U.S. Department of Energy
Office of River Protection
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

0084808

JAN 2 9 2010

10-ESQ-009

Ms. Jane A. Hedges, Program Manager
Nuclear Waste Program
Washington State
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

Dear Ms. Hedges:

SUBMITTAL OF HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT MODIFICATION NOTIFICATION FORM 24590-PTF-PCN-ENV-05-028

Reference: WA7890008967, "Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit 10, 'Waste Treatment and Immobilization Plant.'"

This letter transmits the Hanford Facility RCRA Permit Modification Notification Form 24590-PTF-PCN-ENV-05-028 attached, for the Washington State Department of Ecology (Ecology) review and approval. The form describes a requested Class 1 modification to the Reference.

Modification Notification Form 24590-PTF-PCN-ENV-05-028 submits Equipment Assembly Drawings for High-Level Waste (HLW) Feed Receipt Vessel HLP-VSL-00022, HLW Lag Storage Vessels HLP-VSL-00027A and -00027B, and HLW Feed Blend Vessel HLP-VSL-00028 in Appendix 8.6 of the Reference. Ecology comments resulting from review of this modification notification form and the associated information have been resolved.

If you have any questions, please contact me, or your staff may contact Gae M. Neath, Office of Environmental Safety and Quality, (509) 376-7828.

Sincerely,

WJ Taylor

William J. Taylor, Assistant Manager
Office of Environmental Safety and Quality

ESQ:GMN

Attachment

cc: See page 2

RECEIVED
FEB 0 3 2010
EDMC

cc w/attach:
J. Brown, BNI
B. L. Curn, BNI
B. G. Erlandson, BNI
P. A. Fisher, BNI
S. K. Murdock, BNI
F. M. Russo, BNI
Administrative Record (WTP H-0-8)
BNI Correspondence
Environmental Portal, LMSI

cc electronic:
R. K. Biyani, Ecology
K. A. Elsethagen, Ecology (1 hard copy)
T. R. Williams, Ecology
S. A. Thompson, FHI
A. C. McKarns, RL
D. J. Sommer, SCS

cc w/o attach:
D. M. Busche, BNI
J. Cox, CTUIR
S. G. Harris, CTUIR
S. L. Dahl, Ecology
G. P. Davis, Ecology
D. McDonald, Ecology
G. P. Bohnee, NPT
K. Niles, Oregon Energy
S. R. Weil, RL
R. Jim, YN

Attachment
10-ESQ-009

Hanford Facility RCRA Permit Modification Notification
Form 24590-PTF-PCN-ENV-05-028

Quarter Ending March 31, 2010 24590-PTF-PCN-ENV-05-028

Hanford Facility RCRA Permit Modification Notification Form

Part III, Operating Unit 10

Waste Treatment and Immobilization Plant

Index

Page 2 of 5: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant
Update Equipment Assembly Drawings for HLP-VSL-00022, HLP-VSL-00027A and -00027B, and HLP-VSL-00028 in Appendix 8.6 of the Dangerous Waste Permit

Submitted by Co-Operator:

D. M. Busche — 1/4/10 Date

Reviewed by ORP Program Office:

G. A. Girard — 1/29/10 Date

Quarter Ending March 31, 2010 24590-PTF-PCN-ENV-05-028

Hanford Facility RCRA Permit Modification Notification Form	
Unit: **Waste Treatment and Immobilization Plant**	Permit Part: **Part III, Operating Unit 10**

Description of Modification:

The purpose of this Class 1 prime modification is to update the Equipment Assembly Drawings for HLP-VSL-00022, HLP-VSL-00027A and -00027B, and HLP-VSL-00028 in Appendix 8.6.

The following Equipment Assembly Drawings are submitted to replace the permitted drawings currently in Appendix 8.6.

Appendix 8.6			
Replace:	24590-PTF-MV-HLP-P0003, Rev. 0	With:	24590-PTF-MV-HLP-00003, Rev. 2
	24590-PTF-MV-HLP-P0004, Rev. 1		24590-PTF-MV-HLP-00004, Rev. 2 24590-PTF-MV-HLP-00012, Rev. 0 24590-PTF-MV-HLP-00013, Rev. 0
	24590-PTF-MV-HLP-P0005, Rev. 0		24590-PTF-MV-HLP-00005, Rev. 2 24590-PTF-MV-HLP-00010, Rev. 0 24590-PTF-MV-HLP-00011, Rev. 0
	24590-PTF-MV-HLP-P0006, Rev. 0		24590-PTF-MV-HLP-00006, Rev. 2 24590-PTF-MV-HLP-00009, Rev. 0 24590-PTF-MV-HLP-00011, Rev. 0

The referenced equipment assembly drawings (24590-PTF-MV-HLP-P0003, 24590-PTF-MV-HLP-P0004, 24590-PTF-MV-HLP-P0005 and 24590-PTF-MV-HLP-P0006) have been revised. The revisions incorporate changes provided in applicable document change forms (e.g., DCN, SCN, SDDR, FCN, FCR, etc.) and changes associated with the resolution to comments on change documents since the issuance of the last revision of the permitted drawings. New equipment assembly drawings referenced above (24590-PTF-MV-HLP-00009, 24590-PTF-MV-HLP-00010, 24590-PTF-MV-HLP-00011, 24590-PTF-MV-HLP-00012, and 24590-PTF-MV-HLP-00013) supplement information contained on 24590-PTF-MV-HLP-00004, 24590-PTF-MV-HLP-00005 and 24590-PTF-MV-HLP-00006.

This modification requests Ecology approval and incorporation into the permit, the specific changes in 24590-PTF-MV-HLP-00003 through 24590-PTF-MV-HLP-00006 that are indicated by notes, clouds, and revision triangles. In addition, this modification requests Ecology approval and incorporation into the permit equipment assembly drawings 24590-PTF-MV-HLP-00009 through 24590-PTF-MV-HLP-00013. Revisions and the new drawings are the result of ongoing design changes. The following identifies the significant types of changes to 24590-PTF-MV-HLP-00003 through 24590-PTF-MV-HLP-00006.

24590-PTF-MV-HLP-00003

- Added note 5

24590-PTF-MV-HLP-00004

- Revised and expanded general notes
- Holds are no longer indicated
- Expanded the nozzle schedule
- Updated the table of reference drawings
- Removed cooling jacket detail
- The plan view has been updated, showing additional nozzles and dimensions
- The ring beam detail has been moved to 24590-PTF-MV-HLP-00013
- Moved vessel elevation view to drawings 24590-PTF-MV-HLP-00012 and 24590-PTF-MV-HLP-

00013 and added details

- Section view indicators have been added, and section views are shown on drawings 24590-PTF-MV-HLP-00012 and 24590-PTF-MV-HLP-00013
- Additional vessel details have been added by drawings 24590-PTF-MV-HLP-00012 and 24590-PTF-MV-HLP-00013

24590-PTF-MV-HLP-00005

- Revised and expanded general notes
- Holds are no longer indicated
- Expanded the nozzle schedule
- Updated the table of reference drawings
- Removed cooling jacket detail
- The plan view has been updated, showing additional nozzles and dimensions
- Section B-B has been removed
- Detail-1 has been removed, and is now shown on 24590-PTF-MV-HLP-00011
- Detail-2 has been removed
- The ring beam detail has been moved to 24590-PTF-MV-HLP-00011
- Moved vessel elevation and section view to drawings 24590-PTF-MV-HLP-00010 and 24590-PTF-MV-HLP-00011 and added details
- Section view indicators have been added, and section views are shown on 24590-PTF-MV-HLP-00010 and 24590-PTF-MV-HLP-00011
- Additional vessel details have been added by drawings 24590-PTF-MV-HLP-00010 and 24590-PTF-MV-HLP-00011

24590-PTF-MV-HLP-00006

- Revised and expanded general notes
- Holds are no longer indicated
- Expanded the nozzle schedule
- Updated the table of reference drawings
- Removed cooling jacket detail
- The plan view has been updated, showing additional nozzles and dimensions
- The ring beam detail has been moved to 24590-PTF-MV-HLP-00011
- Moved vessel elevation and section view to drawings 24590-PTF-MV-HLP-00009 and 24590-PTF-MV-HLP-00011 and added details
- Section view indicators have been added, and section views are shown on 24590-PTF-MV-HLP-00010 and 24590-PTF-MV-HLP-00011
- Additional vessel details have been added by drawings 24590-PTF-MV-HLP-00009 and 24590-PTF-MV-HLP-00011

Additional detail updating the design of HLP-VSL-00028 can be found on mechanical drawings 24590-PTF-MV-HLP-00012 and 24590-PTF-MV-HLP-00013. Additional detail updating the design of HLP-VSL-00027A can be found on mechanical drawings 24590-PTF-MV-HLP-00009 and 24590-PTF-MV-HLP-00011. Additional detail updating the design of HLP-VSL-00027B can be found on mechanical drawings 24590-PTF-MV-HLP-00010 and 24590-PTF-MV-HLP-00011.

Quarter Ending March 31, 2010 24590-PTF-PCN-ENV-05-028

The following is a list of outstanding change documents that have not been incorporated into this modification:

24590-PTF-MV-HLP-00003

- 24590-PTF-MVN-HLP-00001
- 24590-PTF-MVN-HLP-00006
- 24590-PTF-MVN-HLP-00009
- 24590-PTF-MVN-HLP-00036
- 24590-PTF-MVN-HLP-00043
- 24590-WTP-M6N-M80T-00002
- 24590-WTP-M6N-M80T-00003
- 24590-WTP-SDDR-PROC-05-00272

24590-PTF-MV-HLP-00004

- 24590-PTF-MVN-HLP-00010
- 24590-PTF-MVN-HLP-00018
- 24590-PTF-MVN-HLP-00031
- 24590-PTF-MVN-HLP-00044
- 24590-PTF-MVN-HLP-00047
- 24590-PTF-MVN-HLP-00048
- 24590-PTF-MVN-HLP-00049
- 24590-WTP-M6N-M80T-00003

24590-PTF-MV-HLP-00005

- 24590-PTF-MVN-HLP-00011
- 24590-PTF-MVN-HLP-00019
- 24590-PTF-MVN-HLP-00029
- 24590-PTF-MVN-HLP-00046
- 24590-PTF-MVN-HLP-00048
- 24590-PTF-MVN-HLP-00049
- 24590-WTP-M6N-M80T-00003
- 24590-WTP-SDDR-M-06-00284

24590-PTF-MV-HLP-00006

- 24590-PTF-MVN-HLP-00012
- 24590-PTF-MVN-HLP-00020
- 24590-PTF-MVN-HLP-00026
- 24590-PTF-MVN-HLP-00045
- 24590-PTF-MVN-HLP-00048
- 24590-WTP-M6N-M80T-00003

24590-PTF-MV-HLP-00009

- 24590-PTF-MVN-HLP-00013
- 24590-PTF-MVN-HLP-00021
- 24590-PTF-MVN-HLP-00027
- 24590-WTP-M6N-M80T-00002

Quarter Ending March 31, 2010 24590-PTF-PCN-ENV-05-028

24590-PTF-MV-HLP-00010
- 24590-PTF-MVN-HLP-00014
- 24590-PTF-MVN-HLP-00022
- 24590-PTF-MVN-HLP-00030

24590-PTF-MV-HLP-00011
- 24590-PTF-MVN-HLP-00015
- 24590-PTF-MVN-HLP-00023
- 24590-PTF-MVN-HLP-00028
- 24590-PTF-MVN-HLP-00049

