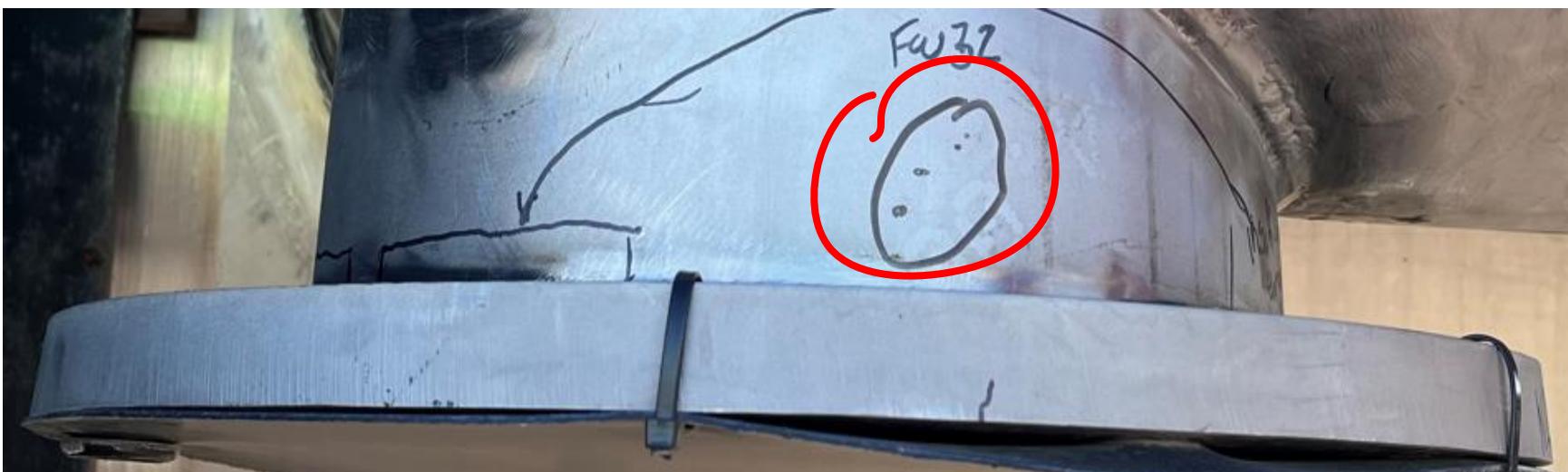
WM-26 W-30  
Undersized weld by ~ 1/16", & Insufficient weld throat

24590-WTP-NCR-MGT-22-0489  
Attachment 3,  
2 of 3  
Photos of areas rejected

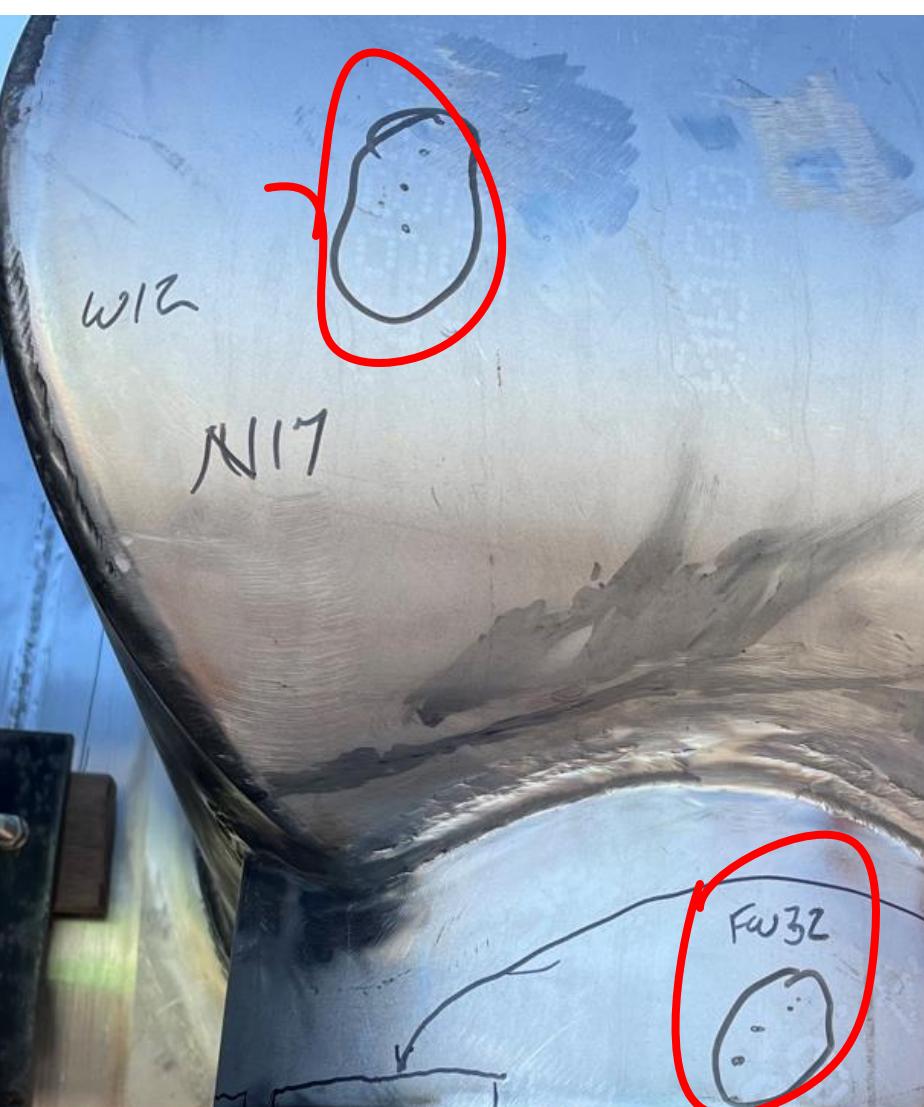
24590-HLW-FIR-CON-22-00006  
Attachment 3  
HOP-WESP-00001  
Rejected welds - Sheet 2 of 3

24590-HLW-FIR-CON-22-00006

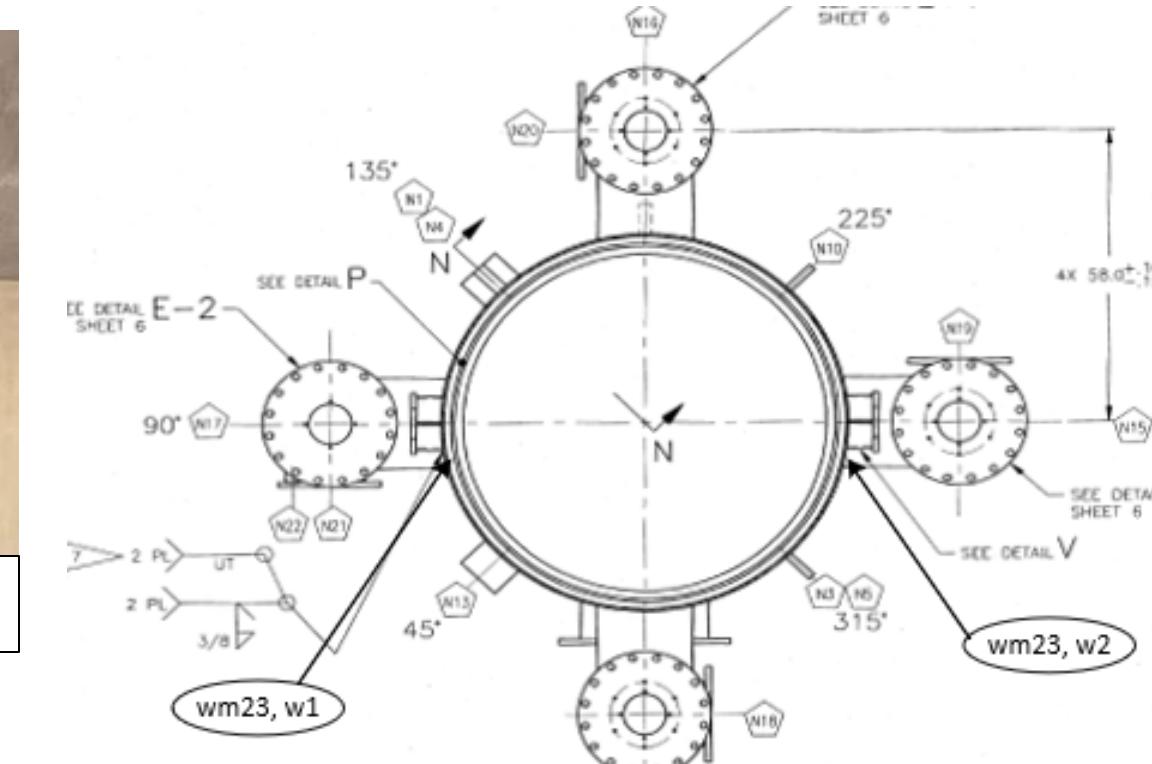
Page \_\_\_\_ of \_\_\_\_



WM-26 W-32  
Undersized weld, & Insufficient weld throat ~ 90% of over-all weld length

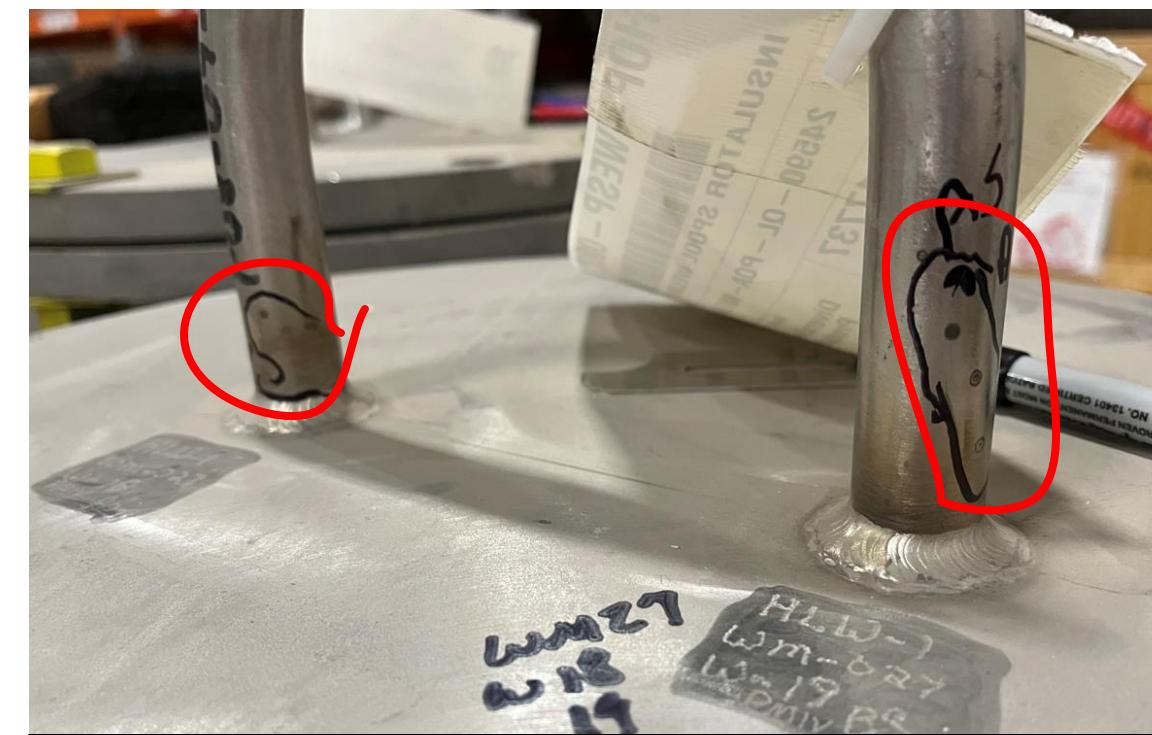


Arc Strikes adjacent to WM-26 W-12



WM-23 W-1 - insufficient throat at 2-3 O'clock  
NO PHOTO WAS TAKEN  
10" tube to shell Lifting Lug Assembly @ Az 90

WM-23 W-2 – Insufficient throat at 7-10 O'clock  
NO PHOTO WAS TAKEN  
10" tube to shell Lifting Lug Assembly @ Az 270



Arc Strikes adjacent to WM-27 W-18& 19

24590-WTP-NCR-MGT-22-0489  
Attachment 3,  
3 of 3  
Photos of areas rejected

24590-HLW-FIR-CON-22-00006  
Attachment 3  
HOP-WESP-00001  
Rejected welds - Sheet 3 of 3

24590-HLW-FIR-CON-22-00006

Page \_\_\_\_ of \_\_\_\_

## In-Progress 24590-WTP-NCR-MGT-22-0490

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and Dispositions[New Interim Disposition](#)[New Disposition](#)

24590-WTP-NCR-MGT-22-0490

NCR Header



Weld ID/Description			See Weld map sht #	Dia.	Weld Type	Weld Size ID	Weld Size OD	Acc/Rej	By /Date	
WM-30 w-1	Skirt to Head	sht 1 detail C	1	NA	fs	NA	3/8"	REJECT	RAJ 10-29-22	~20" was undersized by ~1/16". Not able to inspect area from ~270° to 90°, weld hidden by the vessel support saddle & cribbing
WM-31 W-5	N-13, 10" tube to 1-1/4" plate	sht 2 Nozzle type 2	2	10"	cjp/fw	7/16"	3/8"	REJECT	TRB 10-28-22	Weld undersized @ 11:30- 2 and 4-5 O'clock
WM-32 W-1	10" tube to shell Lifting Lug Assembly @ Az 90	Section G-G sht 3	3	10"	cjp/fw	NA	3/8"	REJECT	TRB 10-29-22	insufficient throat at 1-3 & 4-5 O'clock
WM-32 W-2	10" tube to shell Lifting Lug Assembly @ Az 270	Section G-G sht 3	3	10"	cjp/fw	NA	3/8"	REJECT	TRB 10-29-22	insufficient throat for 1-1/2" area @ 8 O'clock
WM-34 W-6	Det Y lug to flange @ Az 0	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
WM-34 W-7	Det Y lug to flange @ Az 120	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
WM-34 W-8	Det Y lug to flange @ Az 240	vessel head weldment detail , x-x	5	NA	fw	NA	3/8"	REJECT	RAJ 10-28-22	Configuration of lug to head only permits 1/4" fillet on OD of lug to head Flange
WM-35 W-30	N-20, flange to 12" tube @ Az 180	Detail E-1, A-C	6	12"	fw	NA	3/8"	REJECT	RAJ 10-28-22	Undersized weld ~6" long @ 3 O clock by ~ 1/16".
WM-36 W-13	N-33 to N-17 Insulator spool weldment shell	sec C-C, 303, sh1	7	12"	cjp/fw	NA	1/8"	REJECT	RAJ 10-29-22	undersized weld ~1-1/2" long @ 2 O clock.
adjacent to WM-36 W-15	7/8" bar to 1" flange w/with N-14	sec C-C, 303, sh1	7	NA	fw	NA	1/4"	REJECT	RAJ 10-29-22	Arc strikes
WM-36 W-18	7/8" bar to 1" flange w/with N-16	sec C-C, 303, sh1	7	NA	fw	NA	1/4"	REJECT	RAJ 10-29-22	Undersized in weld throat by ~ 1/32"
adjacent to WM-36 W-18	7/8" bar to 1" flange w/with N-16	sec C-C, 303, sh1	7	NA	fw	NA	1/4"	REJECT	RAJ 10-29-22	Arc strikes
WM-36 W-19	7/8" bar to 1" flange w/with N-16	sec C-C, 303, sh1	7	NA	fw	NA	1/4"	REJECT	RAJ 10-29-22	Undersized in weld throat by ~ 1/32"

## In-Progress 24590-WTP-NCR-MGT-22-0490

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New Interim Disposition



New Disposition

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Responsible Individual Creates Conditional Releases  
and Dispositions

Email

rajanys@bechtel.us

NCR Priority

2

Supplier/SubContractor

Diversified Metal Products, Inc

Contract Number / Purchase Order

24590-QL-POA-MKE0-00001

Quality Level

Q

Custody Currently With

Construction

ASME Code Stamped Component or Assembly

Suspect/Counterfeit?