24590-PTF-MV-HLP-00012
- 24590-PTF-MVN-HLP-00016
- 24590-PTF-MVN-HLP-00024
- 24590-PTF-MVN-HLP-00032
- 24590-WTP-M6N-M80T-00002

24590-PTF-MV-HLP-00013
- 24590-PTF-MVN-HLP-00017
- 24590-PTF-MVN-HLP-00025
- 24590-PTF-MVN-HLP-00033
- 24590-PTF-MVN-HLP-00049
- 24590-WTP-M6N-M80T-00002

WAC 173-303-830 Modification Class:	Class 1	Class [1]1	Class 2	Class 3
Please mark the Modification Class:		X		

Enter relevant WAC 173-303-830, Appendix I Modification citation number:

Enter wording of WAC 173-303-830, Appendix I Modification citation:

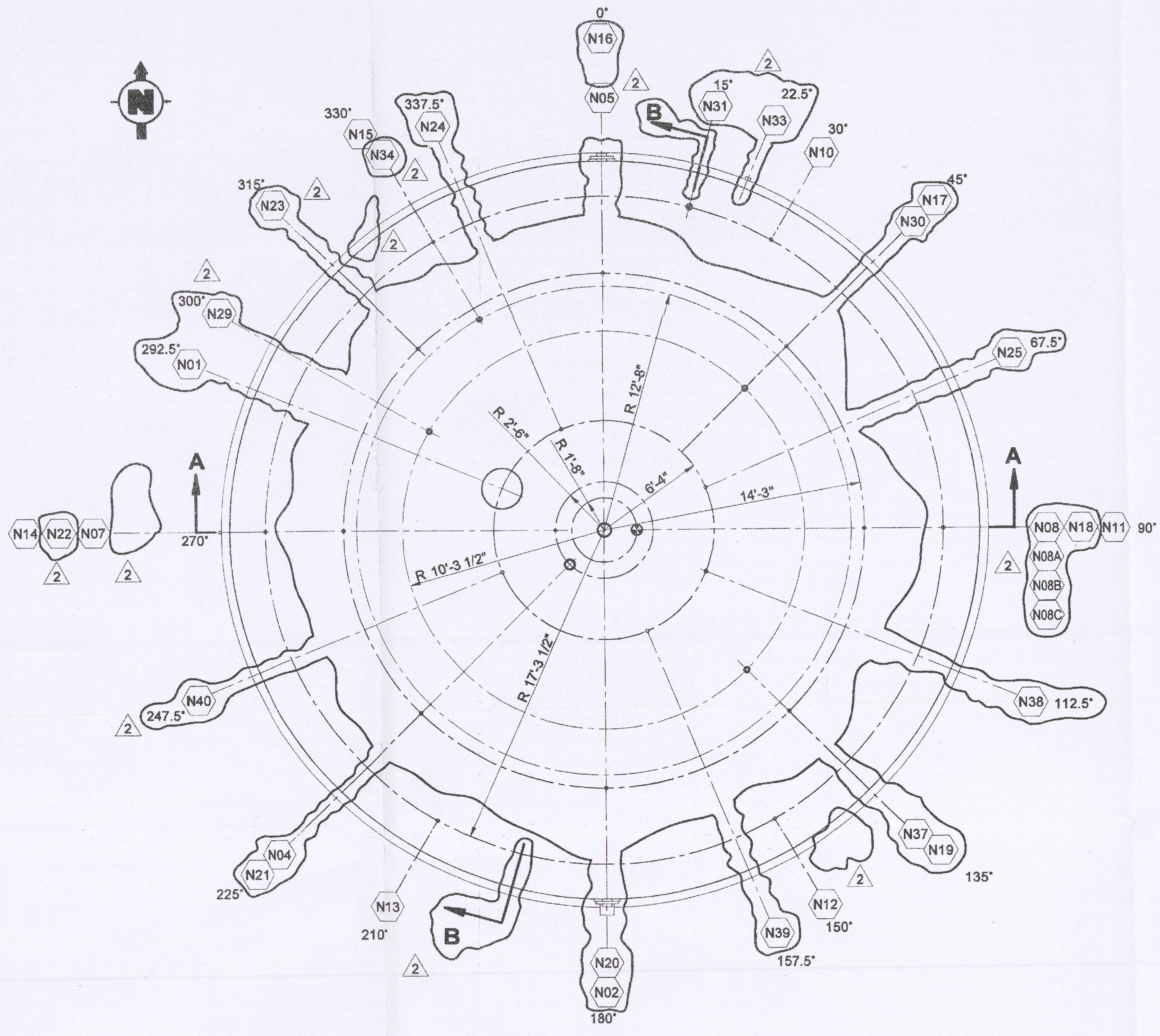
In accordance with WAC 173-303-830(4)(d)(i), this modification notification is requested to be reviewed and approved as a Class [1]1 modification. WAC 173-303-830(4)(d)(ii)(A) states, "Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the director may require prior approval."

Modification Approved/Concur: ☐ Yes ☐ Denied (state reason below)

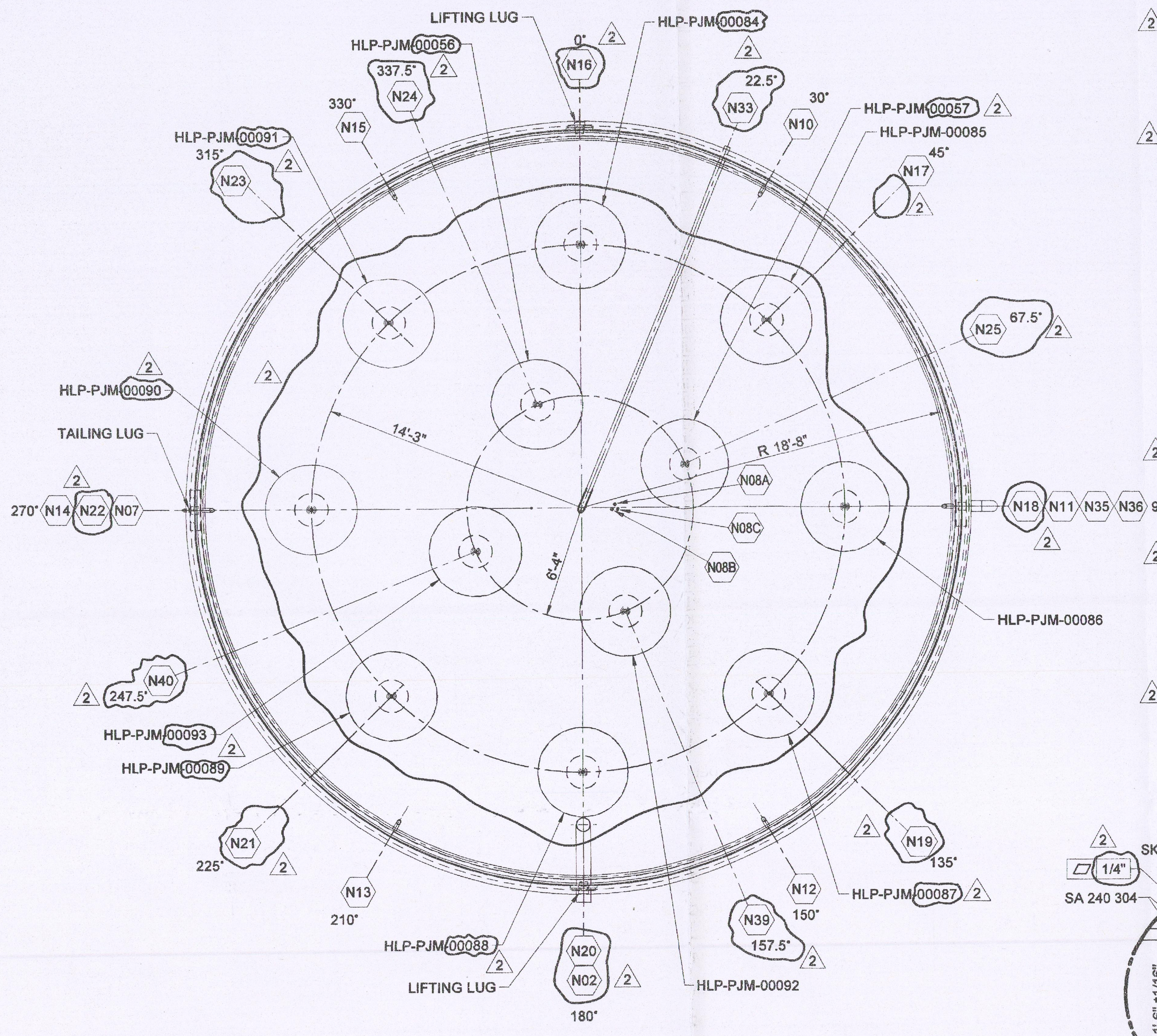
Reason for denial:

Reviewed by Ecology:

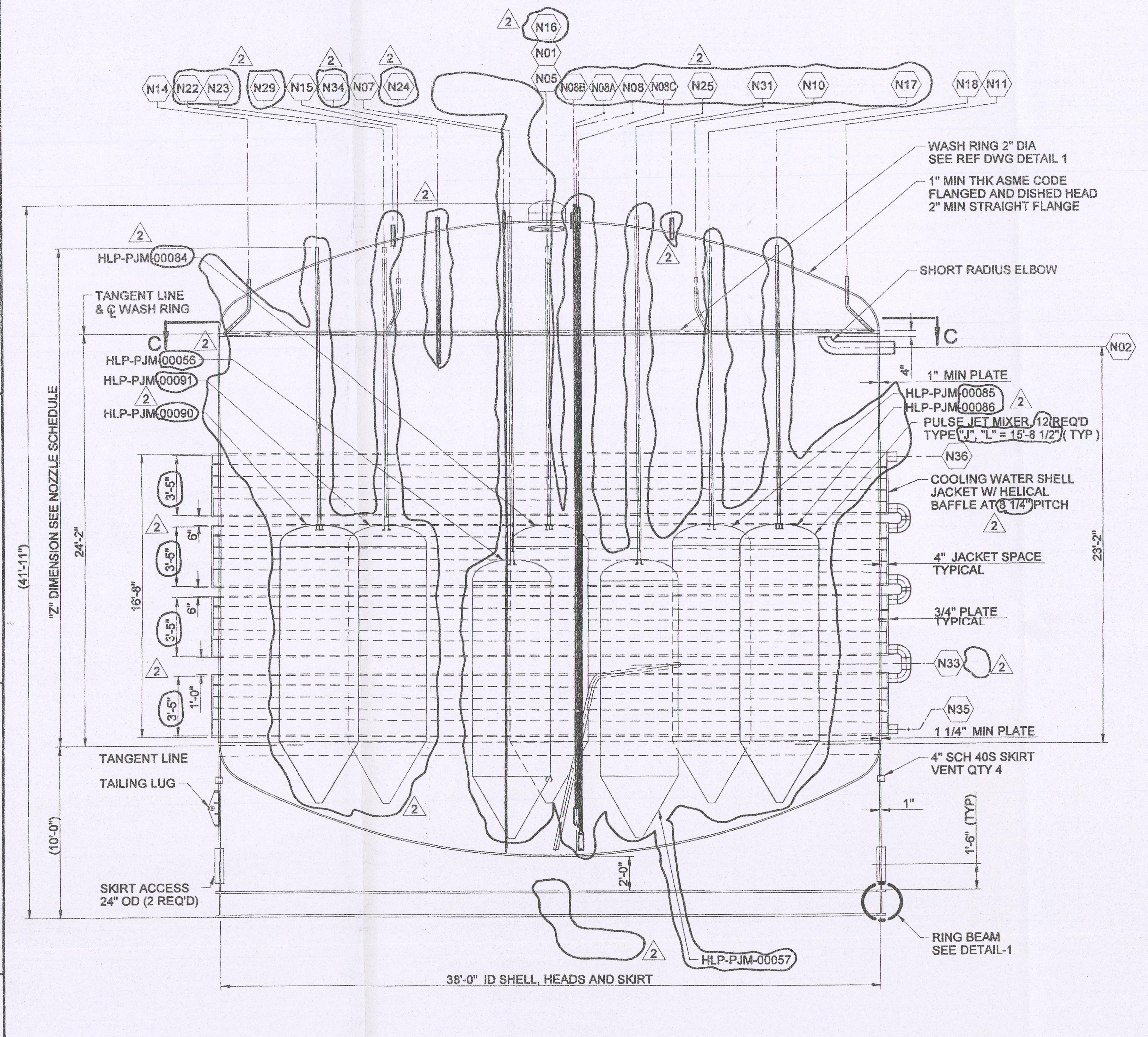
Kelly Elsethagen Date



PLAN

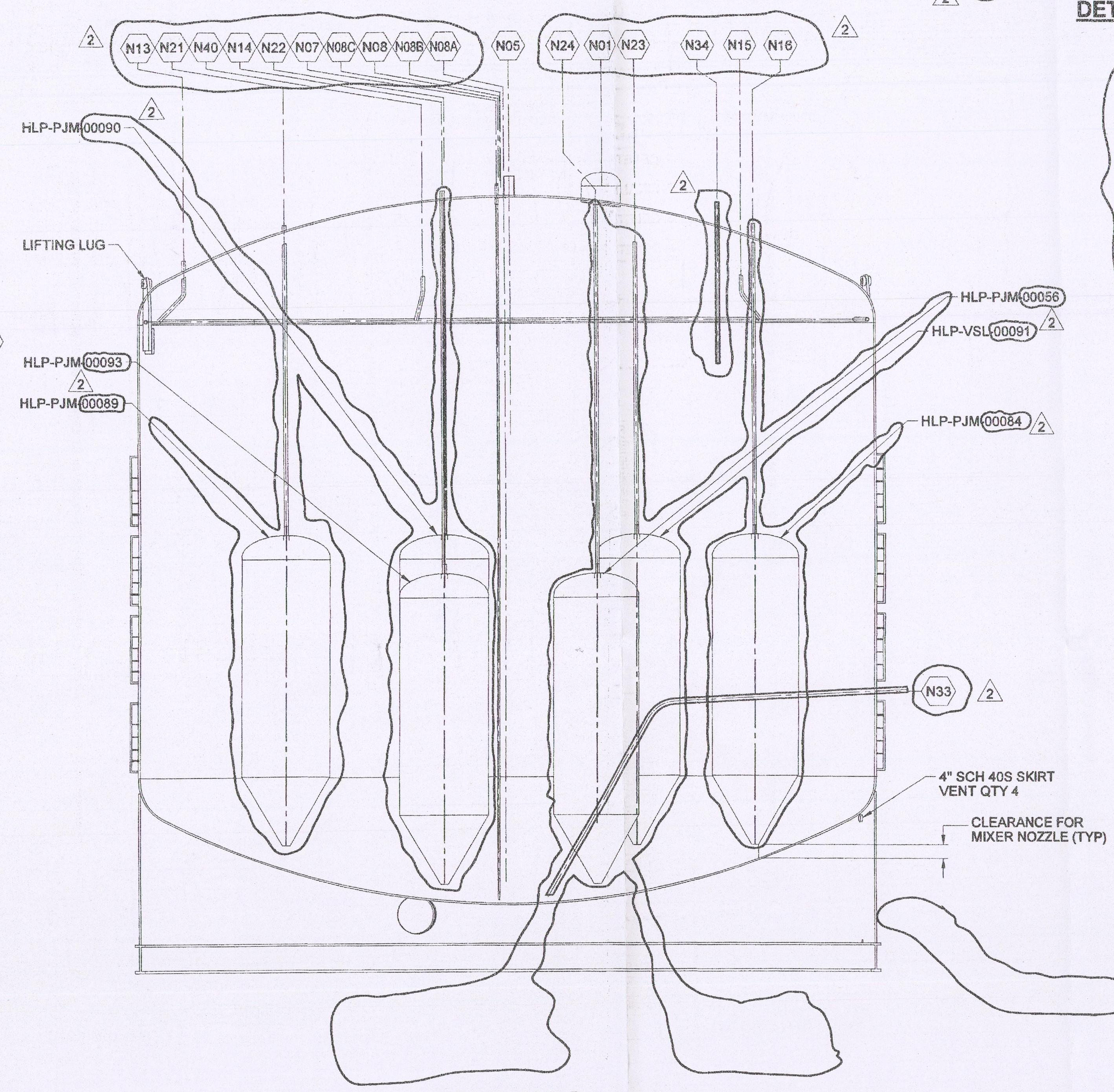


SECTION C-C

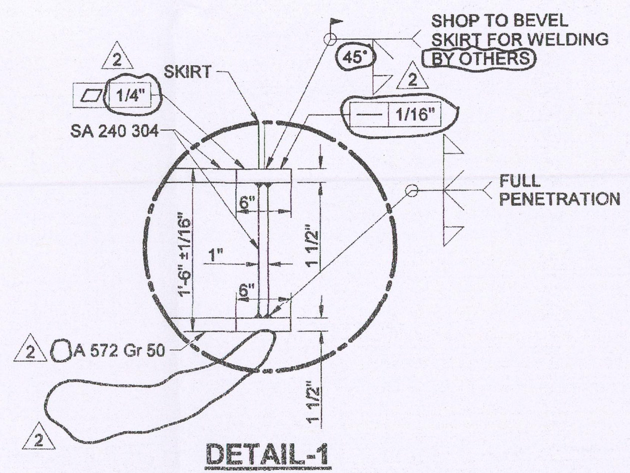


SECTION A-A

FOR TRUE ORIENTATION, SEE PLAN



SECTION B-B



DETAIL-1

NOZZLE	SIZE	SCHED/WALL	SERVICE/REMARKS	Z DIM	DET/REF	CONNECTION
N01	24"	0.625"	MANWAY	31'-2"	24590-WTP-MV-M59T-00017 DET 1	CAPPED
N02	8"	80S	OVERFLOW	23'-2"	24590-WTP-MV-M59T-00016001 DET 2	8"-40S
N03			DELETED			
N04	6"	80S	INLET AIR PURGE	31'-6"	24590-WTP-MV-M59T-00016001 DET 2	6"-10S
N05	8"	80S	VESSEL VENT	31'-6"	24590-WTP-MV-M59T-00016001 DET 1	8"-10S
N06			DELETED			
N07	2" ODx 1"	160S	TEMPERATURE	31'-4"	24590-WTP-MV-M59T-00007/ASSY 1,DET 1	3/4"-10S
N08	6"	80S	INSTRUMENTATION	31'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N08A	1"	160S	BALANCE	32'-0"	24590-WTP-MV-M59T-00016003 DET 26	1/2"-40S
N08B	1"	160S	DENSITY	31'-10"	24590-WTP-MV-M59T-00016003 DET 26	1/2"-40S
N08C	1"	160S	LEVEL	32'-2"	24590-WTP-MV-M59T-00016003 DET 26	1/2"-40S
N09			DELETED			
N10	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N11	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N12	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N13	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N14	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N15	2"	160S	INLET TO WASH RING	27'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N16	2"	160S	AIR/VACUUM TO HLP-PJM-00084	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N17	2"	160S	AIR/VACUUM TO HLP-PJM-00085	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N18	2"	160S	AIR/VACUUM TO HLP-PJM-00086	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N19	2"	160S	AIR/VACUUM TO HLP-PJM-00087	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N20	2"	160S	AIR/VACUUM TO HLP-PJM-00088	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N21	2"	160S	AIR/VACUUM TO HLP-PJM-00089	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N22	2"	160S	AIR/VACUUM TO HLP-PJM-00090	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N23	2"	160S	AIR/VACUUM TO HLP-PJM-00091	28'-8"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N24	2"	160S	AIR/VACUUM TO HLP-PJM-00056	30'-10"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N25	2"	160S	AIR/VACUUM TO HLP-PJM-00057	30'-10"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N26			DELETED			
N27			DELETED			
N28			DELETED			
N29	3"	80S	INLET FROM FRP SYSTEM	30'-0"	24590-WTP-MV-M59T-00016001 DET 2	3"-80S
N30	2"	80S	SPARE	30'-0"	24590-WTP-MV-M59T-00016001 DET 2	2"-80S
N31	3"	80S	SPARE	27'-3"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N32			DELETED			
N33	3"	80S	OUTLET (HLP-PMP-00021)	TBD	24590-WTP-MV-M59T-00016001 DET 3	3"-40S
N34	3"	80S	INLET (RECIRCULATION LOOP)		24590-WTP-MV-M59T-00016001 DET 3	3"-40S
N35	6"	80S	INLET TO COOLING JACKET	TBD	24590-WTP-MV-M59T-00016001 DET 1	6"-10S
N36	6"	80S	OUTLET FROM COOLING JACKET	TBD	24590-WTP-MV-M59T-00016001 DET 1	6"-10S
N37	3"	80S	INLET FROM AUTOSAMPLER BACK-UP	30'-0"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N38	2" OD	SEE DETAIL	ITS AIR PURGE	30'-10"	24590-WTP-MV-M59T-00016001 DET 5	1/2" 40S
N39	2"	160S	AIR/VACUUM TO HLP-PJM-00092	30'-10"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N40	2"	160S	AIR/VACUUM TO HLP-PJM-00093	30'-10"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S

GENERAL NOTES:

1. DELETED
2. FOR DISTANCE OF DIP PIPES TO BOTTOM HEAD USE 2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
3. ALL "Z" DIMENSIONS MEASURED FROM BTM TANGENT LINE UNLESS OTHERWISE NOTED. FOR SHELL NOZZLES, "Z" DIMENSION MEASURED FROM ℄ OF NOZZLE FACE
4. RING BEAM TO BE FABRICATED & SHIPPED AHEAD OF VESSEL TO FIELD CONSTRUCTION FOR INSTALLATION BY OTHERS
5. REVISED/ADDED/DELETED:
   - a) REVISED NOZZLE TABLE BASED ON P & ID REVISION
   - b) ADDED REF DWG 24590-WTP-MV-M59T-00016003
   - c) DELETED REF DWG 24590-WTP-MV-M59T-00012, 24590-WTP-MV-M59T-00013, 24590-WTP-MV-M59T-00014 AND 24590-WTP-MV-M59T-00016002
   - d) REVISED TOLERANCES ON DETAIL 1
   - e) REVISED PJM SIZE
   - f) DELETED SKIRT DRAIN HOLE
   - g) DELETED CHARGE VESSEL AND RFD PUMP
   - h) REVISED HOLDS

HOLDS:

1. DELETED
2. FINAL NOZZLE LOCATION ON VESSEL SHELL
3. DELETED
4. DELETED

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE MECHANICAL DATA SHEET No 24590-PTF-MVD-HLP-00006

VESSEL COMPONENT QUALITY LEVELS	
COMPONENT	QUALITY LEVEL
WASTE FEED RECEIPT VESSEL, SKIRT, ALL NOZZLES	QL-1
ALL INTERNAL SUPPORTS	QL-1
PULSE JET MIXERS AND PIPING	QL-1
INSTRUMENTATION	CM
WASH RINGS AND PIPING	CM
DELETED	