No

Commissioning Breakdown Structure

Yes

## Nonconformance Description

Inspection of all accessible external welds on the HOP-WESP-00002 was performed as per 24590-WTP-RPT-ENG-22-00003.

1. Numerous welds were found to be rejectable.
2. There were rejectable surface defects (arc strikes).
3. In one case the weld specified was not actually obtainable due to configuration of the vessel head and flange.

See attachment 1, 2 &amp; 3 of NCR for details

## Additional Information

## Drawing/Specification References:

Document Number	Rev	Document Title	Sections	Comments
24590-WTP-MRR-PROC-0017737	001	DIVERSIFIED METAL PRODUCTS INC		
24590-WTP-MN-CON-01-001-10-26	002	VT-ASME VIII NONDESTRUCTIVE EXAMINATION STANDARD		
24590-QL-POA-MKE0-00001-09-10	00C	DRAWING - HLW-2 WESP WELDMENTS & DETAILS, DMP 4145-M-403		
24590-QL-POA-MKE0-00001-09-09	00E	DRAWING - HLW-2 VESSEL DETAILS HOP-WESP-0002		
24590-QL-POA-MKE0-00001-09-08	00E	DRAWING - HLW-2 VESSEL DETAILS HOP-WESP-0002		
24590-QL-POA-MKE0-00001-09-06	00E	DRAWING - HLW-2 VESSEL DETAILS HOP-WESP-0002		
24590-QL-POA-MKE0-00001-09-05	00E	DRAWING - HLW-2 VESSEL DETAILS HOP-WESP-0002		
24590-QL-POA-MKE0-00001-09-04	00E	DRAWING - HLW-2 VESSEL SUBASSEMBLY HOP-WESP-0002		
24590-QL-POA-MKE0-00001-09-03	00E	DRAWING - HLW-2 WESP VESSEL ASSEMBLY HOP-WESP-00002		
24590-QL-POA-MKE0-00001-09-01	00E	DRAWING - HLW-2 WESP VESSEL ASSEMBLY HOP-WESP-0002		

## Applicable Items

Item Number	Parent ID	Item Description	Item Location	Item Quantity
24590-HLW-MK-HOP-WESP-00002	HOP-WESP-00002	MELTER 2 WET ELECTROSTATIC PRECIPITATOR (WESP)	MHF - 4N545 W407	1

## Condition Reports Associated with this NCR

Validator

Validation Date

## In-Progress 24590-WTP-NCR-MGT-22-0490

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Responsible Individual Creates Conditional Releases  
and Dispositions[New Interim Disposition](#)[New Disposition](#)

Yes

**NCR Title**

HLW - HOP-WESP-00002

**Step 2: Are hold tags required?**

Yes

**Comments for Hold Tags****Step 3: Select the NCR Category**

Supplier

**Step 4: Stop Work?**

No

**Occurrence Reporting**

No

**Is this NCR related to an electrical item?**

No

**Step 5. Please check each WTP Area that is affected by this NCR.**

HLW

**Step 6. Select the Disposition Approval Authority to notify.**

Skiffington, Mark

**Step 7. Select the RQO to notify.**

Padilla, Richard

**Condition Reports****Condition Reports Associated with this NCR**

Are there any Condition Reports associated with this CR? If applicable, identify any Condition Reports associated to this NCR in the Condition Report section below.

If there are no associated Condition Reports, please enter N/A.

**Condition Reports Associated to this NCR**[Add CR Number](#)**Work Order/Work Request and Standing/Shift Order Numbers**

## In-Progress 24590-WTP-NCR-MGT-22-0490

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Responsible Individual Creates Conditional Releases  
and Dispositions

New Interim Disposition



New Disposition

Enter a Standing/Shift Order Number:

If not applicable please enter N/A.

## Related Processes

## Hold Tags

Hold Tags - [View](#)

Tags Hung	Tags Removed	All Tags Removed or Accounted For?
0	0	False

## Conditional Releases

## Interim Dispositions

## Dispositions

Disposition #001 - [View](#) Status: In Progress NOT Ready for Implementation

Recommended Disposition Type	Marked for Final	Submitted Date	Submitted By	Process Status
Other	No	3/13/2023 6:18 PM	Padilla, Richard	Active

## Process Task

Engineer Submits Final Disposition, Final Disposition

## Is this a superseded Disposition?

 Check this box to hide this Disposition until closure

## Currently Active Users

Castaneda, Melissa

VA Concurrence Date	DAA Approval Date	Recommended Disposition
-	-	Route to Engineering for Disposition.

## Final Disposition Type

## Submitted Date

## Submitted By

## Final Disposition

## Attachments

## REQUIRED FOR FINAL RECORD—Files attached here are part of the final record and will print with NCR.

Please ensure these files are formatted properly, and that documents (i.e. Word, Excel, emails, etc.) are converted to a PDF file format.

NCR 22-0490 FIR reject list HOP-WESP-00002.pdf	<a href="#">View</a> <a href="#">Download</a> <a href="#">History</a>	12/16/2022 6:52 PM	Janysek, Roy
NCR-22-0490 Reject Photos HOP-WESP-00002.pdf	<a href="#">View</a> <a href="#">Download</a> <a href="#">History</a>	12/16/2022 6:52 PM	Janysek, Roy
NCR-22-0490 weld map WESP-00002.pdf	<a href="#">View</a> <a href="#">Download</a> <a href="#">History</a>	12/16/2022 6:52 PM	Janysek, Roy

Attach ...

## Comments

## In-Progress 24590-WTP-NCR-MGT-22-0490

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New Interim Disposition



New Disposition

Press F5 To refresh  
 Responsible Individual Creates Conditional Releases  
 and Dispositions

## Add Comment

User

Skiffington, Mark

Date

3/13/2023 11:26 AM

Comment

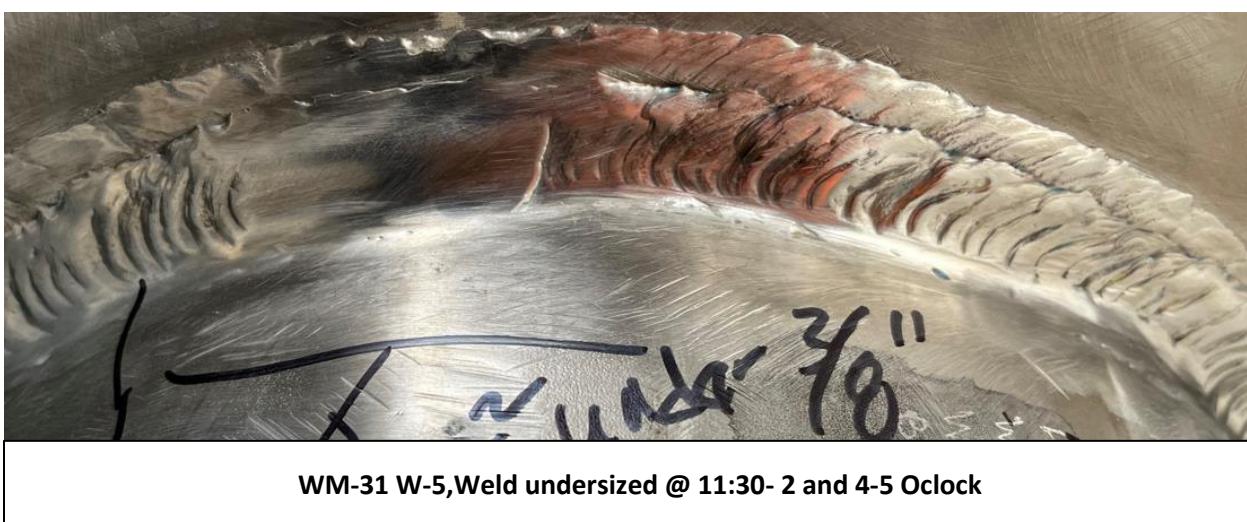
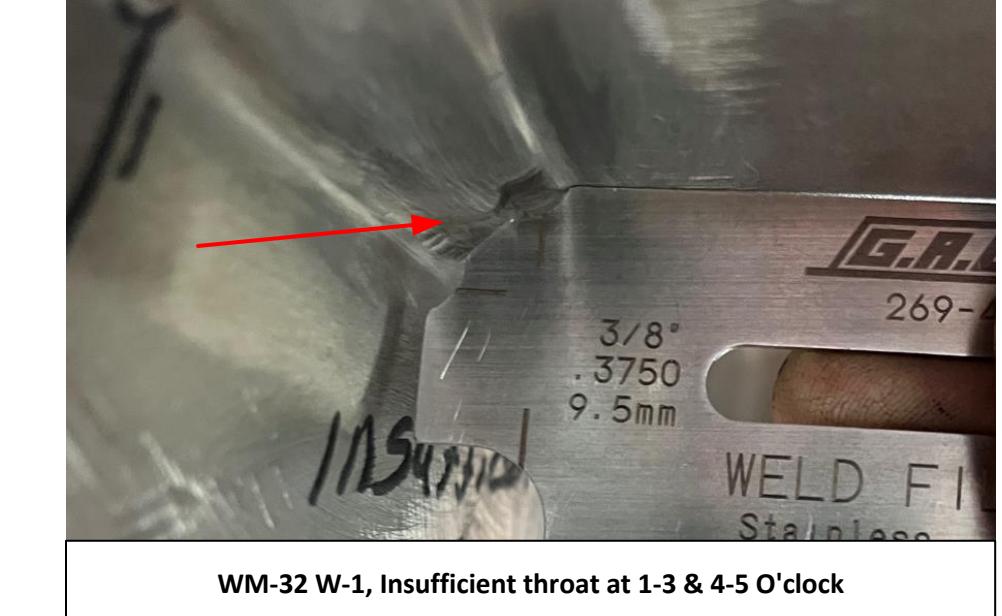
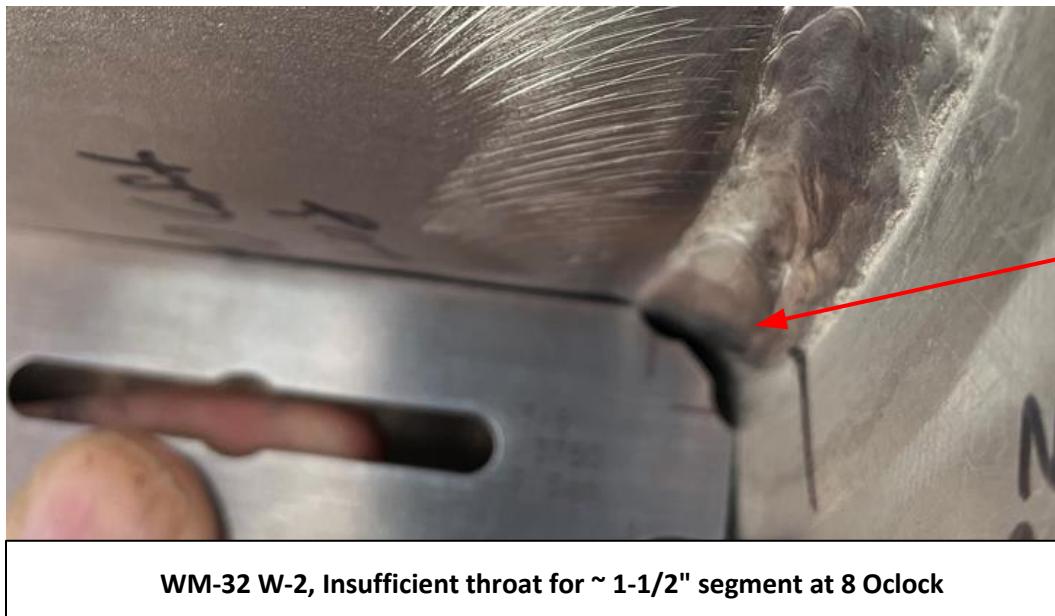
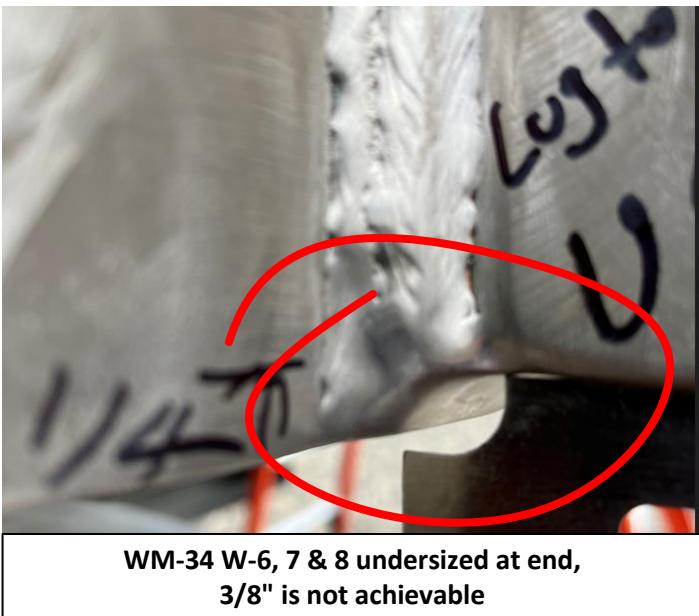
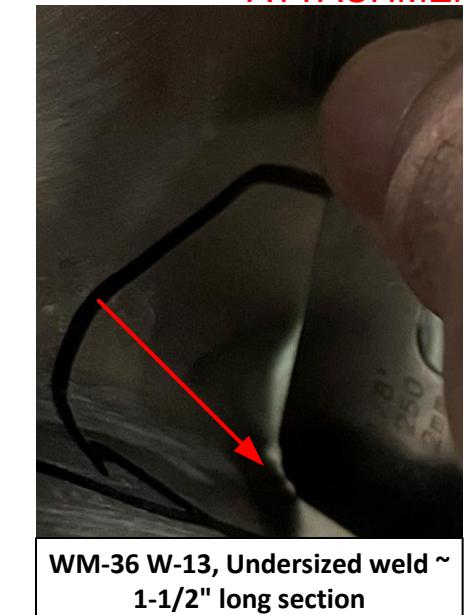
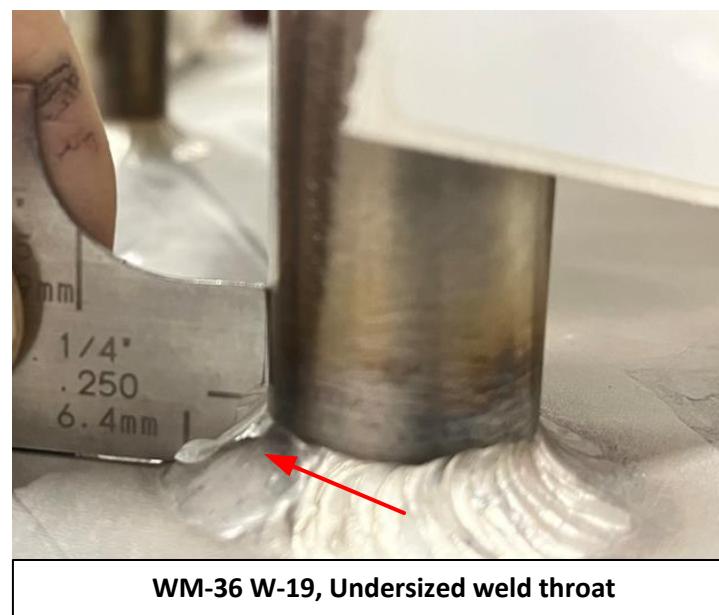
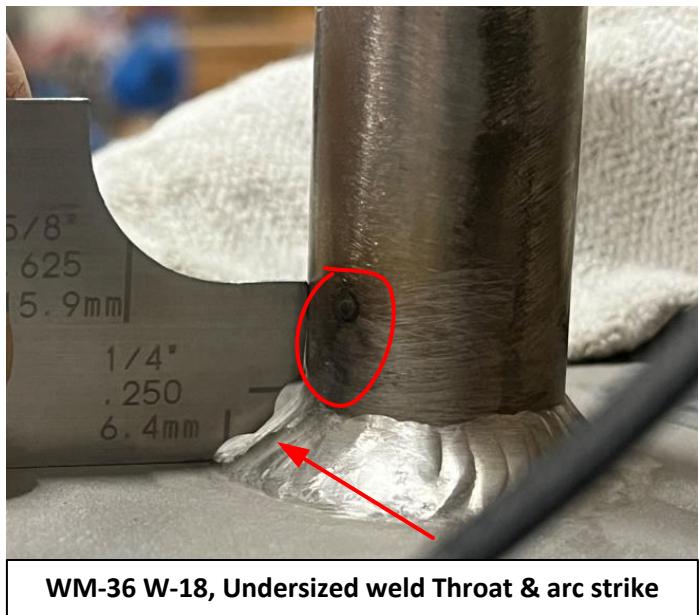
reference 24590-HLW-FIR-CON-22-00005