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REFERENCE DRAWINGS		
DWG NO	REV	TITLE
24590-WTP-MV-M59T-00001	0	PRESSURE VESSEL TOLERANCES STANDARD DETAILS
24590-WTP-MV-M59T-00004	0	PULSE JET MIXERS STANDARD DETAILS
24590-WTP-MV-M59T-00007	2	THERMOWELL CONNECTION STANDARD DETAILS
24590-WTP-MV-M59T-00011	0	WASH RINGS STANDARD DETAILS
24590-WTP-MV-M59T-00016001	0	VESSEL CONNECTIONS STANDARD DETAILS SHT 1 OF 2
24590-WTP-MV-M59T-00016003	0	VESSEL CONNECTIONS STANDARD DETAILS SHT 3 OF 3
24590-WTP-MV-M59T-00017	0	VESSEL INSPECTION MANWAY STANDARD DETAILS
24590-WTP-MV-M59T-00009	0	LIFTING LUG STANDARD DETAILS
24590-WTP-MV-M59T-00010	0	TAILING LUG STANDARD DETAILS

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	REVISED AS MARKED, SEE NOTE 5	[signature]	[signature]	[signature]	[signature]	7/10/03
1	REISSUED FOR PURCHASE	SS / RR	PA / CS	N/A	S.KIRK	10/03/02
0	ISSUED FOR PURCHASE	SS / RR	PA / CS	N/A	S. KIRK	09/06/02

REVISION HISTORY

Q QUALITY LEVEL

ISSUED BY RPP-WTP PDC SS 7-14-03 INIT DATE ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	10	
	BY	DATE
ORIGINATOR	S. SUHARTO / ROBERT RIDER	09/05/02
CHECKER	PAUL AVIGUETERO / C SLATER	09/05/02
APPROVER	SUZANNE KIRK	09/06/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-PTF-ADR-M-02-005 REV: 0
DIM REFERENCE No.

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

EQUIPMENT ASSEMBLY HLW FEED RECEIPT VESSEL HLP-VSL-00022

SCALE: NONE

24590-PTF-MV-HLP-00003 REV 2

'E' SIZE - 44x34
COMPUTER GENERATED BY SOLID EDGE- MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

07/08/2003 2:28 PM

Processed/Data Entry 7-14-03 Copied/QA 7.16.03 Scanned Files

R10100852

FORM E_MASTER 05/2003

GENERAL NOTES:

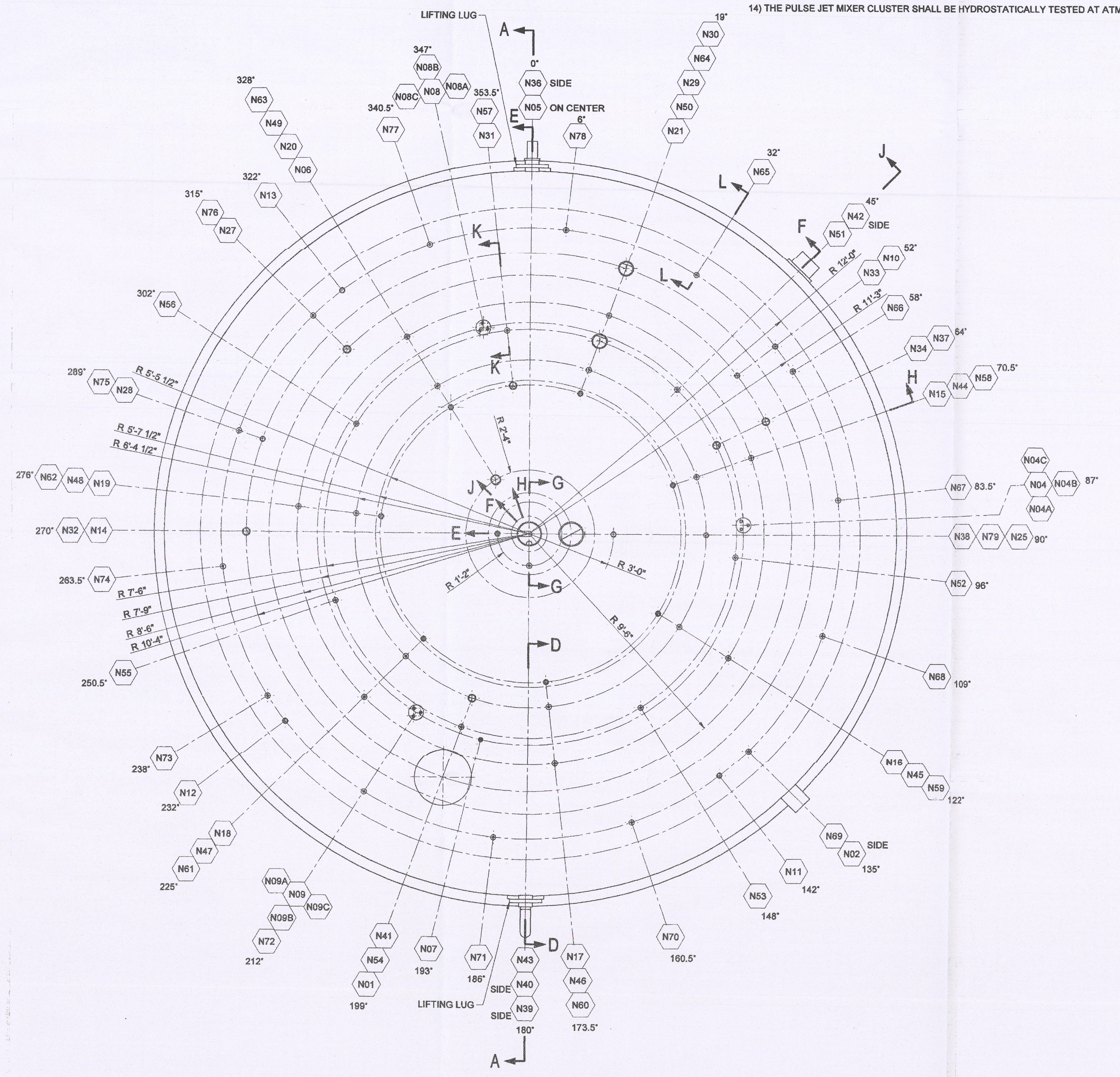
1. DELETED
2. FOR DISTANCE OF DIP PIPES TO BOTTOM HEAD, USE 2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
3. "Z" DIMENSION FOR NOZZLES IS MEASURED FROM CENTERLINE OF NOZZLE FACE.
4. DELETED
5. DELETED
6. DELETED
7. REVISED/ADDED/DELETED:
   a) EXTENSIVE REVISION. CHANGES ARE NOT INDICATED BY CLOUDING.
   b) INCORPORATED 24590-PTF-MVN-HLP-00003
8. PULSE JET MIXER:
   a) MINIMUM PLATE THICKNESS IS 7/16". SELLER TO DESIGN.
   b) *ALL WELDS SHALL BE FULL PENETRATION AND SMOOTH.*
   c) SELLER SHALL DESIGN SUPPORTS. PULSE JET MIXERS SHALL NOT BE SUPPORTED FROM THE PARENT VESSEL BOTTOM HEAD.
   d) DESIGN TEMPERATURE IS THE SAME AS THE PARENT VESSEL DESIGN PRESSURE AND IS SHOWN IN THE MECHANICAL DATA SHEET.
   e) STIFFENING RINGS AND REINFORCING PADS ARE NOT PERMITTED.
   f) NON-DESTRUCTIVE EXAMINATION SHALL BE AS SPECIFIED FOR THE VESSEL COMPONENT QUALITY LEVEL INDICATED.
9. PREPARE NOZZLE CONNECTIONS PER 24590-WTP-PW-P30T-00001 EXCEPT LEAVE SQUARE NOZZLES N29 & N30.
10. SELLER SHALL PROVIDE AND INSTALL TIEDOWN SWIVEL LUG MOUNTING LUGS PER 24590-WTP-MV-M59T-00003.
11. NOZZLES ARE READ FROM THE CENTER OUTWARD.

12) ALL WELDS OF THE PULSE JET MIXER CLUSTER SHALL BE FULL PENETRATION, ULTRASONICALLY TESTED AND DYE-PENETRANT TESTED AS A MINIMUM.
ALL FULL PENETRATION WELDS OF SUPPORT MEMBERS SHALL BE ULTRASONICALLY TESTED AND DYE PENETRANT TESTED. IF FILLET WELDS ARE PERMITTED BY THE BUYER AND ARE NOT READILY ULTRASONICALLY TESTED, THEY MAY BE DYE-PENETRANT TESTED WITH APPROVAL FROM THE BUYER.

13) THE PULSE JET MIXER CLUSTER SHALL BE DESIGNED FOR THE EXTERNAL PRESSURE OF THE PARENT VESSEL STATIC HEAD. THE PJM CLUSTER FILL SHALL NOT BE CONSIDERED AS SUPPORT FOR EXTERNAL PRESSURE.

14) THE PULSE JET MIXER CLUSTER SHALL BE HYDROSTATICALLY TESTED AT ATMOSPHERIC PRESSURE.

NOZZLE	SIZE	SCHED/WALL	SERVICE/REMARKS	"Z" DIM	REF DWG - DET	CONN. PIPE/TUBE SIZE
N01	24" ID	0.5"	MANWAY	32'-10"	24590-WTP-MV-M59T-00017 DET 1	CAPPED
N02	8"	80S	OVERFLOW	28'-0"	24590-WTP-MV-M59T-00016001 DET 1	8"-40S
N04	6"	80S	INSTRUMENTATION	33'-3"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N04A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N04B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N04C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N05	10"	80S	VENT	34'-5"	24590-WTP-MV-M59T-00016001 DET 1	10"-10S
N06	4"	80S	SPARE	34'-4"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N07	2"OD x 1"	160S	TEMPERATURE	33'-1"	24590-WTP-MV-M59T-00007 DET 1	3/4"-40S
N08	6"	80S	INSTRUMENTATION	33'-3"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N08A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N08B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N08C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N09	6"	80S	INSTRUMENTATION	33'-3"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N09A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N09B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N09C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"- 40S
N10	2"	160S	INLET TO WASH RING	31'-9"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N11	2"	160S	INLET TO WASH RING	31'-9"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N12	2"	160S	INLET TO WASH RING	31'-9"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N13	2"	160S	INLET TO WASH RING	31'-9"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N14	2"	160S	AIR/VACUUM TO HLP-PJM-00076	34'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N15	2"	160S	AIR/VACUUM TO HLP-PJM-00077	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N16	2"	160S	AIR/VACUUM TO HLP-PJM-00078	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N17	2"	160S	AIR/VACUUM TO HLP-PJM-00079	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N18	2"	160S	AIR/VACUUM TO HLP-PJM-00080	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N19	2"	160S	AIR/VACUUM TO HLP-PJM-00081	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N20	2"	160S	AIR/VACUUM TO HLP-PJM-00082	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N21	2"	160S	AIR/VACUUM TO HLP-PJM-00083	33'-3"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N25	2"	160S	SPARE	33'-6"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N27	3"	80S	INLET	32'-6"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N28	2"	160S	SPARE	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N29	6"	80S	INLET	33'-4"	24590-WTP-MV-M59T-00016001 DET 2	6"-10S
N30	6"	80S	INLET	32'-4"	24590-WTP-MV-M59T-00016001 DET 2	6"-10S
N31	3"	80S	SPARE	33'-8"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N32	3"	80S	INLET	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N33	2"	160S	SPARE	32'-6"	24590-WTP-MV-M59T-00016001 DET 2	2"-80S
N34	3"	80S	SPARE	33'-2"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N36	4"	80S	OUTLET WITH DIP PIPE (PUMP)	11 1/2"	24590-WTP-MV-M59T-00016001 DET 3	4"-40S
N37	3"	80S	INLET	32'-6"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N38	10"	80S	INLET WITH DIP PIPE (RECIRC)	34'-5"	24590-WTP-MV-M59T-00016001 DET 4	10"-40S
N39	4"	80S	INLET TO JACKET	-5'-3"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N40	4"	80S	OUTLET FROM JACKET	16'-2 3/4"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N41	3"	80S	INLET AUTO SAMPLE RETURN	33'-6"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N42	10"	80S	OUTLET WITH DIP PIPE (RECIRC)	1'-3"	24590-WTP-MV-M59T-00016001 DET 3	10"-40S
N43	2"	160S	SPARGE AIR	34'-3"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N44	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N45	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N46	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N47	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N48	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N49	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N50	2"	160S	SPARGE AIR	33'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N51	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N52	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N53	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N54	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N55	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N56	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N57	2"	160S	SPARGE AIR	33'-2"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N58	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N59	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N60	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N61	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N62	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N63	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N64	2"	160S	SPARGE AIR	32'-10"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N65	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N66	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N67	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N68	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N69	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N70	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N71	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N72	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N73	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N74	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N75	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N76	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N77	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N78	2"	160S	SPARGE AIR	31'-9"	24590-WTP-MV-M59T-00016001 DET 4	1" ODX 0.083" NOM WALL
N79	2"	160S	SPARE (HEAD SPACE MONITOR)	34'-0"	24590-WTP-MV-M59T-00016001 DET 2	2"-40S



PLAN VIEW

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

THIS DRAWING TO BE READ IN CONJUNCTION WITH MECHANICAL SYSTEMS DATA SHEET 24590-PTF-MVD-HLP-00009

VESSEL COMPONENT QUALITY LEVELS	
COMPONENTS	QUALITY LEVEL
MAIN VESSEL, SKIRT, ALL NOZZLES	QL-1
ALL INTERNAL SUPPORTS	QL-1
PULSE JET MIXERS AND PIPING	QL-1
INSTRUMENTATION	QL-1
WASH RING AND PIPING	CM
PJM CLUSTER FILL	CM

REFERENCE DRAWINGS		
DWG NO	REV	TITLE
24590-WTP-MV-M59T-00003	0	TIE DOWN SWIVEL LUG MOUNTING STUDS STANDARD DETAILS
24590-PTF-MV-HLP-00012	0	LAYOUT OF INTERNALS HLW FEED BLEND VESSEL HLP-VSL-00028
24590-PTF-MV-HLP-00013	0	SECTIONS AND DETAILS HLW FEED BLEND VESSEL HLP-VSL-00028
24590-WTP-MV-M59T-00001	3	PRESSURE VESSEL TOLERANCES STANDARD DETAILS
24590-WTP-MV-M59T-00007	3	THERMOWELL CONNECTION STANDARD DETAILS
24590-WTP-MV-M59T-00011	2	WASH RINGS STANDARD DETAILS
24590-WTP-MV-M59T-00016001	3	VESSEL CONNECTIONS STANDARD DETAILS SHT 1 OF 3
24590-WTP-MV-M59T-00016003	1	VESSEL CONNECTIONS STANDARD DETAILS SHT 3 OF 3
24590-WTP-MV-M59T-00017	1	VESSEL INSPECTION MANWAY STANDARD DETAILS
24590-WTP-MV-M59T-00009	2	LIFTING LUG STANDARD DETAILS
24590-WTP-PW-P30T-00001	0	WTP END PREP DETAIL FOR FIELD BUTT WELDS

Q

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	REVISED PER NOTE 7	[signature]	[signature]	[signature]	[signature]	4/29/04
1	REVISED AS MARKED, SEE NOTE 6	SS/RR	PA/CS	RES	MH	7/11/03
0	ISSUED FOR PURCHASE	SS/RR	PA/CS	N/A	SK	10/3/02

REVISION HISTORY

ISSUED BY RPP-WTP PDC
INIT DATE 4/29/04
ISSUE STAMP

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	10

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

	BY	DATE
ORIGINATOR	S. SUHARTO / R. RIDER	9/30/02
CHECKER	P. AVIGUETERO / C. SLATER	10/03/02
APPROVER	SUZANNE KIRK	10/03/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

EQUIPMENT ASSEMBLY HLW FEED BLEND VESSEL HLP-VSL-00028

SCALE: NONE | 24590-PTF-MV-HLP-00004 | REV 2

'E' SIZE - 44x34
COMPUTER GENERATED BY SOLID EDGE-MANUAL CHANGES NOT PERMITTED

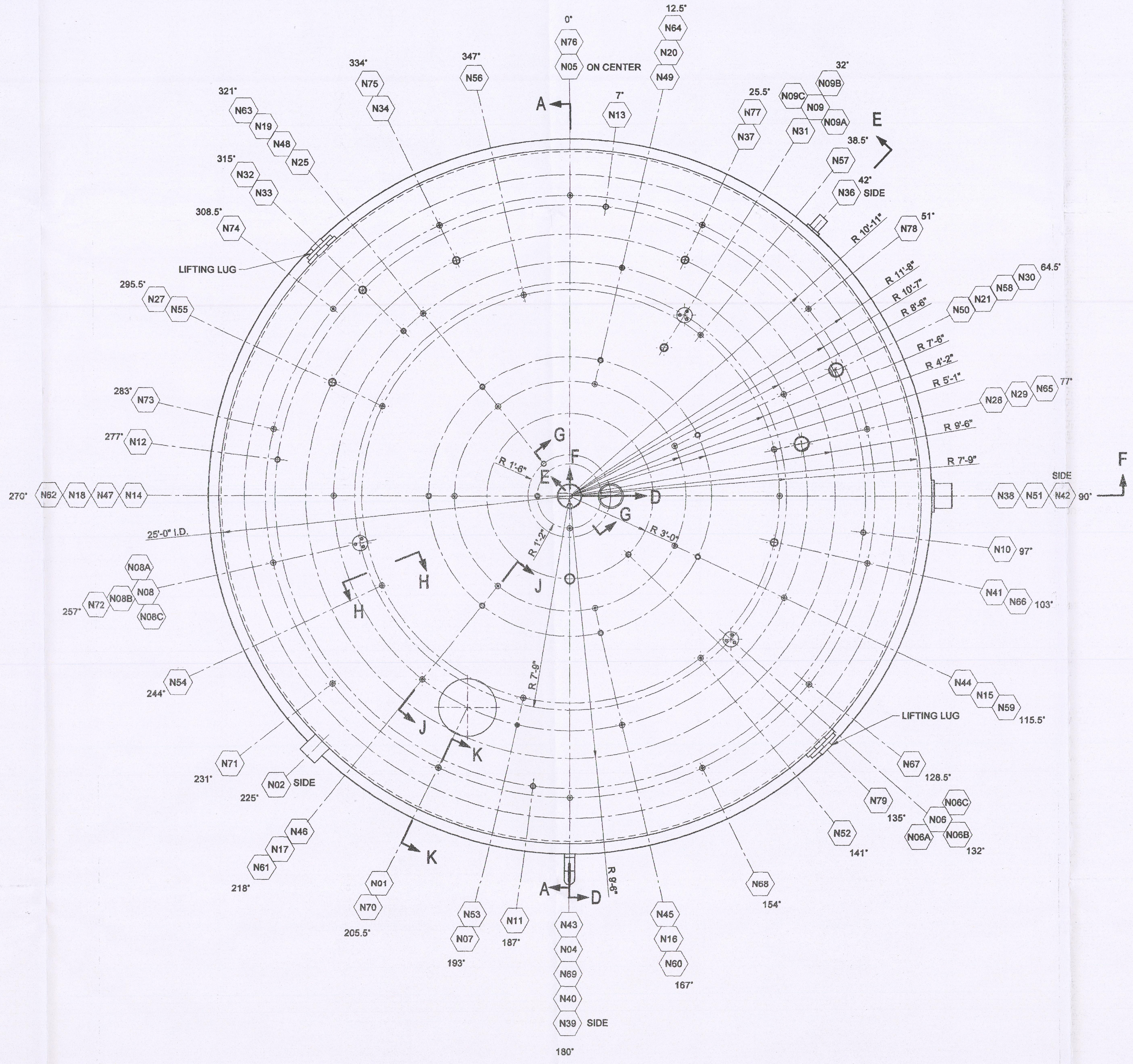
WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

04/29/2004 01:18 AM

FORM E_MASTER 09/2000

R10308036

NOZZLE	SIZE	SCHED/WALL	SERVICE/REMARKS	"Z" DIM	REF DWG-DET	CONN. PIPE/TUBE SIZE
N01	24" ID	0.5"	MANWAY	33'-4"	24590-WTP-MV-M59T-00017 DET 1	CAPPED
N02	8"	80S	OVERFLOW	28'-6"	24590-WTP-MV-M59T-00016001 DET 1	8"-40S
N04	4"	80S	SPARE	34'-6"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N05	10"	80S	VENT	34'-8"	24590-WTP-MV-M59T-00016001 DET 1	10"-10S
N06	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N06A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N06B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N06C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N07	2" OD X 1"	160S	TEMPERATURE	32'-10"	24590-WTP-MV-M59T-00007 DET 1	3/4"-10S
N08	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N08A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N08B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N08C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N09A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N10	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N11	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N12	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N13	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N14	2"	160S	AIR/VACUUM TO HLP-PJM-00068	34'-6"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N15	2"	160S	AIR/VACUUM TO HLP-PJM-00069	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N16	2"	160S	AIR/VACUUM TO HLP-PJM-00070	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N17	2"	160S	AIR/VACUUM TO HLP-PJM-00071	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N18	2"	160S	AIR/VACUUM TO HLP-PJM-00072	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N19	2"	160S	AIR/VACUUM TO HLP-PJM-00073	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N20	2"	160S	AIR/VACUUM TO HLP-PJM-00074	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N21	2"	160S	AIR/VACUUM TO HLP-PJM-00075	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N25	2"	160S	SPARE	34'-6"	24590-WTP-MV-M59T-00016001 DET 5	CAPPED
N27	3"	80S	INLET	32'-8"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N28	2"	160S	SPARE	33'-0"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N29	6"	80S	INLET	33'-2"	24590-WTP-MV-M59T-00016001 DET 2	6"-40S
N30	6"	80S	INLET	32'-4"	24590-WTP-MV-M59T-00016001 DET 2	6"-40S
N31	3"	80S	SPARE	33'-8"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N32	3"	80S	INLET	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N33	2"	160S	SPARE	34'-4"	24590-WTP-MV-M59T-00016001 DET 2	2"-80S
N34	3"	80S	SPARE	34'-4"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N36	4"	80S	OUTLET WITH DIP PIPE (TO PUMP)	11 1/2"	24590-WTP-MV-M59T-00016001 DET 3	4"-40S
N37	3"	80S	INLET	32'-8"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N38	10"	80S	INLET WITH DIP PIPE (RECIRCULATION)	34'-6"	24590-WTP-MV-M59T-00016001 DET 3	10"-40S
N39	4"	80S	INLET TO JACKET	-5'-0"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N40	4"	80S	OUTLET FROM JACKET	16'-2 3/4"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N41	3"	80S	INLET AUTO SAMPLE SYSTEM	33'-0"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N42	10"	80S	OUTLET WITH DIP PIPE (RECIRC PUMP)	1'-3"	24590-WTP-MV-M59T-00016001 DET 3	10"-40S
N43	2"	160S	SPARGE AIR	34'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N44	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N45	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N46	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N47	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N48	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N49	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N50	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N51	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N52	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N53	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N54	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N55	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N56	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N57	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N58	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N59	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N60	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N61	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N62	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N63	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N64	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N65	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N66	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N67	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N68	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N69	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N70	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N71	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N72	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N73	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N74	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N75	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N76	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N77	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N78	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N79	2"	160S	SPARE (HEAD SPACE MONITOR)	34'-6"	24590-WTP-MV-M59T-00016001 DET 2	2"-40S