Save Comments

## Routing Slip

Participants	Completed	Status	Result	Comments
<b>Validating Authority Validates NCR</b>				<b>12/16/2022 6:59 PM</b>
Skiffington, Mark	3/13/2023	Completed	NCR is Valid	
<b>Originator Notified of Valid NCR</b>				<b>3/13/2023 2:26 PM</b>
Janysek, Roy	3/13/2023	Notified		
<b>RQO Notified for Hold Tags</b>				<b>3/13/2023 2:26 PM</b>
Padilla, Richard	3/13/2023	Notified		
<b>Disposition Approval Authority Assigns Responsible Individual</b>				<b>3/13/2023 2:26 PM</b>
Skiffington, Mark	3/13/2023	Completed	Assign Responsible Individual	
<b>Responsible Individual Creates Conditional Releases and Dispositions</b>				<b>3/13/2023 2:26 PM</b>
Padilla, Richard	-	Active		

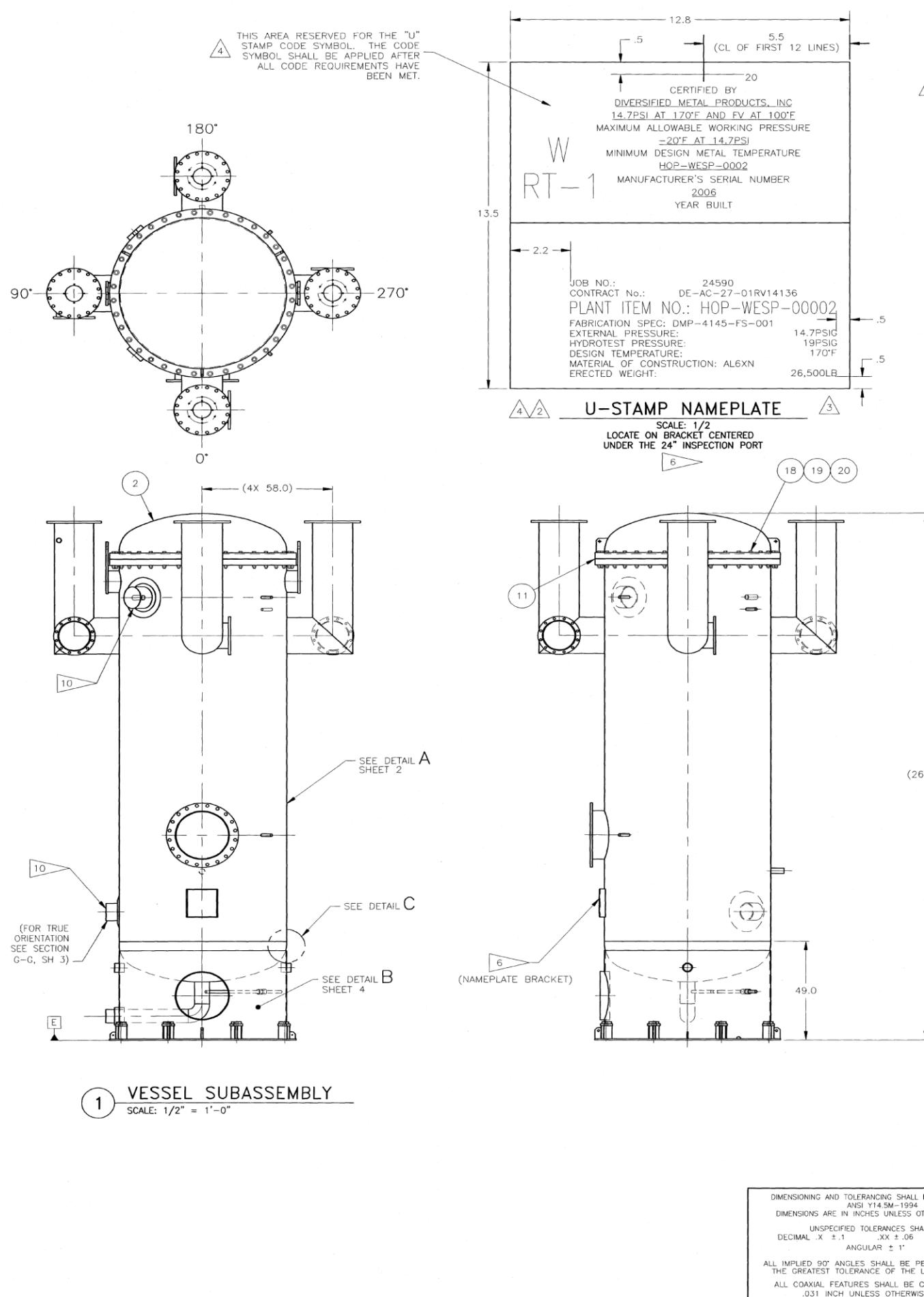


WM-35 W-30 – NO PHOTO TAKEN  
Fillet weld undersized by ~1/16" for 6" long segment at 6 O'clock

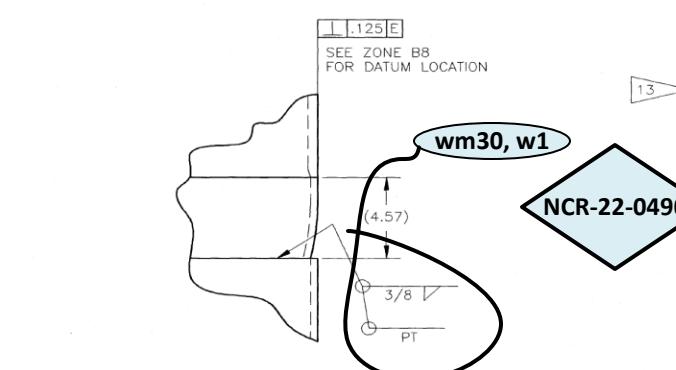
24590-WTP-NCR-MGT-22-0490  
Attachment 3  
1 of 1  
Photos of rejects

WM-30 W-1 – NO PHOTO TAKEN  
~20" undersized by ~ 1/16"

24590-HLW-FIR-CON-22-00005  
Attachment 3  
Rejected Weld Photo's - Sheet 1 of 1  
HOP-WESP-00002  
  
24590-HLW-FIR-CON-22-00005  
Page \_\_\_\_ of \_\_\_\_



VESSEL TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH 2001 EDITION, 2002 ADDENDA OF THE ASME CODE SECTION VIII DIVISION I FOR PRESSURE VESSELS AND IS TO BE SO STAMPED. INSPECTION BY HSB GLOBAL STANDARDS				
ITEM	DESIGN	MAX A WORKING	MAX A N & C	HYDRO TEST
PRESSURE PSIG @	14.7/FV	16	125	19
TEMPERATURE °F	170	170	AMBIENT	AMBIENT
LIMITED BY	NA	NA	NA	NA
WIND PRESS, LBS/SQ FT	NA	CORROSION ALLOW INCHES	.04	
SEISMIC COEFFICIENT	NA	RADIOGRAPHIC EXAMINATION	RT-1	
WEIGHT FULL W/ WATER LBS	65,000	POST WELD HEAT TREATMENT @ 1100 °F	NA	
OPERATING WEIGHT LBS	26,500			



DETAIL C

SCALE: 1/4

## GENERAL NOTES:

1. FABRICATION AND WELDING SHALL BE IN ACCORDANCE WITH THIS DRAWING AND SPECIFICATION DMP-4145-FS-001.
2. ABBREVIATIONS ARE IN ACCORDANCE WITH ANSI Y1.1.
3. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
4. ATTACH DRAIN LINE AND LEVEL TRANSMITTER LINE AFTER THE SKIRT IS WELDED TO THE VESSEL TO ENSURE PROPER FIT UP WITH NOZZLE OUTLETS THROUGH SKIRT.
5. OVERRSIZE THICKNESS OF PLATES FOR FINISH MACHINING OF HEAD, VESSEL FLANGES AND REINFORCEMENT PADS IF REQD.
6. U-STAMP NAMEPLATE SHALL BE IN ACCORDANCE WITH ASME PRESSURE VESSEL STANDARDS. WELD NAMEPLATE TO NAMEPLATE BRACKET WITH CONTINUOUS FILLET AFTER FINAL TESTING.
7. THE LOCATION OF THE SHELL DIRECTLY UNDER THE LIFTING LUGS WILL BE ULTRASONICALLY EXAMINED OVER 100% OF THE AREA EXTENDING OUT 3 INCHES BEYOND THE PIPE WELDMENT.
8. TUBES (ITEMS 32, 33, & 35) SHALL BE FABRICATED FROM 3/8" THK PLATE WITH FULL PENETRATION SEAM WELDS. SEAM WELDS SHALL BE 100% RADIOPHOTOGRAPHED. SEAM LOCATIONS OPTIONAL.
9. VESSEL HEADS ARE 2:1 ELLIPTICAL WITH A 75.00 OD X 3/8 WALL THICKNESS. (ITEM 7) SHALL HAVE A 1.5 INCH STRAIGHT FLANGE AND SHALL BE WELD PREPARED. (ITEM 6) SHALL HAVE A 3.3 INCH STRAIGHT FLANGE AND SHALL NOT BE WELD PREPARED.
10. PREP NOZZLES N4 & N13 FOR A 37 1/2" BEVEL WELD.
11. PRIOR TO WELDING, ULTRASONIC EXAMINATION OF THE VESSEL BOUNDARY IS REQUIRED IN THE VICINITY WHERE COMPONENTS ARE ATTACHED BY FULL OR PARTIAL PENETRATION WELD.
12. ITEM 31 MAY BE FABRICATED FROM 3/8 THK PLATE (ITEM 37) WITH FULL PENETRATION SEAM WELD. SEAM WELD REQUIRES PENETRANT EXAMINATION. SEAM LOCATION OPTIONAL.
13. THE SPIRAL WOUND GASKET (ITEM 11) SHALL BE A RWI, OUTER RING 78 1/2" OD X 77 1/4" ID, INNER RING 76" OD X 75" ID. INNER RING, OUTER RING, AND WINDING MATERIAL SHALL BE AL6XN UNS N08367. FILLER MATERIAL SHALL BE GRAFOIL.
14. POST WELD HEAT TREAT AS REQD AT A LATER DATE.
15. ON NOZZLE 15 DUE TO SIZE AND SPACE RESTRAINTS, RADIOPHOTOGRAPHIC TESTING FOR THE WELD MAY NOT BE ACCURATELY COMPLETED. ULTRASONIC TESTING OF THE WELD IS AN ACCEPTABLE SUBSTITUTE IF NECESSARY.

PARTS LIST/MATERIAL LIST				
QTY	PART/DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	ITEM NO
-020 -010	-010	VESSEL SUBASSEMBLY		1 1
1	-020	VESSEL HEAD WELDMENT		5 2
				3
				4
				5
				6
9	1	TOP VESSEL HEAD	ASTM B688/ASME SB688 UNS N08367	7
9	1	BOTTOM VESSEL HEAD	ASTM B688/ASME SB688 UNS N08367	8
				9
				10
13	1	SPIRAL WOUND GASKET	GARLOCK	11
				12
				13
				14
				15
36	1	BOLT, HEX HD, 1 1/2-6 UNC-2A X 8" LONG	ASTM A193 GR BB	16
36	1	HEX NUT, 1 1/2-6 UNC-2B	ASTM A194 GR 8E	17
72	1	PLAIN WASHER, 1 1/2 (SERIES AND TYPE OPTIONAL)	18-8 SST	18
				19
1	1	ELBOW, 90° 6" SR, SCHED 40, BUTT WELD	ASTM B366/ASME SB366 UNS N08367	20
AR	1	PIPE, 1" SCHED 40	ASTM B675/ASME SB675 UNS N08367	21
AR	1	PIPE, 2" SCHED 40	ASTM A312/ASME SA312 GR TP 304L	22
AR	1	PIPE, 4" SCHED 40	ASTM A312/ASME SA312 GR TP 304L	23
AR	1	PIPE, 6" SCHED 40	ASTM B675/ASME SB675 UNS N08367	24
AR	1	PIPE, 8" SCHED 40	ASTM B675/ASME SB675 UNS N08367	25
AR	1	PIPE, 24" SCHED 40S	ASTM A312/ASME SA312 GR TP 304L	26
AR	1	TUBE, 10.75 OD X 10.00 ID	ASTM B688/ASME SB688 UNS N08367	27
AR	1	TUBE, 12.75 OD X 12.00 ID	ASTM B688/ASME SB688 UNS N08367	28
AR	1	TUBE, 18.00 OD X 17.25 ID	ASTM B688/ASME SB688 UNS N08367	29
AR	1	TUBE, 24.00 OD X 23.25 ID	ASTM B688/ASME SB688 UNS N08367	30
AR	1	PLATE, 1/4 THK	ASTM B688/ASME SB688 UNS N08367	31
AR	1	PLATE, 3/8 THK	ASTM A240/ASME SA240 TYPE 304L	32
AR	1	PLATE, 1/2 THK	ASTM B688/ASME SB688 UNS N08367	33
AR	1	PLATE, 1 1/4 THK	ASTM B688/ASME SB688 UNS N08367	34
AR	1	PLATE, 1" THK	ASTM A240/ASME SA240 TYPE 304L	35
AR	1	PLATE, 5/8 THK	ASTM A240/ASME SA240 TYPE 304L	36
AR	1	PLATE, 1 1/2 THK	ASTM B688/ASME SB688 UNS N08367	37
AR	1	PLATE, 3 THK	ASTM B688/ASME SB688 UNS N08367	38
AR	1	PLATE, 3/8 THK	ASTM B688/ASME SB688 UNS N08367	39
AR	1	PLATE, 2 THK	ASTM B675/ASME SB675 UNS N08367	40

24590-WTP-NCR-MGT-22-0490

Attachment 2,  
1 of 6Weld Maps locating rejected welds or  
area adjacent to weld that was rejected

24590-HLW-HV-HV-HOP-WESP-0490 Job No. 2490

Supplier Document Status

Work may proceed.