PLAN VIEW

GENERAL NOTES:

1. DELETED
2. FOR DISTANCE OF DIP PIPES TO BOTTOM HEAD, USE 2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
3. "Z" DIMENSION FOR NOZZLES IS MEASURED FROM CENTERLINE OF NOZZLE FACE.
4. DELETED
5. DELETED
6. DELETED
7. REVISED/ADDED/DELETED:
   a) EXTENSIVE REVISION. CHANGES ARE NOT INDICATED BY CLOUDING.
   b) INCORPORATED 24590-PTF-MVN-HLP-00005
8. PULSE JET MIXER:
   a) MINIMUM PLATE THICKNESS IS 7/16". SELLER TO DESIGN.
   b) ALL WELDS SHALL BE FULL PENETRATION AND SMOOTH.
   c) SELLER SHALL DESIGN SUPPORTS. PULSE JET MIXERS SHALL NOT BE SUPPORTED FROM THE PARENT VESSEL BOTTOM HEAD.
   d) DESIGN TEMPERATURE IS THE SAME AS THE PARENT VESSEL DESIGN PRESSURE AND IS SHOWN IN THE MECHANICAL DATA SHEET.
   e) STIFFENING RINGS AND REINFORCING PADS ARE NOT PERMITTED.
   f) NON-DESTRUCTIVE EXAMINATION SHALL BE AS SPECIFIED FOR THE VESSEL COMPONENT QUALITY LEVEL.
9. PREPARE NOZZLE CONNECTIONS PER 24590-WTP-PW-P30T-00001.
10. SELLER SHALL PROVIDE AND INSTALL TIEDOWN SWIVEL LUG MOUNTING LUGS PER 24590-WTP-MV-M59T-00003.
11. NOZZLES ARE READ FROM THE CENTER OUTWARD.
12. ALL WELDS OF THE PULSE JET MIXER CLUSTER SHALL BE FULL PENETRATION, ULTRASONICALLY TESTED AND DYE-PENETRANT TESTED AS A MINIMUM.
    ALL FULL PENETRATION WELDS OF SUPPORT MEMBERS SHALL BE ULTRASONICALLY TESTED AND DYE-PENETRANT TESTED. IF FILLET WELDS ARE PERMITTED BY THE BUYER AND ARE NOT READILY ULTRASONICALLY TESTED, THEY MAY BE DYE-PENETRANT TESTED WITH APPROVAL FROM THE BUYER.
13. THE PULSE JET MIXER CLUSTER SHALL BE DESIGNED FOR THE EXTERNAL PRESSURE OF THE PARENT VESSEL STATIC HEAD. THE PJM CLUSTER FILL SHALL NOT BE CONSIDERED AS SUPPORT FOR EXTERNAL PRESSURE.
14. THE PULSE JET MIXER CLUSTER SHALL BE HYDROSTATICALLY TESTED AT ATMOSPHERIC PRESSURE.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

VESSEL COMPONENT QUALITY LEVELS

COMPONENTS	QUALITY LEVEL
MAIN VESSEL, SKIRT, ALL NOZZLES	QL-1
ALL INTERNAL SUPPORTS	QL-1
PULSE JET MIXERS AND PIPING	QL-1
INSTRUMENTATION	QL-1
WASH RING AND PIPING	CM
PJM CLUSTER FILL	CM

THIS DRAWING TO BE READ IN CONJUNCTION WITH MECHANICAL SYSTEMS DATA SHEET 24590-PTF-MVD-HLP-00008

REFERENCE DRAWINGS

DWG NO	REV	TITLE
24590-PTF-MV-HLP-00010	0	EQUIPMENT ASSEMBLY HLW LAG STORAGE VESSEL HLP-VSL-00027B
24590-PTF-MV-HLP-00011	0	SECTION AND DETAILS HLW LAG STORAGE VESSEL HLP-VSL-00027A & B
24590-WTP-MV-M59T-00001	3	PRESSURE VESSEL TOLERANCES STANDARD DETAILS
24590-WTP-MV-M59T-00007	3	THERMOWELL CONNECTION STANDARD DETAILS
24590-WTP-MV-M59T-00011	2	WASH RINGS STANDARD DETAILS
24590-WTP-MV-M59T-00016001	3	VESSEL CONNECTIONS STANDARD DETAILS SHT 1 OF 3
24590-WTP-MV-M59T-00016003	1	VESSEL CONNECTIONS STANDARD DETAILS SHT 3 OF 3
24590-WTP-MV-M59T-00017	1	VESSEL INSPECTION MANWAY STANDARD DETAILS
24590-WTP-MV-M59T-00009	2	LIFTING LUG STANDARD DETAILS
24590-WTP-MV-M59T-00003	0	TIE DOWN SWIVEL LUGS MOUNTING STUDS STANDARD DETAILS
24590-WTP-PW-P30T-00001	0	WTP END PREP DETAIL FOR FIELD BUTT WELDS

REVISION HISTORY

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	REVISED PER NOTE 7					4/29/04
1	REVISED AS MARKED, SEE NOTE 6	SS/RR	PA/CS	RES	MH	7/11/03
0	ISSUED FOR PURCHASE	SS/RR	PA/CS	N/A	SK	10/3/02

Q

ISSUED BY RPP-WTP PDC — INIT / DATE 4/29/04 — ISSUE STAMP

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	10

	BY	DATE
ORIGINATOR	S. SUHARTO / R. RIDER	9/30/02
CHECKER	P. AVIGUETERO / C. SLATER	10/03/02
APPROVER	SUZANNE KIRK	10/03/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

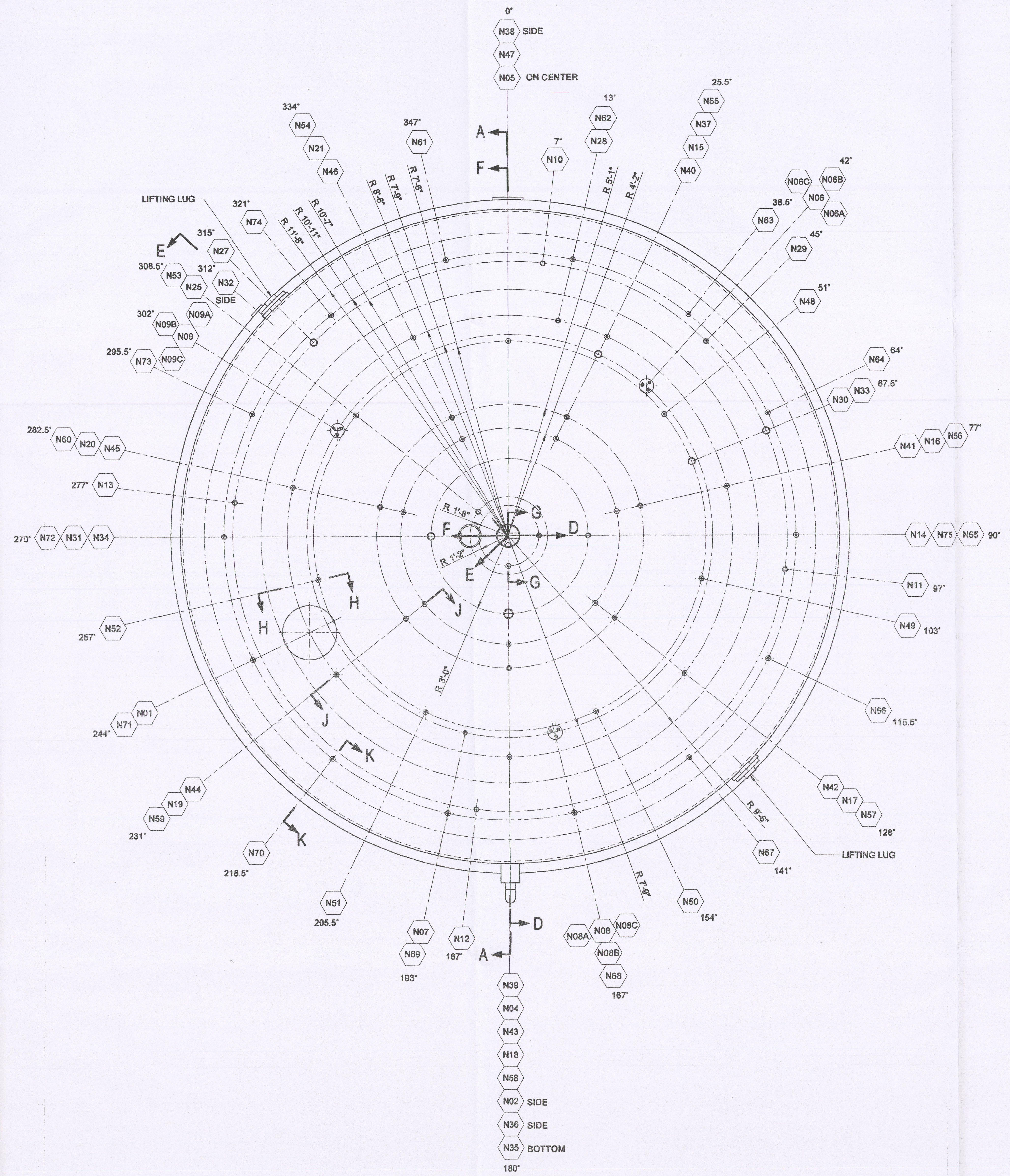
ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