Work was received subject to resolution of indicated comments.

Review and resubmit. Work may not proceed.

Review not required. Work may proceed.

Review and resubmit. Work may not proceed.

Review and resubmit. Work may proceed.

21 Document Category 13

21 Document Category A-G-321 (U) or 321-V-V1 as applicable, or "N/A" if SRS is not applicable.

Accepted by: Mike Seal M. Seal 2/16/16

Accepted by: Mike Seal M. Seal 2/16/16

Released by: Mike Seal M. Seal 2/16/16

Released by: Mike Seal M. Seal 2/16/16

When applicable, list the name of the person who signed off on this document.

When applicable, list the name of the person who signed off on this document.

When applicable, list the name of the person who signed off on this document.

When applicable, list the name of the person who signed off on this document.

24590-HLW-FIR-CON-22-00005

Attachment 2  
Weld Map – Sheet 1 of 9

From 24590-QL-POA-MKE0-00001-09-04

24590-HLW-FIR-CON-22-00005

Page \_\_\_\_\_ of \_\_\_\_\_

PO 24590-QL-POA-MKE0-00001

PREPARED FOR: DIVERSIFIED METAL PRODUCTS INC

PREPARED BY: GForce engineering & technology

HLW-2 VESSEL SUBASSEMBLY HOP-WESP-0002

DWG NO: DMP 4145-M-402 REV 4

Sheet 1 of 6

DWG NO: N/A

SHOWN

TRANSMITTED NO:

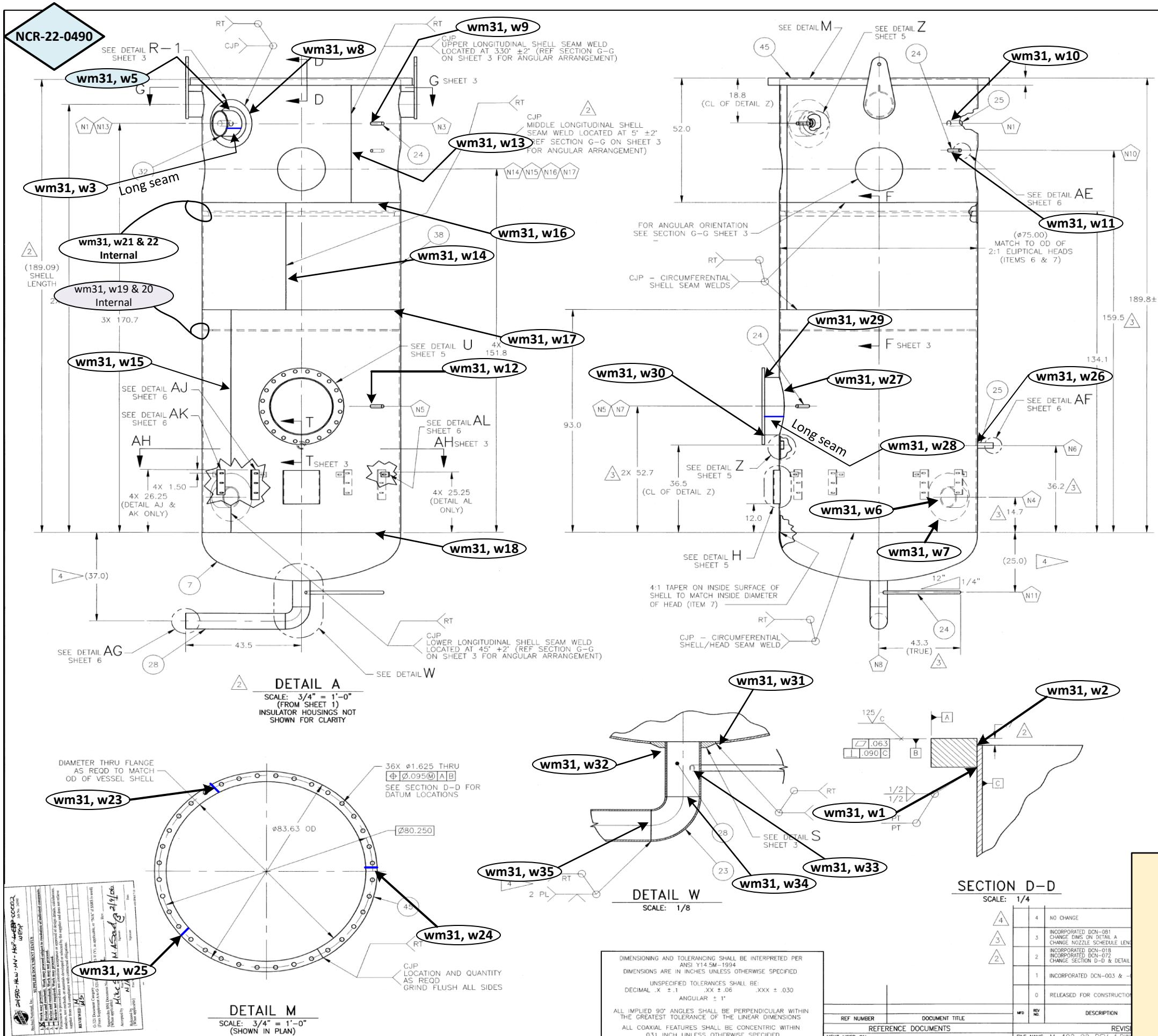
FILE NAME: M-402\_01\_REV 4.DWG

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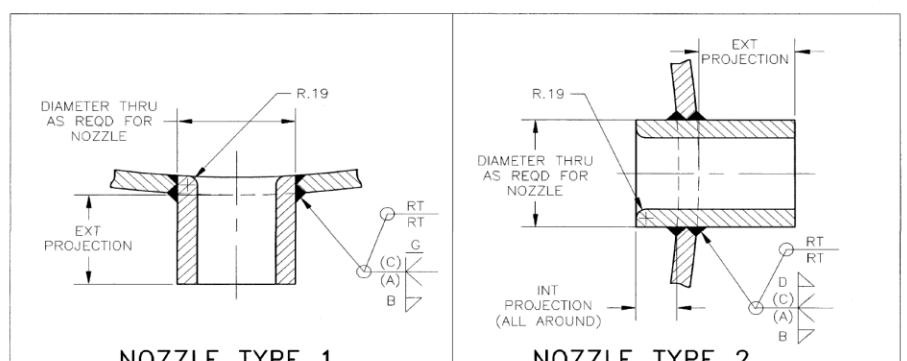
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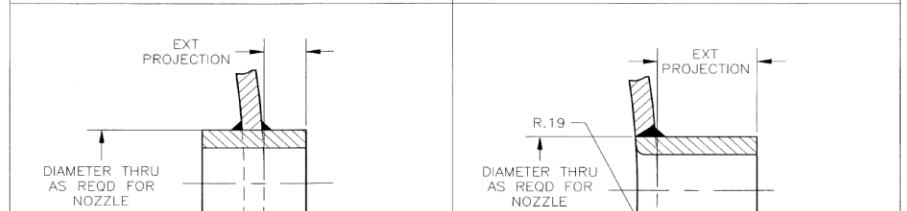
FILE NAME: M-402\_01\_REV 4.DWG



MARK	NOZZLE SCHEDULE						
	WELD						
TYPE	EXT PROJECTION	ITEM	INT PROJECTION	A	B	C	D
N1	2	5.8	25	1.6	1/4	1/8	1/4
N2	—	—	—	—	—	—	—
N3	2	5.9	24	.5	1/4	3/16	1/4
N4	2	6.0	29	2.0	5/8	3/8	5/8
N5	2	6.0	24	1.8	1/4	3/16	1/4
N6	2	6.0	25	5.3	1/4	1/8	1/4
N7	2	6.0	35	2.0	1/4	3/8	1/4
N8	1	AS SPECIFIED	28	0	5/8	1/4	5/8
N9	—	—	—	—	—	—	—
N10	2	5.9	24	.4	1/4	3/16	1/4
N11	4	AS SPECIFIED	24	0	9/32	1/8	—
N12	—	—	—	—	—	—	—
N13	2	6.0	32	.5	5/8	3/8	5/8
N14	2	AS SPECIFIED	34	.5	1/4	3/8	1/4
N15	2	AS SPECIFIED	34	.5	1/4	3/8	1/4
N16	2	AS SPECIFIED	34	.5	1/4	3/8	1/4
N17	2	AS SPECIFIED	34	.5	1/4	3/8	1/4
N18	4	3.0	33	0	3/8	3/8	—
N19	4	3.0	33	0	3/8	3/8	—
N20	4	3.0	33	0	3/8	3/8	—
N21	4	3.0	33	0	3/8	3/8	—
N22	4	6.0	25	0	3/8	1/8	—
S23	3	2.0	30	2.0	1/8	1/8	1/8
S24	3	2.0	27	2.0	1/8	1/8	1/8
S25	3	2.0	27	2.0	1/8	1/8	1/8
S26	3	2.0	31	2.0	1/8	1/8	1/8
S27	3	2.0	26	2.0	1/8	1/8	1/8



## NOZZLE TYPE 1



## NOZZLE TYPE 2

24590-WTP-NCR-MGT-22-0490

## Attachment 2.

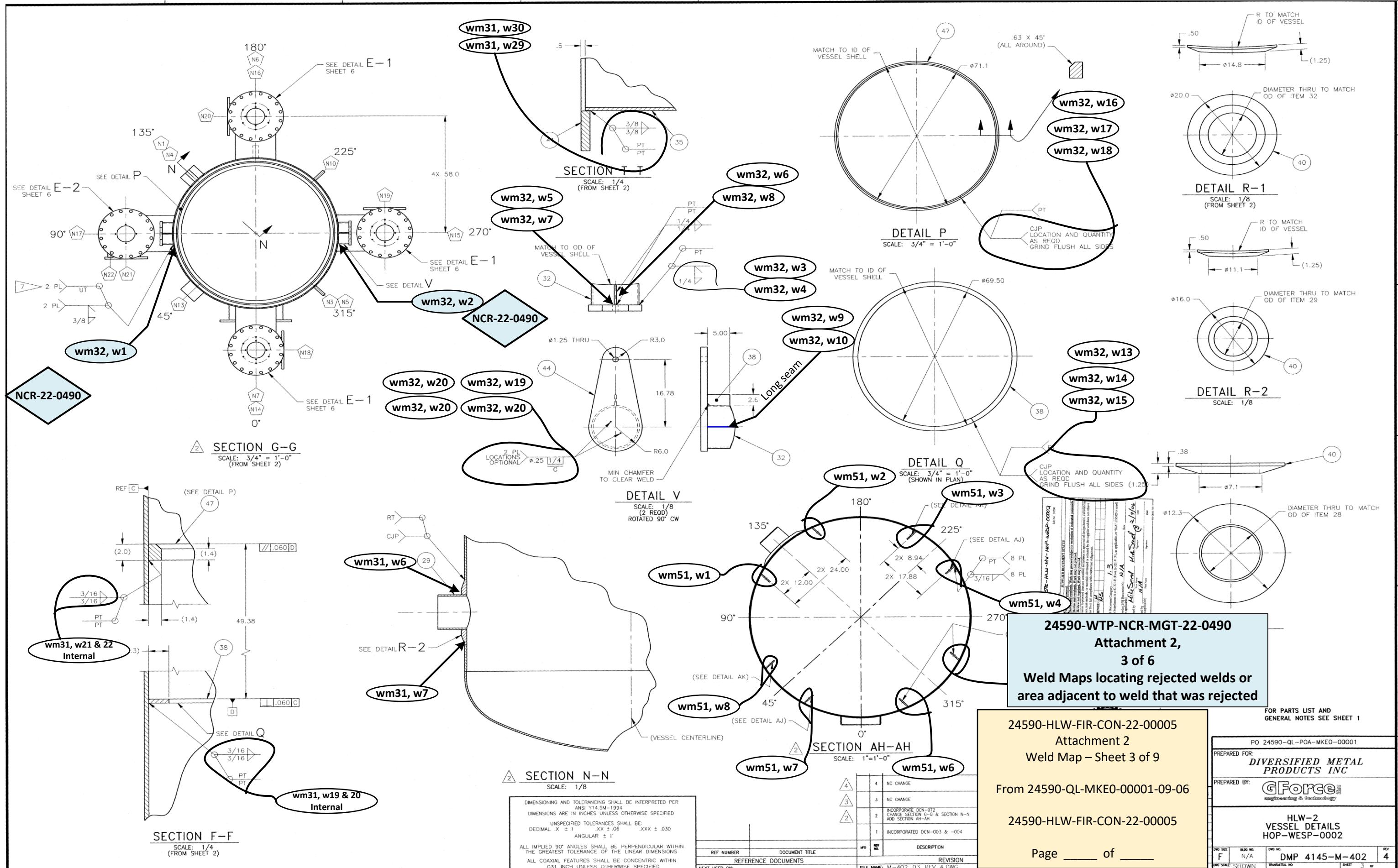
## **Weld Maps** locating rejected welds or area adjacent to weld that was rejected