EQUIPMENT ASSEMBLY
HLW LAG STORAGE VESSEL
HLP-VSL-00027B

SCALE: NONE — 24590-PTF-MV-HLP-00005 — REV 2



PLAN VIEW

NOZZLE	SIZE	SCHED/WALL	SERVICE/REMARKS	"Z" DIM	REF DWG-DET	CONN. PIPE/TUBE SIZE
N01	24" ID	0.5"	MANWAY	33'-4"	24590-WTP-MV-M59T-00017 DET 1	CAPPED
N02	8"	80S	OVERFLOW	28'-6"	24590-WTP-MV-M59T-00016001 DET 2	8"-40S
N04	4"	80S	SPARE	34'-6"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N05	10"	80S	VENT	34'-8"	24590-WTP-MV-M59T-00016001 DET 1	10"-10S
N06	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N06A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N06B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N06C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N07	2" OD X 1"	160S	TEMPERATURE	32'-10"	24590-WTP-MV-M59T-00007 DET 1	3/4"-10S
N08	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N08A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N08B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N08C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09	6"	80S	INSTRUMENTATION	33'-6"	24590-WTP-MV-M59T-00016003 DET 26	N/A
N09A	1"	160S	BALANCE	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09B	1"	160S	DENSITY	SEE DET	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N09C	1"	160S	LEVEL	33'-11"	24590-WTP-MV-M59T-00016003 DET 26	1"-40S
N10	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N11	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N12	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N13	2"	160S	INLET TO WASH RING	32'-2"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N14	2"	160S	AIR/VACUUM TO HLP-PJM-00060	34'-6"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N15	2"	160S	AIR/VACUUM TO HLP-PJM-00061	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N16	2"	160S	AIR/VACUUM TO HLP-PJM-00062	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N17	2"	160S	AIR/VACUUM TO HLP-PJM-00063	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N18	2"	160S	AIR/VACUUM TO HLP-PJM-00064	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N19	2"	160S	AIR/VACUUM TO HLP-PJM-00065	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N20	2"	160S	AIR/VACUUM TO HLP-PJM-00066	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N21	2"	160S	AIR/VACUUM TO HLP-PJM-00067	33'-11"	24590-WTP-MV-M59T-00016001 DET 3	2"-40S
N25	2"	160S	SPARE	34'-6"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N27	3"	80S	INLET	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N28	2"	160S	SPARE	33'-0"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N29	2"	160S	SPARE	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	2"-80S
N30	3"	80S	SPARE	33'-4"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N31	3"	160S	SPARE	34'-4"	24590-WTP-MV-M59T-00016001 DET 2	CAPPED
N32	4"	80S	OUTLET W/ DIP PIPE (TO PUMP)	11 1/2"	24590-WTP-MV-M59T-00016001 DET 3	4"-40S
N33	3"	80S	INLET	32'-2"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N34	10"	80S	INLET WITH DIP PIPE (RECIRC)	34'-6"	24590-WTP-MV-M59T-00016001 DET 3	10"-40S
N35	4"	80S	INLET TO JACKET	-5'-0"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N36	4"	80S	OUTLET FROM JACKET	16'-2 3/4"	24590-WTP-MV-M59T-00016001 DET 1	4"-40S
N37	3"	80S	INLET AUTO SAMPLER RETURN	33'-3"	24590-WTP-MV-M59T-00016001 DET 2	3"-40S
N38	10"	80S	OUTLET W/ DIP PIPE (RECIRC PUMP)	1'-3"	24590-WTP-MV-M59T-00016001 DET 3	10"-40S
N39	2"	160S	SPARGE AIR	34'-6"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N40	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N41	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N42	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N43	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N44	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N45	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N46	2"	160S	SPARGE AIR	33'-8"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N47	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N48	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N49	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
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N51	2"	160S	SPARGE AIR	33'-4"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
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N57	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N58	2"	160S	SPARGE AIR	33'-0"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
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N69	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N70	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N71	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N72	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N73	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N74	2"	160S	SPARGE AIR	31'-11"	24590-WTP-MV-M59T-00016001 DET 4	1" OD X 0.083" NOM. WALL
N75	2"	160S	SPARE (HEAD SPACE MONITOR)	34'-4"	24590-WTP-MV-M59T-00016001 DET 2	2"-40S

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5. DELETED
6. DELETED
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   d) DESIGN TEMPERATURE IS THE SAME AS THE PARENT VESSEL DESIGN PRESSURE AND IS SHOWN IN THE MECHANICAL DATA SHEET.
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11. NOZZLES ARE READ FROM THE CENTER OUTWARD.
12. ALL WELDS OF THE PULSE JET MIXER CLUSTER SHALL BE FULL PENETRATION, ULTRASONICALLY TESTED AND DYE-PENETRANT TESTED AS A MINIMUM.
    ALL FULL PENETRATION WELDS OF SUPPORT MEMBERS SHALL BE ULTRASONICALLY TESTED AND DYE PENETRANT TESTED. IF FILLET WELDS ARE PERMITTED BY THE BUYER AND ARE NOT READILY ULTRASONICALLY TESTED, THEY MAY BE DYE-PENETRANT TESTED WITH APPROVAL FROM THE BUYER.
13. THE PULSE JET MIXER CLUSTER SHALL BE DESIGNED FOR THE EXTERNAL PRESSURE OF THE PARENT VESSEL STATIC HEAD. THE PJM CLUSTER FILL SHALL NOT BE CONSIDERED AS SUPPORT FOR EXTERNAL PRESSURE.
14. THE PULSE JET MIXER CLUSTER SHALL BE HYDROSTATICALLY TESTED AT ATMOSPHERIC PRESSURE.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

VESSEL COMPONENT QUALITY LEVELS

COMPONENTS	QUALITY LEVEL
PARENT VESSEL, SKIRT, ALL NOZZLES	QL-1
ALL INTERNAL SUPPORTS	QL-1
PULSE JET MIXERS AND PIPING	QL-1
INSTRUMENTATION	QL-1
WASH RING AND PIPING	CM
PJM CLUSTER FILL	CM

THIS DRAWING TO BE READ IN CONJUNCTION WITH MECHANICAL SYSTEMS DATA SHEET 24590-PTF-MVD-HLP-00007

REFERENCE DRAWINGS

DWG NO	REV	TITLE
24590-PTF-MV-HLP-00009	0	EQUIPMENT ASSEMBLY HLW LAG STORAGE VESSEL HLP-VSL-00027A
24590-PTF-MV-HLP-00011	0	SECTIONS AND DETAILS HLW LAG STORAGE VESSEL HLP-VSL-00027A & B
24590-WTP-MV-M59T-00001	3	PRESSURE VESSEL TOLERANCES STANDARD DETAILS
24590-WTP-MV-M59T-00003	0	TIE DOWN SWIVEL LUG MOUNTING STUDS STANDARD DETAILS
24590-WTP-MV-M59T-00007	3	THERMOWELL CONNECTION STANDARD DETAILS
24590-WTP-MV-M59T-00009	2	LIFTING LUGS STANDARD DETAILS
24590-WTP-MV-M59T-00011	2	WASH RINGS STANDARD DETAILS
24590-WTP-MV-M59T-00016001	3	VESSEL CONNECTIONS STANDARD DETAILS SHT 1 OF 3
24590-WTP-MV-M59T-00016003	1	VESSEL CONNECTIONS STANDARD DETAILS SHT 3 OF 3
24590-WTP-MV-M59T-00017	1	VESSEL INSPECTION MANWAY STANDARD DETAILS
24590-WTP-PW-P30T-00001	0	WTP END PREP DETAIL FOR FIELD BUTT WELDS

Q

REVISION HISTORY

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	REISSUED FOR PURCHASE, REVISED PER NOTE 7	[illegible]	[illegible]	[illegible]	[illegible]	4/29/04
1	REVISED AS MARKED, SEE NOTE 6	SS/RR	PA/CS	RES	MH	7/10/2003
0	ISSUED FOR PURCHASE	SS/RR	PA/CS	N/A	SK	10/3/2002

ISSUED BY RPP-WTP PDC 4/29/04 ISSUE STAMP DATE

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	10

	BY	DATE
ORIGINATOR	S.SUHARTO / ROBERT RIDER	9/30/02
CHECKER	P. AVIGUETERO / C. SLATER	10/3/02
APPROVER	SUZANNE KIRK	10/3/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

EQUIPMENT ASSEMBLY HLW LAG STORAGE VESSEL HLP-VSL-00027A

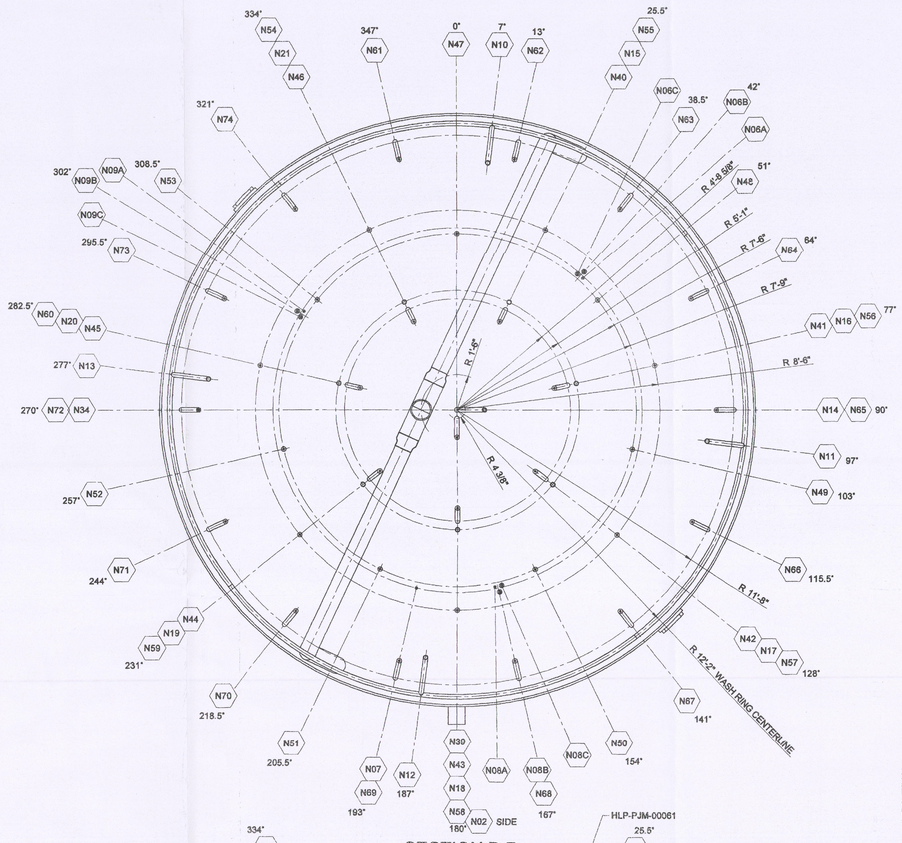
SCALE: NONE | 24590-PTF-MV-HLP-00006 | REV 2

'E' SIZE - 44x34
COMPUTER GENERATED BY SOLID EDGE-MANUAL CHANGES NOT PERMITTED
WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