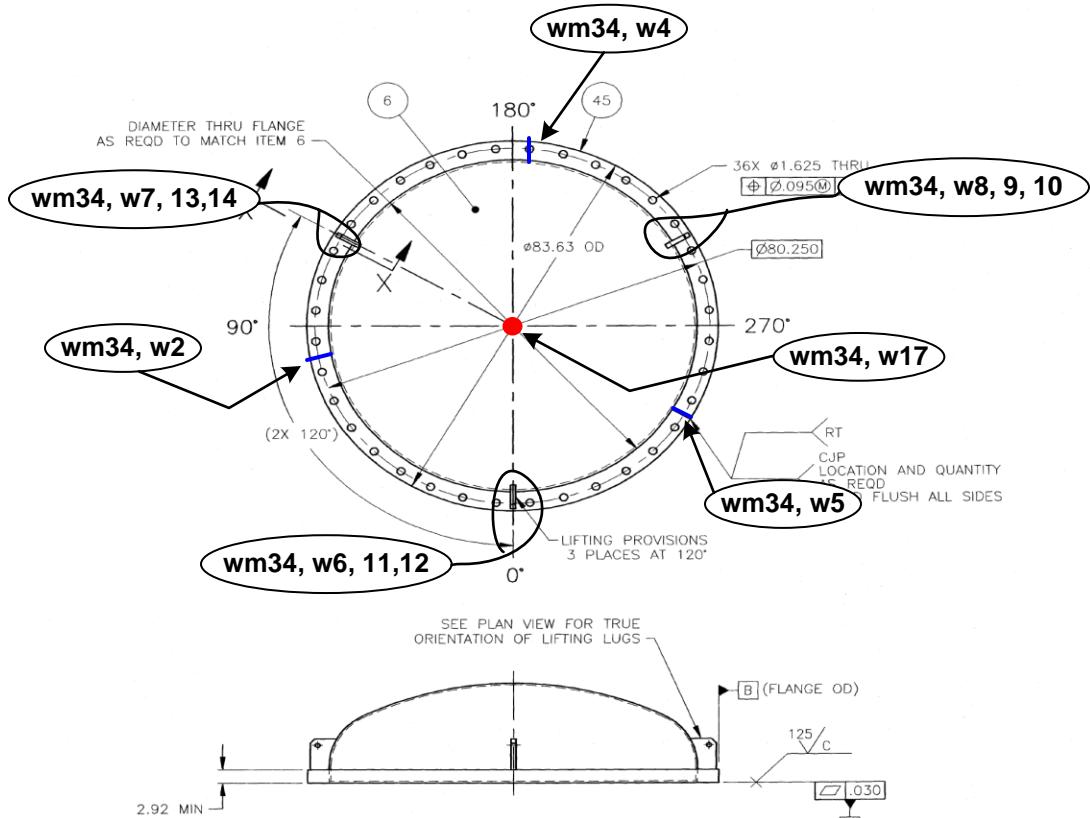
4590-HLW-FIR-CON-22-00005

## Attachment 2

From 24590-OI-POA-MKE0-00001-09-05

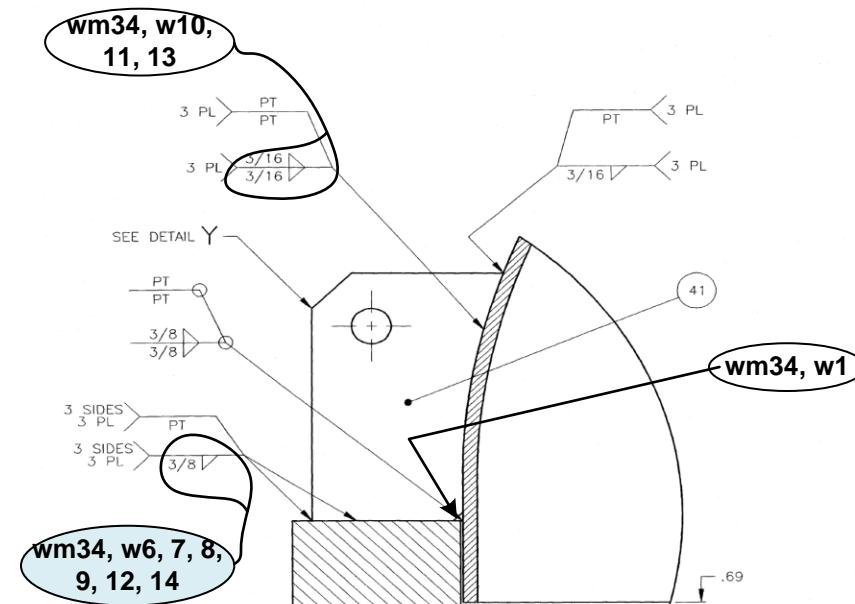
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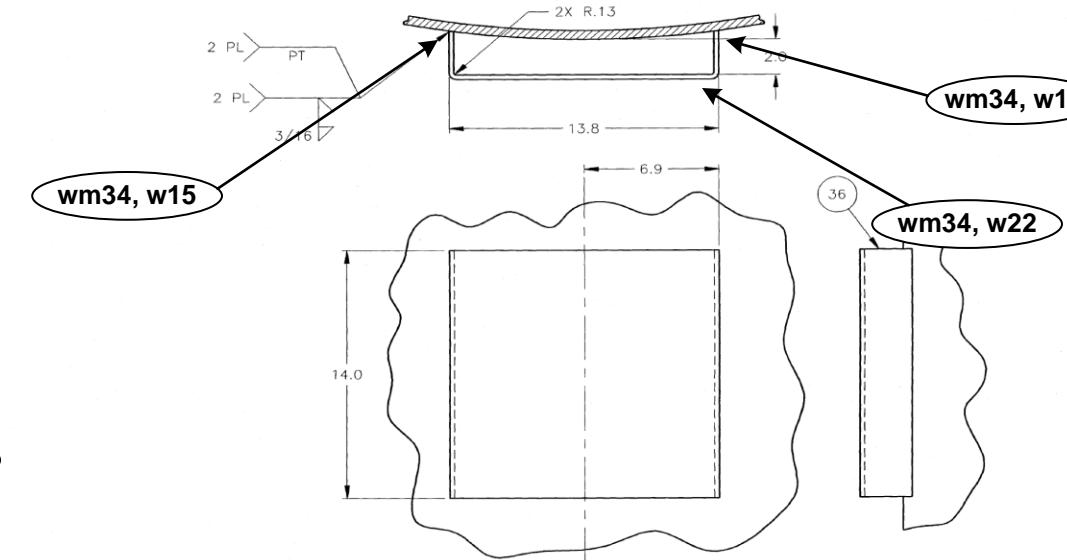


2 VESSEL HEAD WELDMENT

SCALE:  $3/4"$  = 1'-0"

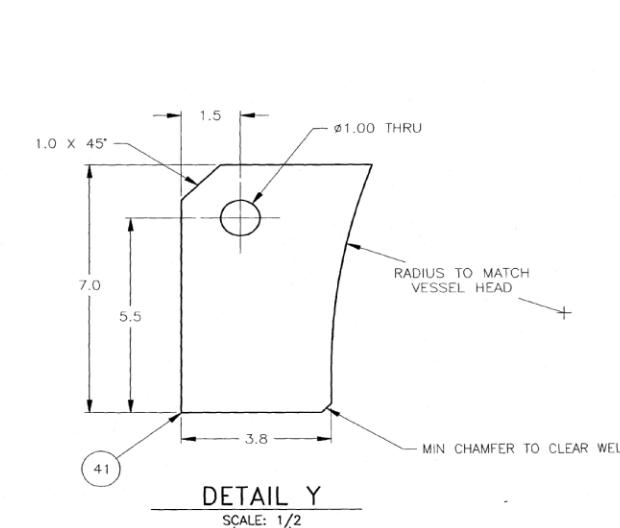
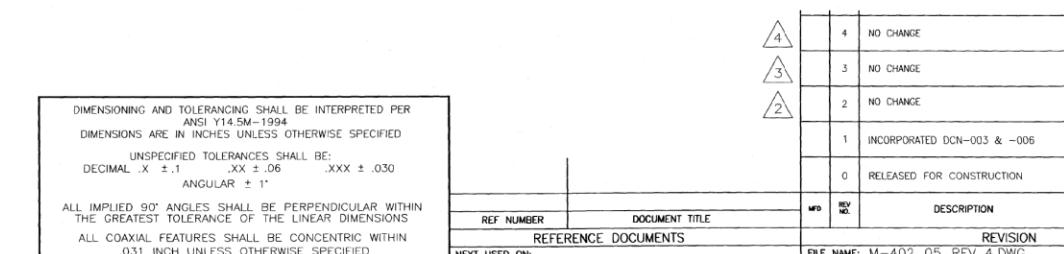
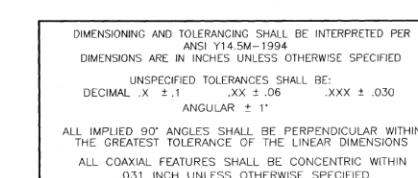


NCR-22-0490



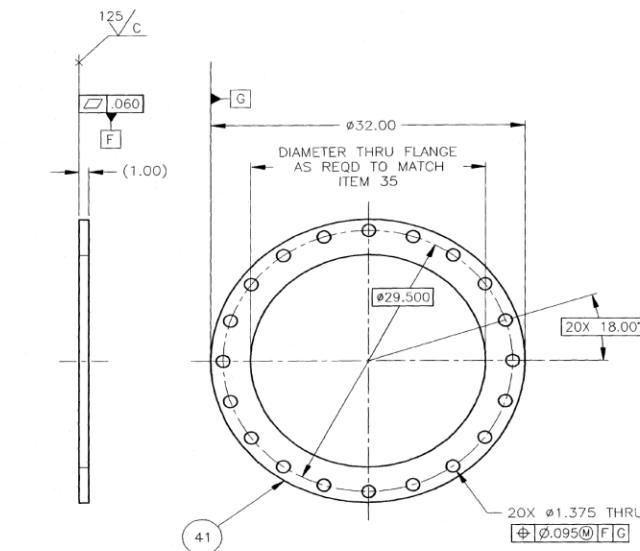
SECTION X-X

SCALE: 1/2  
(ROTATED 30° CCW)



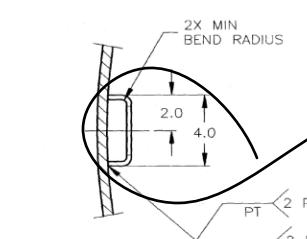
## DETAIL

SCALE: 1/  
(3 REOD)

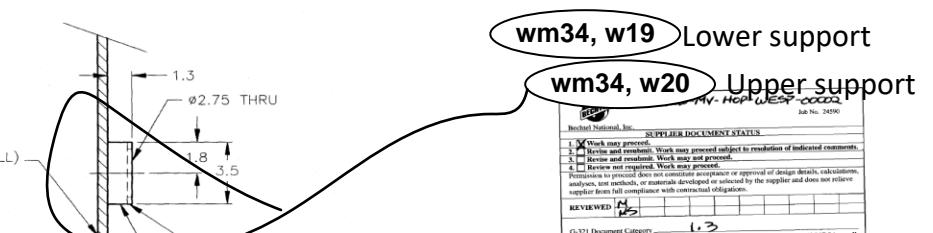


DETAIL U

SCALE: 1/8  
(FROM SHEET 2)



**wm34, w18** Lower support  
**wm34, w21** Upper support



**24590-WTP-NCR-MGT-22-0490**  
**Attachment 2,**  
**4 of 6**

### Weld Maps locating rejected welds or area adjacent to weld that was rejected



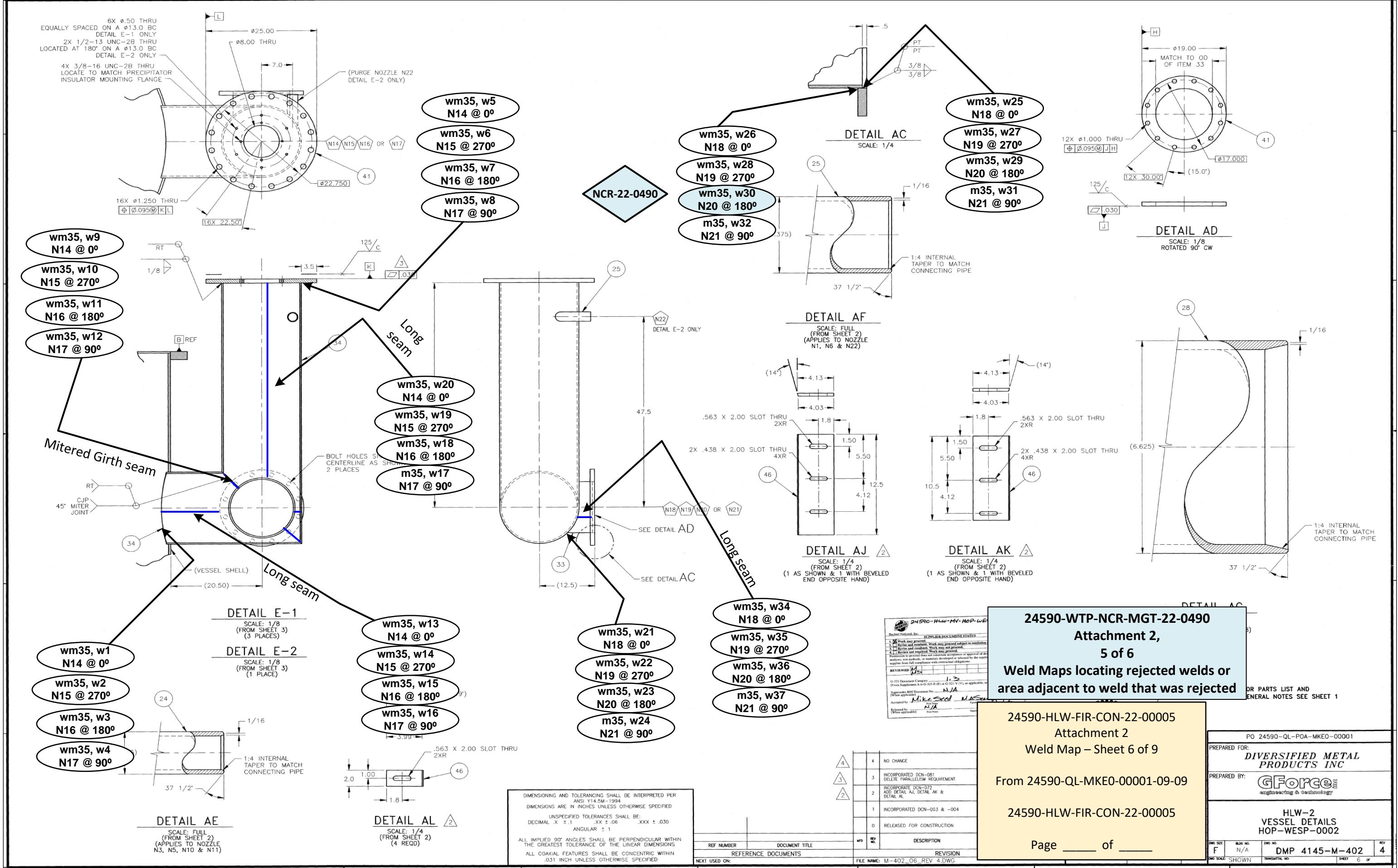
Attachment 2  
Weld Map – Sheet 5 of 9

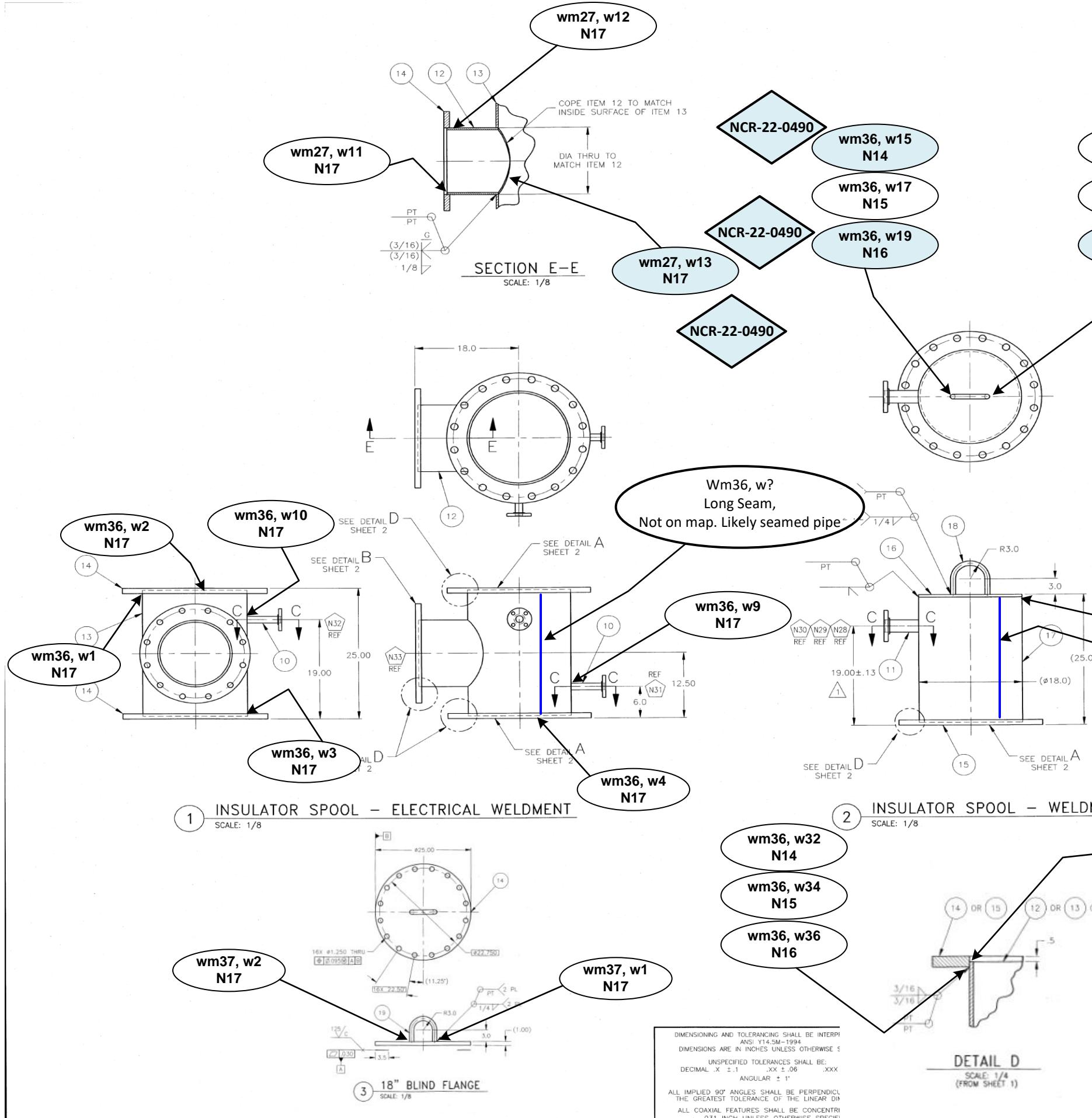
From 34590-OI-MKE0-00001-09-08

34580 HLW FIR CON 22 00005

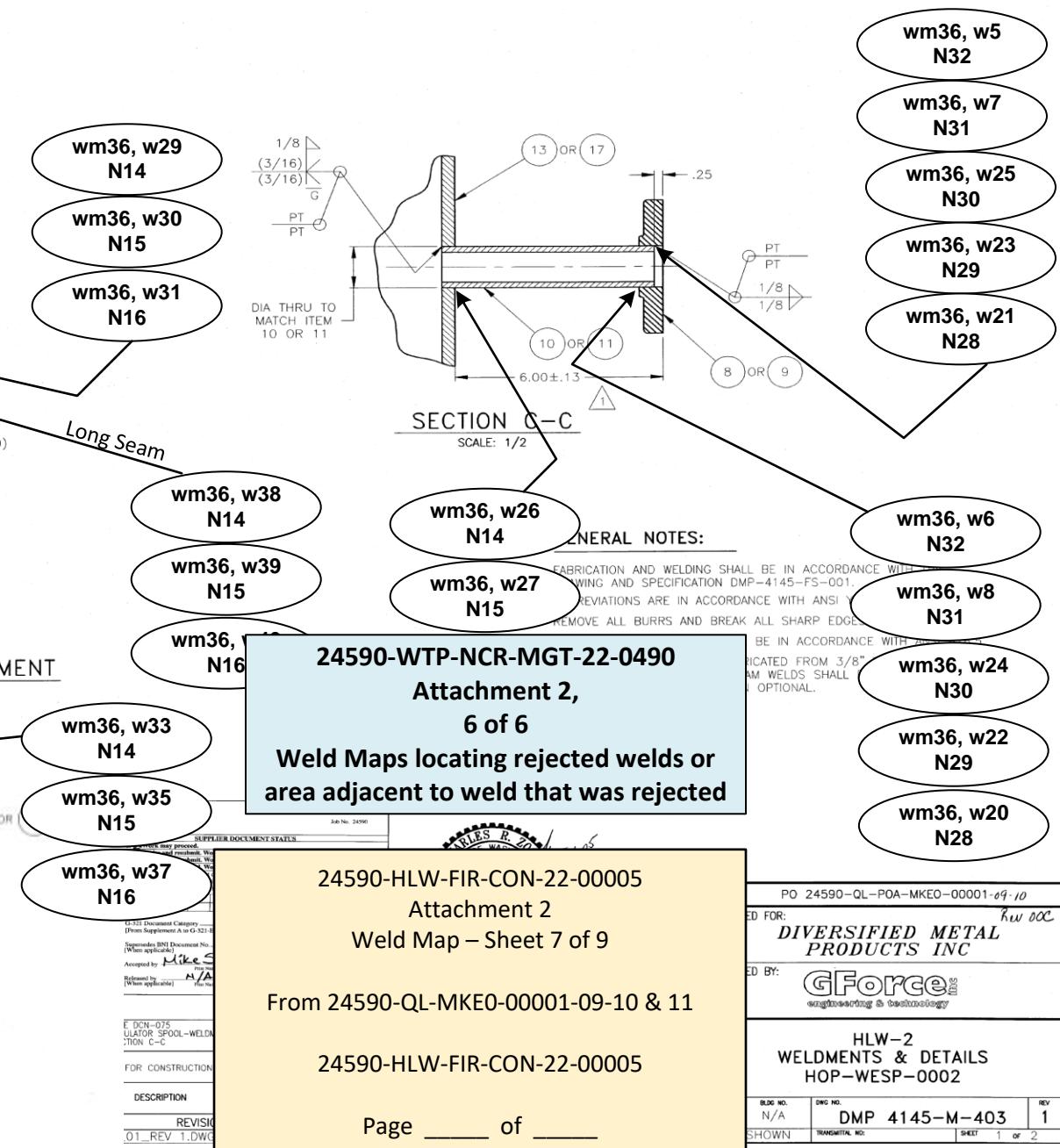
Page \_\_\_\_\_ of \_\_\_\_\_







PARTS LIST/MATERIAL LIST						
QTY	PART/DASH NUMBER		NONENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET	ITEM NO
-030	-020	-010	INSULATOR SPOOL - ELECTRICAL WELDMENT		1	1
		-020	INSULATOR SPOOL - WELDMENT		1	2
		-030	18" BLIND FLANGE		2	3
					4	
					5	
					6	
					7	
2			PIPE FLANGE, SLIP-ON, 1" CLASS 150 FL FACE	ASTM A182/ASME SA182 GR TP 304L	8	
1			PIPE FLANGE, SLIP-ON, 2" CLASS 150 FL FACE	ASTM B462/ASME SB462 UNS N08367	9	
	AR		PIPE, 1" SCHED 40S	ASTM A312/ASME SA312 GR TP 304L	10	
	AR		PIPE, 2" STD WALL (.154 THK)	ASTM B675/ASME SB675 UNS N08367	11	
			PIPE, 12" SCHED 40S	ASTM A312/ASME SA312 GR TP 304L	12	
			PIPE, 18" SCHED 40S	ASTM A312/ASME SA312 GR TP 304L	13	
			PLATE, 1" THK	ASTM A240/ASME SA240 TYPE 304L	14	
	AR		PLATE, 1" THK	ASTM B688/ASME SB688 UNS N08367	15	
	AR		PLATE, 1/2 THK	ASTM B688/ASME SB688 UNS N08367	16	
1			TUBE, 18.00 OD X 17.25 ID X 24.00 LONG	ASTM B688/ASME SB688 UNS N08367	17	
AR			BAR STOCK, Ø1-1/8	ASTM A479/ASME SA479 TYPE 304L	18	
AR			BAR STOCK, Ø1-1/8	ASTM A479/ASME SA479 TYPE 304L	19	



## In Progress 24590-WTP-NCR-MGT-24-0236

[Attach ...](#)[View Full PDF](#)[New Interim Disposition](#)[New Disposition](#)[Add Notes](#)

Press F5 To refresh  
Responsible Individual Creates Conditional Releases  
and Dispositions

---

## In Progress 24590-WTP-NCR-MGT-24-0236

Attach ...



View Full PDF



New Interim Disposition



New Disposition



Add Notes

Press F5 To refresh  
Responsible Individual Creates Conditional Releases  
and Dispositions

kdasher@bechtel.us

1

Diversified Metal Products Inc

**Contract Number / Purchase Order****Quality Level**

24590-QL-POA-MKE0-00001

Q

**Custody Currently With**

Construction

**ASME Code Stamped Component or Assembly****Suspect/Counterfeit?**

No

**Commissioning Breakdown Structure**

HLW/PTF

Yes

**Nonconformance Description**

This NCR aims to consolidate the currently open issues with the HLW Wet Electrostatic Precipitators (WESPs) into one Nonconformance. This NCR has been created in accordance with Section 6.10 and Attachment 5 of 24590-HLW-GPP-RACN-FE-7104, HLW Nonconformance Reporting and Control. The HLW HOP WESP scope of the NCRs and CRs listed below are either superseded or closed by this NCR.

Note: This NCR only partially closes/supersedes all except Letter E and J

B) CA) CR 2013-00761:HLW-HOP Procurement Related Issues.

Action 7: Obtain documented determination from Electrical AHJ for removal of the UL requirements for cables rated over 35kV.

Action 33: Provide closure response for 8 RVP items listed in CCN 261879 indicated in the documents section titled, CR13-00761 #3 mech carryover items.pdf.

**Condition Adverse to Quality:**

RVP HOP-13-005 – The following Specifications and Drawings are outdated in MR 24590-QL-MRA-MKE0-00001 Rev 6 with no justification recorded within the MR or REM Report for the MR. See RVP for more information and full list of documents.

RVP HOP-13-023 – PARS Expediting Report for 24590-QL-POA-MKE0-00001, run on 12-17-2012, identified 4 issues with vendor submittals such as not receiving any submittals for some G-321E categories or incomplete submittals. See RVP for more information and full list of documents.

RVP HOP-13-032 – Vendor Submittal 24590-QL-POA-MKE0-00001-27-00001 Rev A was issued as document Category 8.0 – Analysis and Design Report, which is inline with Form 15EX, but should also have been issued as document Category 34.0 since it addresses the requirements referenced in form G-321V Category 34.0 – Factory Acceptance Test (FAT) Report, of the MR.

RVP HOP-13-033 – Vendor Submittal 24590-QL-POA-MKE0-00001-14-01 Rev B is assigned to incorrect Document Category 1.2 in PATS Report for 24590-QL-POA-MKE0-00001, which indicates it is incorrectly logged in as Category 1.2 in InfoWorks since the PARS report is generated from InfoWorks. The correct Document Category for this vendor Submittal is Category 1.2 per Forms 15EX and Form G-321E of the MR.

Affected Items: HOP-WESP-00001

Original CR and its attachments can be found in Attachment Folder "CR 2013-00761".

B) CR 2014-00036: Issues identified against HLW Vessels HOP-WESP-00001 and HOP-WESP-00002 during HLW Black Cell and Hard-to-Reach Vessel Assessment, Documented in Report 24590-HLW-ES-ENG-13-001 Rev.0

Action 3: Revise vendor calculations on HOP-WESP-00001 and 00002 to address many issues.

**Condition Adverse to Quality:**

Vessel weight is inconsistent across multiple documents. Code Calculations did not address nozzle neck analysis according to given specification. Disagreement of weld type between a calculation and drawing. Incorrect nozzle loads used in vendor nozzle neck analysis. Calculation is not in alignment with NQA-1 requirements and WTP Calculation requirements. WESP "top hats" require analysis for ASME pressure boundary including weld sizing justification, flat plate(head) thickness checking and bolt sizing. Fatigue assessment required.

Affected Items: HOP-WESP-00001

Original CR can be found in Attachment Folder "CR 2014-0036".

C) CR 2018-00116: Equipment Penetrating Fire Barriers a Shielded Hatch Requirement Not Met [RVP]-HLW Split Actions 24, 25, 29 & 32 from PIER 10-00129

Action 4: Fire Barriers in the HLW Facility

## In Progress 24590-WTP-NCR-MGT-24-0236

[Attach ...](#)[View Full PDF](#)[New Interim Disposition](#)[New Disposition](#)[Add Notes](#)

Press F5 To refresh  
 Responsible Individual Creates Conditional Releases  
 and Dispositions

Condition Adverse to Quality: Fatigue analysis not completed or unsatisfactory for HLW components listed in Attachment A of 24590-WTP-PL-ENG-07-0005 Rev.3 and issue associated documentation (for example, calculation(s) addressing fatigue assessment).

Affected Items: HOP-WESP-00001

Original CR and its attachments can be found in Attachment Folder "CR 2020-00485".

**E) NCR-CON-13-0157: Vendor Submittals for Vessel Not Reviewed By Independent Group**

Description: The vendor submittals reviewed in this CDR (NCR) deal with seismic analysis of equipment. These reports were required to be reviewed by an independent group such as Equipment Seismic Qualification (ESQ) group or C/S/A engineering group in accordance with DOE standard 1020. However, this requirement was not followed and the reports were given approval Code Level 1. Therefore, a PIER was generated(24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER required that the ESQ group review these reports and prepare comments on Comment Resolution Forms (CRFs) and issue CDRs (NCRs) for resolving the comments. These forms are attached listing the deficiencies in the report. These forms also provide suggestions for resolution.

Additional Information: It is required that after the final disposition of this CDR (NCR), the document be sent to ESQ group for concurrence. ESQ group personnel dealing with CRPT08-0406 are located in the San Francisco office and they report to ESQ – Project Engineer located in the Richland office. The deficiencies are reported on the attached CRF's EQ Log 3842.

Nonconformance: Seismic Analysis was not reviewed by independent organization.

Recommended Disposition: Engineering to resolve the subject documentation deficiencies.

Affected Items: HOP-WESP-00001

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-13-0157".

**F) NCR-CON-13-0188: Vendor Submittals for Vessel Not Reviewed By Independent Group**

Description: The vendor submittals reviewed in this CDR (NCR) deal with seismic analysis of equipment. These reports were required to be reviewed by an independent group such as Equipment Seismic Qualification (ESQ) group or C/S/A engineering group in accordance with DOE standard 1020. However, this requirement was not followed and the reports were given approval Code Level 1. Therefore a PIER was generated(24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER required that the ESQ group review these reports and prepare comments on Comment Resolution Forms (CRFs) and issue CDRs (NCRs) for resolving the comments. These forms are attached listing the deficiencies in the report. These forms also provide suggestions for resolution.

Additional Information: It is required that after the final disposition of this CDR (NCR), the document be sent to ESQ group for concurrence. ESQ group personnel dealing with CRPT08-0406 are located in the San Francisco office and they report to ESQ – Project Engineer located in the Richland office. The deficiencies are reported on the attached CRF's Log 3841, CRF's Log 3841A and CRF Log 3842.

Nonconformance: Seismic Analysis was not reviewed by independent organization.

Recommended Disposition: Engineering to resolve the subject documentation deficiencies.

Affected Items: HOP-WESP-00001

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-13-0188".

**G) NCR-CON-14-0018: HLW Wet Electrostatic Precipitator Internals Not Procured Under NQA-1**  
 Description: HLW Wet Electrostatic Precipitators (WESP) contain internals such as electrodes, collector tube bundles, and insulators as well as the power supplies that were procured as commercial items per the MR 24590-QL-MRA-MKE0-00001. These items are required to perform an air permit function which requires these items to be procured under an NQA-1 program – which did not occur. These items must be dedicated or shown to be able to meet their air permit function as is.

Additional Information: reference 24590-WTP-CRPT-QA-07-336, Action 17 this NCR is to track the resolution of the Non-conformance of the HLW items separately from the LAW and partially superseded 24590-WTP-NCR-CON-08-0119.

Nonconformance: Items not procured under NQA-1 as they should have due to air permit.

Recommended Disposition: Design Engineering to evaluate a provide final disposition, This NCR is similar to 24590-WTP-NCR-CON-08-0119, Reference notes and work already completed in order to resolve this NCR.

Affected Items: 24590-HLW-EK-LVE-PSUP-30004,HOP-WESP-00001, HOP-WESP-00001-SUB0010

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-14-0018".

## In Progress 24590-WTP-NCR-MGT-24-0236

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Nonconformance: WESPs were incorrectly designed to SC-III instead of SC-I.

Recommended Disposition: Route to Engineering for evaluation and disposition.

Affected Items: HOP-WESP-00001

Original NCR can be found in Attachment Folder "NCR-CON-14-0022".

I) NCR-MGT-19-0796: HLW Corroded and Rusted Electrodes for HOP-WESP-00001 and HOP-WESP-00002

Description: Found 182 out of the 184 electrodes corroded and/or rusted during a storage surveillance, see attached pictures.

Nonconformance: Corrosion found on most electrodes.

Affected Items: HOP-WESP-00001-SUB0010

Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-19-0796".

J) NCR-MGT-20-0086: HLW – Secondary doc Review Issues for HOP-WESP-00001 (NCR-CON-13-0045)

Description: This NCR supersedes 24590-WTP-NCR-CON-13-0045 for dispositions # 000, 110, 348, 396, 592, 752, and 838 for HLW scope ONLY. Disposition # 836 for LAW impacting is closed. Migration from CAIS to NCD.

A review of the quality verification documentation (QVD) package for the subject vessel was performed (Reference: 24590-WTP-PIER-MGT-11-0836-C, 24590-WTP-GPG-PSQ-5002, and MRR-0017737 Rev 0).

(Note: 24590-WTP-GPG-PSQ-5002 was cancelled on 9/16/2014; current procedure is 24590-WTP-GPP-RAPS-SQ-1043, REVIEW OF QUALITY VERIFICATION DOCUMENTATION, Revision 1 effective date 9/23/2019.)

1) The purpose of the review was to determine conformance of the QVD with the purchase order and specified requirements. It was found that the QVD submittal did not conform to all requirements as detailed below.

2) The review addressed 100 percent of the documentation required to be submitted under the G-321-V Form for activities including welding, nondestructive examinations (NDE), hydrostatic testing, positive materials identification (PMI), and material certifications and application as shown on the drawings. Related scope included record requirements such as legibility, SQR stamp, G-321-V form completion, PO revision, and correct DCN category.

3) The unsatisfactory and indeterminate findings are detailed in a combined PDF attachment to this NCR consisting of the following individual documents:

4) Review Result Summary for HOP-WESP-000015) Review Checklist for HOP-WESP-000016) See Notes below for details on how findings are identified and traceable to the QVD records.

Additional Information:

Note 1: Findings are identified by Document Category Number (DCN), description, and review checklist item number(s). Further detail may be found on the review checklist (CL) prepared during the review to tabulate and correlate the data.

Note 2: The HOP-WESP-00001 document package was paginated consecutively within the DCN category. References to these page numbers on the CL provide traceability to the relevant data.

Nonconformance: QVD submittal did not conform to all requirements.

Affected items: HOP-WESP-00001, Sub items see "Attachment1 (1)" from the Attachment Folder below.

Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-20-0086".

K) NCR-MGT-20-0100: HLW – Vendor UT weld exams have indeterminate quality due to questionable procedure, HLW HOP vessels (NCR-CON-15-0035)

Description: This NCR supersedes 24590-WTP-NCR-CON-15-0035 for HLW ONLY. Disposition # 673 for LAW is complete. Migration from CAIS to NCD. Diversified Metal Fab Ultrasonic Testing (UT) Examination Procedure 24590-QL-POA-MKE0-00001-03-05, Rev. 00A, was submitted to BNI on, or about, March 24 2003. This procedure was reviewed by the Responsible Engineer (RE) and an NDE Level III, and designated Code 2, with comments by the NDE Level III indicating that the procedure required demonstration and the addition of the acceptance criteria to the procedure. On, or about, November 17, 2003 DMP submitted UT Examination Procedure Rev 00B to BNI with only one of the two original comments satisfied. This submittal was code 1 by the RE without all of the appropriate requirements being added into this revision. This leaves High Nickel material welds which were examined with the above submittal (N5) indeterminate.

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Description: This NCR supersedes 24590-WTP-NCR-CON-14-0040 for the HLW & MHF facility only. Disposition #376 for LAW has been completed. Migration from CAIS to NCD. These seismic related vendor submittals were required to be reviewed by an independent group such as Equipment Seismic Qualification (ESQ) group, or CSA engineering, in accordance with DOE standard 1020. However, this requirement was not followed and the reports were given approval with code level 1. A PIER was thus generated (24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER requires that the ESQ group review these reports, prepare comments on Comment Resolution Forms (CRFs), and issue CDRs/NCRs for resolving the comments. Until these reports are reviewed & the comments resolved, it is indeterminate whether this equipment can withstand the required seismic load.

Additional Information: The ESQ group personnel dealing with CRPT 08-0406 are located in the San Francisco office and they report to the EQ Project engineer located in the Richland office.

Nonconformance: Vendor Seismic Analysis not reviewed by independent group as required.

Disposition # 00004: This disposition partially supersedes disposition #002. Forward to engineering to evaluate HOP-WESP-00001 and HOP-WESP-00002. Affected Items: HOP-WESP-00001 Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-20-0110".

M) NCR-MGT-23-0129: HLW – HOP-WESP-00001 & HOP-WESP-00002 RT film deficiencies

Description: RT film is not compliant with ASME Section V, Article 2 per 24590-HLW-FIR-CON-16-00124 and the discussion in the main CR description of CR 2017-01393. Some of the issues relate to required film density and the use/visibility of the image quality indicator (penetrometer).

Disposition: Route to Engineering for Disposition.

Affected Items: HOP-WESP-00001 Original NCR can be found in Attachment Folder "NCR-MGT-23-0129".

#### Additional Information

NCRs MGT-22-0489 and MGT-22-0490

also pertain to the WESPs, however, work and/or dispositions have been completed so they have not been included in this compilation. CR 2016-01856  
Action 2 is tied to these two NCRs and as such is not included in this compilation for the same reasons.

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24590-WTP-3PS-MVB2-T0001	004	EQUIPMENT PENETRATING FIRE BARRIERS ENGINEERING SPECIFICATION FOR WELDING OF PRESSURE VESSELS, HEAT EXCHANGERS AND BOILERS	FOR LETTER J, REVISION FROM NCR-CON-13-0045, REV 001 FOR LETTER J
24590-WTP-3PS-MV00-T0002	001	ENGINEERING SPECIFICATION FOR SEISMIC QUALIFICATION CRITERIA FOR PRESSURE VESSELS	FOR LETTERS E, F
24590-WTP-3PS-MKE0-T0001	005	ENGINEERING SPECIFICATION FOR WET ELECTROSTATIC PRECIPITATORS	FOR LETTER B, REV 004 FOR LETTER F
24590-WTP-3PS-FB01-T0001	007	ENGINEERING SPECIFICATION FOR STRUCTURAL DESIGN LOADS FOR SEISMIC CATEGORY III AND IV EQUIPMENT AND TANKS	FOR LETTER I, REV 001 FOR LETTERS E, G
24590-WTP-3PS-EVR2-T0001	004	ENGINEERING SPECIFICATION FOR WET ELECTROSTATIC PRECIPITATOR (WESP) POWER SUPPLY	FOR LETTER I
24590-QL-POA-MKE0-00001-18-00002	00A	DATA SHEET - APPENDIX D - HLW - VENDOR DATA SHEET PRELIMINARY	FOR LETTER B
24590-QL-POA-MKE0-00001-09-14	00F	DRAWING - HLW-1 VESSEL SUBASSEMBLY HOP-WESP-0001	FOR LETTER B, K, SEE NOTE 15 ON DRAWING
24590-QL-POA-MKE0-00001-07-10	00D	CALCULATIONS - HLW-1 WESP PRESSURE VESSEL SKIRT DESIGN CALCULATIONS, DMP-4145-CALC-022	FOR LETTER B, L, LOG 3841A (FOR ESQ USE)
24590-QL-POA-MKE0-00001-07-08	00A	CALCULATIONS - HLW-1 WESP ANALYSIS OF LIFTING TRUNNIONS, DMP-4145-CALC-023	FOR LETTER B
24590-QL-POA-MKE0-00001-07-07	00C	CALCULATIONS - HLW-1 WESP PRESSURE VESSEL DESIGN	FOR LETTER L, LOG 3841A (FOR ESQ USE)
24590-HLW-FIR-CON-16-00124	NA	HOP-WESP-00001 AND 00002	FOR LETTER M

## Applicable Items

Item Number	Parent ID	Item Description	Item Location	Item Quantity
24590-HLW-EK-LVE-PSUP-30004	LVE-PSUP-30004	HLW WET ELECTROSTATIC PRECIPITATOR, MELTER 1, POWER SUPPLY	JOBSITE	
HOP-WESP-00001	HOP-WESP-00001	HLW MELTER 1 OFFGAS WET ELECTROSTATIC PRECIPITATOR (WESP)	JOBSITE	1
HOP-WESP-00001-SUB0010	HOP-WESP-00001	ELECTRODES FOR HLW-1	JOBSITE	91

## Condition Reports Associated with this NCR

2013-00761, 2014-00036, 2018-00116, 2020-00485

Validator

Validation Date

Andrews, Paul

11/12/2024

## Validate and Screen

## Step 1: Is the NCR valid?

Yes

## NCR Title

HLW - HOP-WESP-00001 Open Issues

## In Progress 24590-WTP-NCR-MGT-24-0236

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Supplier

**Step 4: Stop Work?**

No

**Occurrence Reporting**

No

**Is this NCR related to an electrical item?**

Yes

**Step 5. Please check each WTP Area that is affected by this NCR.**

HLW

**Step 6. Select the Disposition Approval Authority to notify.**

Skiffington, Mark

**Step 7. Select the RQO to notify.**

Andrews, Paul

Condition Reports

**Condition Reports Associated with this NCR**

Are there any Condition Reports associated with this CR? If applicable, identify any Condition Reports associated to this NCR in the Condition Report section below.

If there are no associated Condition Reports, please enter N/A.

**Condition Reports Associated to this NCR****Condition Report Number**

2013-00761



Remove

2014-00036



Remove

2018-00116



Remove

2020-00485



Remove

Add CR Number

Standing/Shift Order Numbers

**Enter a Standing/Shift Order Number:**

If not applicable please enter N/A.

N/A

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and DispositionsAll Tags Removed or Accounted For?

False

Conditional Releases

Interim Dispositions

Dispositions

**Disposition #001 - [View](#) Status: In Progress NOT Ready for Implementation**

Recommended Disposition Type	Marked for Final	Submitted Date	Submitted By	Process Status
Other	No	12/19/2024 5:57 PM	Homberger, Brian	Active

**Process Task**

Engineer Submits Final Disposition, Final Disposition

**Is this a superseded Disposition?** Check this box to hide this Disposition until closure**Currently Active Users**

Welsch, Brandon

VA Concurrence Date	DAA Approval Date	Work Orders/Work Requests	Recommended Disposition
- - Engineering to provide final disposition.			

**Final Disposition Type****Submitted Date****Submitted By****Final Disposition****Disposition #002 - [View](#) Status: In Progress NOT Ready for Implementation**

Recommended Disposition Type	Marked for Final	Submitted Date	Submitted By	Process Status
Other	No	2/18/2025 7:18 PM	Anarwala, Farhan	Active

**Process Task**

Approve Disposition, Disposition Approval Authority Approves Disposition

**Is this a superseded Disposition?** Check this box to hide this Disposition until closure**Currently Active Users**

Walling, Joe, George, Ronald, Andrews, Paul, Mccann, Adam, Benner, Michael, Deguire, Matt, Opet, Paul, Thompson, David, Rehwalt, Andrew, Nazzaro, Tony, Cowan, Chris, Lemoine, Jason, Bhatt, Ajay, Kump, Greg, Bentley, Tom, Hartsfield, Gregg, Rogers, Rich, Skiffington, Mark

VA Concurrence Date	DAA Approval Date	Work Orders/Work Requests	Recommended Disposition
- - HOP-WESP-0001 is being refabricated, hence, the current one is not needed. NCR is being Superseded.			

**Final Disposition Type****Submitted Date****Submitted By****Final Disposition**

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Skiffington, Mark, Andrews, Paul, Mccann, Adam, Bentley, Tom, Walling, Joe, George, Ronald, Kump, Greg, Hartsfield, Gregg, Benner, Michael, Opet, Paul, Bhatt, Ajay, Cowan, Chris, Rogers, Rich, Rehwalt, Andrew, Lemoine, Jason, Thompson, David, Deguire, Matt, Nazzaro, Tony

VA Concurrence Date	DAA Approval Date	Work Orders/Work Requests	Recommended Disposition
-	-	Reject HOP-WESP-00001 per project procedures. HOP-WESP-00001 is being refabricated. Supersedes all open recommended and final dispositions #001 and #002.	

Final Disposition Type	Submitted Date	Submitted By
-	-	-

Final Disposition

Attachments

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(CR 2020-00485) CR+20-00485+Change+Actionee+and+Action+Reviewer.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-13-0157) CRF3842.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-13-0188) CRF3841.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-13-0188) CRF3841A.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-13-0188) CRF3842.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-14-0018) 0913_001.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-14-0018) 24590-LAW-FIR-CON-12-00054 Pages 1 to 2.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-14-0018) CCN 247827 Duane Ripplinger Email.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:17 PM Dasher, Kyle
(NCR-CON-14-0018) FW_ IGBT Driver Boards.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-CON-14-0018) NCR 08-0119 Interim Disposition Table 1-13-11.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-CON-14-0018) NCR 08-0119 Interim Disposition Table Updated 5 11 12 (2).pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-19-0796) 20190801_102750.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-19-0796) 20190801_102809.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-19-0796) 20190912_151411.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
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(NCR-MGT-19-0796) 20190912_152613.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-20-0086) Copy of Attachment 1 (1).pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-20-0100) 24590-WTP-NCR-CON-15-0035_HLD-05050_05364.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:25 PM Dasher, Kyle
(NCR-MGT-20-0100) Attachment 1.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:27 PM Dasher, Kyle
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(NCR-MGT-20-0110) NCR-CON-14-0040 attachments.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:27 PM Dasher, Kyle
24590-WTP-NCR-CON-13-0157 Complete.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:27 PM Dasher, Kyle
24590-WTP-NCR-CON-13-0188 Complete.pdf	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">History</a>	11/11/2024 2:27 PM Dasher, Kyle

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## Comments

Use this section to add comments to this NCR

Add Comment



Save Comments

## Routing Slip

Participants	Completed	Status	Result	Comments
Notify initiator of NCR submittal	11/11/2024 4:44 PM			
Dasher, Kyle	11/11/2024	Notified		
Validating Authority Validates NCR	11/11/2024 4:44 PM			
Andrews, Paul	11/12/2024	Completed	NCR is Valid	
Originator Notified of Valid NCR	11/12/2024 12:40 PM			
Dasher, Kyle	11/12/2024	Notified		
RQO Notified for Hold Tags	11/12/2024 12:40 PM			
Andrews, Paul	11/12/2024	Notified		
Disposition Approval Authority Assigns Responsible Individual	11/12/2024 12:40 PM			
Cowan, Chris	12/3/2024	Completed	Assign Responsible Individual	
Responsible Individual Creates Conditional Releases and Dispositions	12/3/2024 6:27 PM			
Homberger, Brian	-	Active		

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1

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11/11/2024 4:45 PM

Engineering - Mechanical Systems

Dasher, Kyle

Email	NCR Priority	Supplier/SubContractor
kdasher@bechtel.us	1	Diversified Metal Products, Inc
Contract Number / Purchase Order	Quality Level	Custody Currently With
24590-QL-POA-MKE0-00001	Q	Construction
ASME Code Stamped Component or Assembly	Suspect/Counterfeit?	Commissioning Breakdown Structure
Yes	No	HLW/PTF

### Nonconformance Description

This NCR aims to consolidate the currently open issues with the HLW Wet Electrostatic Precipitators (WESPs) into one Nonconformance. This NCR has been created in accordance with Section 6.10 and Attachment 5 of 24590-HLW-GPP-RACN-FE-7104, HLW Nonconformance Reporting and Control. The HLW HOP-WESP-00002 scope of the NCRs and CRs listed below are either superseded or closed by this NCR.

Note: This NCR only partially closes all except Letter E.

CR 2013-00761: HLW-HOP Procurement Related Issues.

Action 7: Obtain documented determination from Electrical AHJ for removal of the UL requirements for cables rated over 35kV.

Action 33: Provide closure response for 8 RVP items listed in CCN 261879 indicated in the documents section titled, CR13-00761 #3 mech carryover items.pdf.

Condition Adverse to Quality:

RVP HOP-13-005 – The following Specifications and Drawings are outdated in MR 24590-QL-MRA-MKE0-00001 Rev 6 with no justification recorded within the MR or REM Report for the MR. See RVP for more information and full list of documents.

RVP HOP-13-023 – PARS Expediting Report for 24590-QL-POA-MKE0-00001, run on 12-17-2012, identified 4 issues with vendor submittals such as not receiving any submittals for some G-321E categories or incomplete submittals. See RVP for more information and full list of documents.

RVP HOP-13-032 – Vendor Submittal 24590-QL-POA-MKE0-00001-27-00001 Rev A was issued as document Category 8.0 – Analysis and Design Report, which is inline with Form 15EX, but should also have been issued as document Category 34.0 since it addresses the requirements referenced in form G-321V Category 34.0 – Factory Acceptance Test (FAT) Report, of the MR.

RVP HOP-13-033 – Vendor Submittal 24590-QL-POA-MKE0-00001-14-01 Rev B is assigned to incorrect Document Category 1.2 in PATS Report for 24590-QL-POA-MKE0-00001, which indicates it is incorrectly logged in as Category 1.2 in InfoWorks since the PARS report is generated from InfoWorks. The correct Document Category for this vendor Submittal is Category 1.2 per Forms 15EX and Form G-321E of the MR.

Affected Items: HOP WESP-00002

Original CR and its attachments can be found in Attachment Folder "CR 2013-00761".

B) CR 2014-00036: Issues identified against HLW Vessels HOP-WESP-00001 and HOP-WESP-00002 during HLW Black Cell and Hard-to-Reach Vessel Assessment, Documented in Report 24590-HLW-ES-ENG-13-001 Rev.0

Action 3: Revise vendor calculations on HOP-WESP-00001 and 00002 to address many issues.

Condition Adverse to Quality:

Vessel weight is inconsistent across multiple documents. Code Calculations did not address nozzle neck analysis according to given specification. Disagreement of weld type between a calculation and drawing. Incorrect nozzle loads used in vendor nozzle neck analysis. Calculation is not in alignment with NQA-1 requirements and WTP Calculation requirements. WESP "top hats" require analysis for ASME pressure boundary including weld sizing justification, flat plate (head) thickness checking and bolt sizing. Fatigue assessment required.

Affected Items: HOP-WESP-00002

Original CR can be found in Attachment Folder "CR 2014-0036".

C) CR 2018-00116: Equipment Penetrating Fire Barriers a Shielded Hatch Requirement Not Met [RVP]-HLW Split Actions 24, 25, 29 & 32 from PIER 10-00129

Action 4: Fire Barriers in the HLW Facility

Condition adverse to quality:

Based on the results of Action 18 of PIER 10-0129, complete the calculations or engineering analyses for the items identified in the HLW facility as needing further calculations or engineering analyses in CCN 183772.

Affected Items: HOP-WESP-00002

Original CR can be found in Attachment Folder "CR 2018-00116".

D) CR 2020-00485: Split Action 2 from CR 14-1103 info HLW CR

Action 1: Complete fatigue assessment for applicable HLW components.

Condition Adverse to Quality:

Fatigue analysis not completed or unsatisfactory for HLW components listed in Attachment A of 24590-WTP-PL-ENG-07-0005 Rev.3 and issue

## In Progress 24590-WTP-NCR-MGT-24-0237

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by an independent group such as Equipment Seismic Qualification (ESQ) group or C/S/A engineering group in accordance with DOE standard 1020. However, this requirement was not followed, and the reports were given approval Code Level 1. Therefore, a PIER was generated (24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER required that the ESQ group review these reports and prepare comments on Comment Resolution Forms (CRFs) and issue CDRs (NCRs) for resolving the comments. These forms are attached listing the deficiencies in the report. These forms also provide suggestions for resolution.

Additional Information: It is required that after the final disposition of this CDR (NCR), the document be sent to ESQ group for concurrence. ESQ group personnel dealing with CRPT 08-0406 are located in the San Francisco office and they report to ESQ – Project Engineer located in the Richland office. The deficiencies are reported on the attached CRF's log 3841 and 3841A.

Nonconformance: Seismic Analysis was not reviewed by independent organization.

Recommended Disposition: Engineering to resolve the subject documentation deficiencies.

Affected Items: HOP-WESP-00002

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-13-0156". NEED TO CREATE

F) NCR-CON-13-0188: Vendor Submittals for Vessel Not Reviewed By Independent Group

Description: The vendor submittals reviewed in this CDR (NCR) deal with seismic analysis of equipment. These reports were required to be reviewed by an independent group such as Equipment Seismic Qualification (ESQ) group or C/S/A engineering group in accordance with DOE standard 1020. However, this requirement was not followed, and the reports were given approval Code Level 1. Therefore, a PIER was generated (24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER required that the ESQ group review these reports and prepare comments on Comment Resolution Forms (CRFs) and issue CDRs (NCRs) for resolving the comments. These forms are attached listing the deficiencies in the report.

These forms also provide suggestions for resolution.

Additional Information: It is required that after the final disposition of this CDR (NCR), the document be sent to ESQ group for concurrence. ESQ group personnel dealing with CRPT 08-0406 are located in the San Francisco office and they report to ESQ – Project Engineer located in the Richland office. The deficiencies are reported on the attached CRF's Log 3841, CRF's Log 3841A and CRF Log 3842.

Nonconformance: Seismic Analysis was not reviewed by independent organization.

Recommended Disposition: Engineering to resolve the subject documentation deficiencies.

Affected Items: HOP-WESP-00002

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-13-0188".

G) NCR-CON-14-0018: HLW Wet Electrostatic Precipitator Internals Not Procured Under NQA-1

Description: HLW Wet Electrostatic Precipitators (WESP) contain internals such as electrodes, collector tube bundles, and insulators as well as the power supplies that were procured as commercial items per the MR 24590-QL-MRA-MKE0-00001. These items are required to perform an air permit function which requires these items to be procured under an NQA-1 program – which did not occur. These items must be dedicated or shown to be able to meet their air permit function as is.

Additional Information: reference 24590-WTP-CRPT-QA-07-336, Action 17 this NCR is to track the resolution of the Non-conformance of the HLW items separately from the LAW and partially superseded 24590-WTP-NCR-CON-08-0119.

Nonconformance: Items not procured under NQA-1 as they should have due to air permit.

Recommended Disposition:

Design Engineering to evaluate a provide final disposition, This NCR is similar to 24590-WTP-NCR-CON-08-0119, Reference notes and work already completed in order to resolve this NCR.

Affected Items: 24590-HLW-EK-LVE-PSUP-30007, HOP-WESP-00002, HOP-WESP-00002-SUB0005

Original NCR and its attachments can be found in Attachment Folder "NCR-CON-14-0018".

H) NCR-CON-14-0022: Vessels Not Designed To SC-1 Criteria

Description: Basis for Design (BOD) Section 16 requires that equipment located in Hard to Reach (HTR) areas shall be designed to SC-1 criteria. HOP-WESP-00001 and 00002 were designed to SC-III criteria. Validation that these vessels meet SC-1 criteria is required.

Additional Information: Wet Electrostatic Precipitators HOP-WESP-00001 and 00002 were designed to seismic category SC-III criteria in accordance with the requirements at the time of delivery per 24590-QL-MRA-MKE0-00001. The WESP units are located in a Hard to Reach (HTR) area which requires analysis to the SC-I criteria per the Basis of Design section 16. The latest seismic criteria (SC-I) was revised after the WESP units were delivered. Appropriate ISRS curves must be supplied, and vessel analyzed for acceptance to the SC-I seismic criteria. Vessels are delivered and the PO has been closed out. This NCR satisfies action 16 of 24590-WTP-PIER-MGT-10-1278-B.

Nonconformance: WESPs were incorrectly designed to SC-III instead of SC-I.

Recommended Disposition: Route to Engineering for evaluation and disposition.

Affected Items: HOP-WESP-00002

Original NCR can be found in Attachment Folder "NCR-CON-14-0022".

I) NCR-MGT-19-0796: HLW Corroded and Rusted Electrodes for HOP-WESP-00001 and HOP-WESP-00002

Description: Found 182 out of the 184 electrodes corroded and/or rusted during a storage surveillance, see attached pictures.

Nonconformance: Corrosion found on most electrodes.

Affected Items: HOP-WESP-00002-SUB0005

Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-19-0796".

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or about, November 17, 2003, DMP submitted UT Examination Procedure Rev 00B to BNI with only one of the two original comments satisfied. This submittal was code 1 by the RE without all of the appropriate requirements being added into this revision. This leaves High Nickel material welds which were examined with the above submittal (N5) indeterminate.

Additional Information: This NCR is generated as a result of PIER 24590-WTP-PIER-MGT-14-1311-C.

Affected Items: HOP-WESP-00002, See attachments "24590-WTP-NCR-CON-15-0035\_HLD-05050\_05364.pdf" and "Attachment 1" from the Attachment Folder below.

Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-20-0100".

K) NCR-MGT-20-0110: HLW – Vendor Submittals For Equipment Not Reviewed By Independent Group (NCR-CON-14-0040)

Description: This NCR supersedes 24590-WTP-NCR-CON-14-0040 for the HLW & MHF facility only. Disposition #376 for LAW has been completed. Migration from CAIS to NCD.

These seismic related vendor submittals were required to be reviewed by an independent group such as Equipment Seismic Qualification (ESQ) group, or CSA engineering, in accordance with DOE standard 1020. However, this requirement was not followed and the reports were given approval with code level 1. A PIER was thus generated (24590-WTP-CRPT-QA-08-0406-B, "Inadequate Review of the Supplier Seismic Calc"). The PIER requires that the ESQ group review these reports, prepare comments on Comment Resolution Forms (CRFs), and issue CDRs/NCRs for resolving the comments. Until these reports are reviewed & the comments resolved, it is indeterminate whether this equipment can withstand the required seismic load.

Additional Information: The ESQ group personnel dealing with CRPT 08-0406 are located in the San Francisco office and they report to the EQ Project engineer located in the Richland office.

Nonconformance: Vendor Seismic Analysis not reviewed by independent group as required.

Disposition # 00004: This disposition partially supersedes disposition #002. Forward to engineering to evaluate HOP-WESP-00001 and HOP-WESP-00002

Affected Items: HOP-WESP-00002

Original NCR and its attachments can be found in Attachment Folder "NCR-MGT-20-0110".

L) NCR-MGT-23-0129: HLW – HOP-WESP-00001 & HOP-WESP-00002 RT film deficiencies

Description: RT film is not compliant with ASME Section V, Article 2 per 24590-HLW-FIR-CON-16-00124 and the discussion in the main CR description of CR 2017-01393. Some of the issues relate to required film density and the use/visibility of the image quality indicator (penetrometer).

Disposition: Route to Engineering for Disposition.

Affected Items: HOP-WESP-00002

Original NCR can be found in Attachment Folder "NCR-MGT-23-0129".

#### Additional Information

NCRs MGT-22-0489 and MGT-22-0490 also pertain to the WESPs, however, work and/or dispositions have been completed so they have not been included in this compilation. CR 2016-01856 Action 2 is tied to these two NCRs and as such is not included in this compilation for the same reasons.

#### Drawing/Specification References:

Document Number	Rev	Document Title	Sections	Comments

#### Applicable Items

Item Number	Parent ID	Item Description	Item Location	Item Quantity

#### Condition Reports Associated with this NCR

2013-00761, 2014-00036, 2018-00116, 2020-00485

Validator	Validation Date
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Andrews, Paul 11/12/2024

#### Validate and Screen

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**Step 2: Are hold tags required?**

Yes

**Comments for Hold Tags**

BPS Holds to be used for items not on site.

**Step 3: Select the NCR Category**

Supplier

**Step 4: Stop Work?**

No

**Occurrence Reporting**

No

**Is this NCR related to an electrical item?**

Yes

**Step 5. Please check each WTP Area that is affected by this NCR.**

HLW

**Step 6. Select the Disposition Approval Authority to notify.**

Skiffington, Mark

**Step 7. Select the RQO to notify.**

Andrews, Paul

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**Condition Reports****Condition Reports Associated with this NCR**

Are there any Condition Reports associated with this CR? If applicable, identify any Condition Reports associated to this NCR in the Condition Report section below.

If there are no associated Condition Reports, please enter N/A.

**Condition Reports Associated to this NCR****Condition Report Number**

2013-00761

2014-00036

2018-00116

2020-00485

**Standing/Shift Order Numbers****Enter a Work Order/Work Request Number:**

If not applicable please enter N/A.

N/A

# In Progress 24590-WTP-NCR-MGT-24-0237

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Validating Authority Validates NCR	11/11/2024 4:45 PM			
Andrews, Paul	11/12/2024	Completed	 NCR is Valid	
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Dasher, Kyle	11/12/2024	Notified		
RQO Notified for Hold Tags	11/12/2024 12:42 PM			
Andrews, Paul	11/12/2024	Notified		
Disposition Approval Authority Assigns Responsible Individual	11/12/2024 12:42 PM			
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