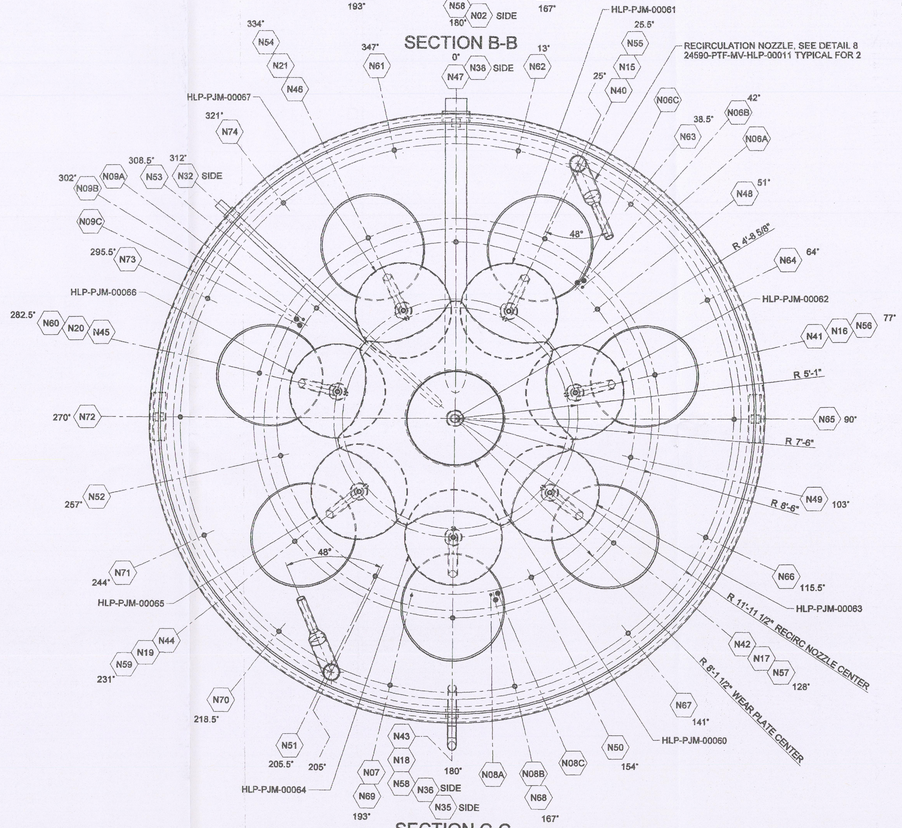
04/29/2004 01:27 AM

R10308039

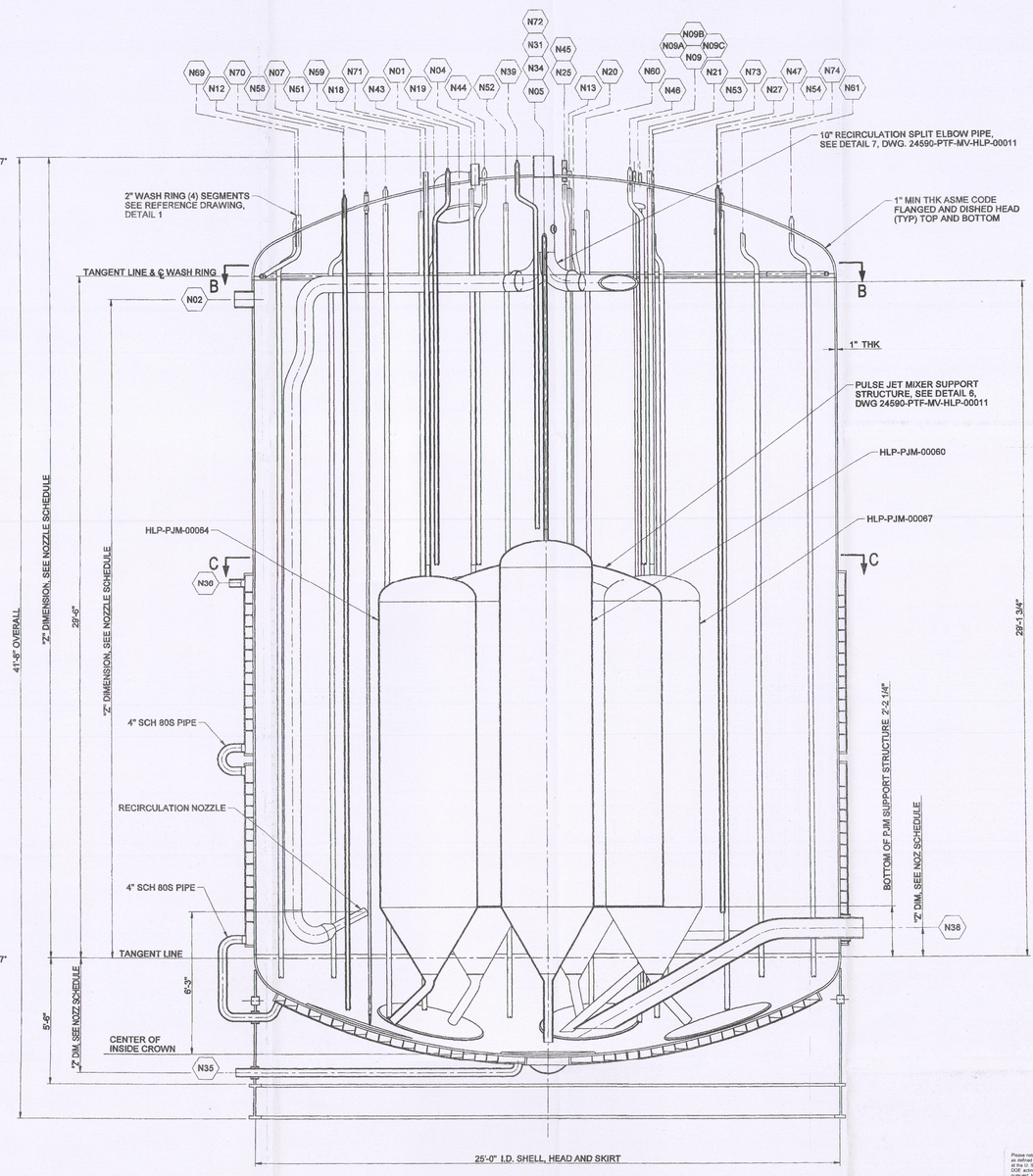
24590-PTF-MV-HLP-00009



SECTION B-B



SECTION C-C



SECTION A-A

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that the AEA is the sole and exclusive source of regulatory authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PURCHASE					4/29/04

REVISION HISTORY

ISSUED BY RIVER-WEST JOINT VENTURE MAKE STAMP

	BY	DATE
PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	10	
ORIGINATOR		4/29/04
CHECKER		4/29/04
APPROVER		4/29/04
REVIEWER		4/29/04

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14138

EQUIPMENT ASSEMBLY
HLW LAG STORAGE VESSEL
HLP-VSL-00027A

SCALE: NONE

24590-PTF-MV-HLP-00009

REV 0

FORM E_MASTER 03/2003

'B' SIZE - 44x34

COMPUTER GENERATED BY SOLID EDGE- MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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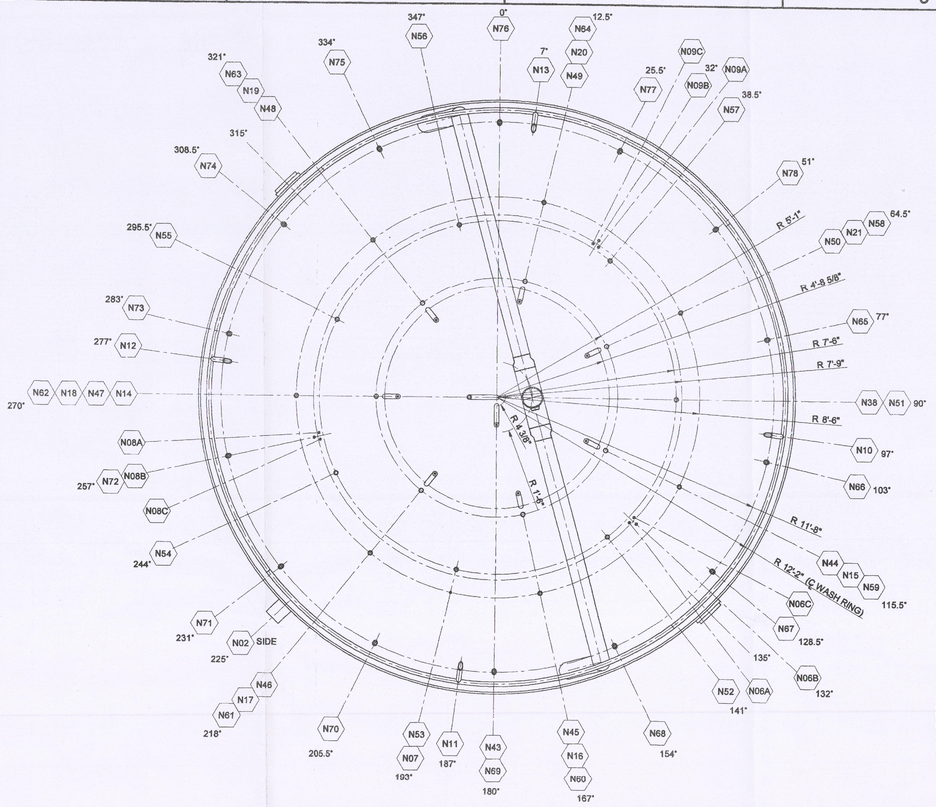
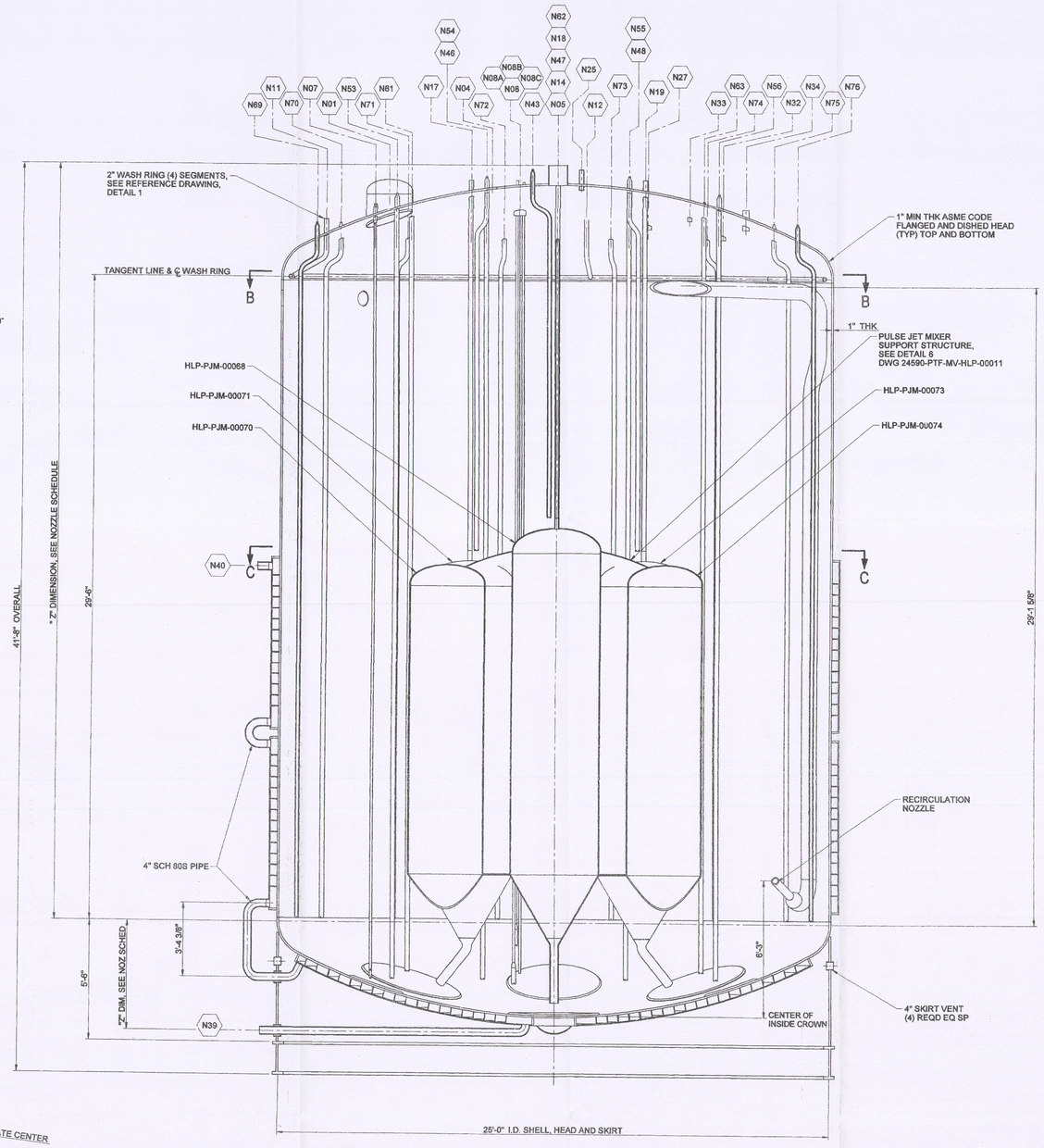
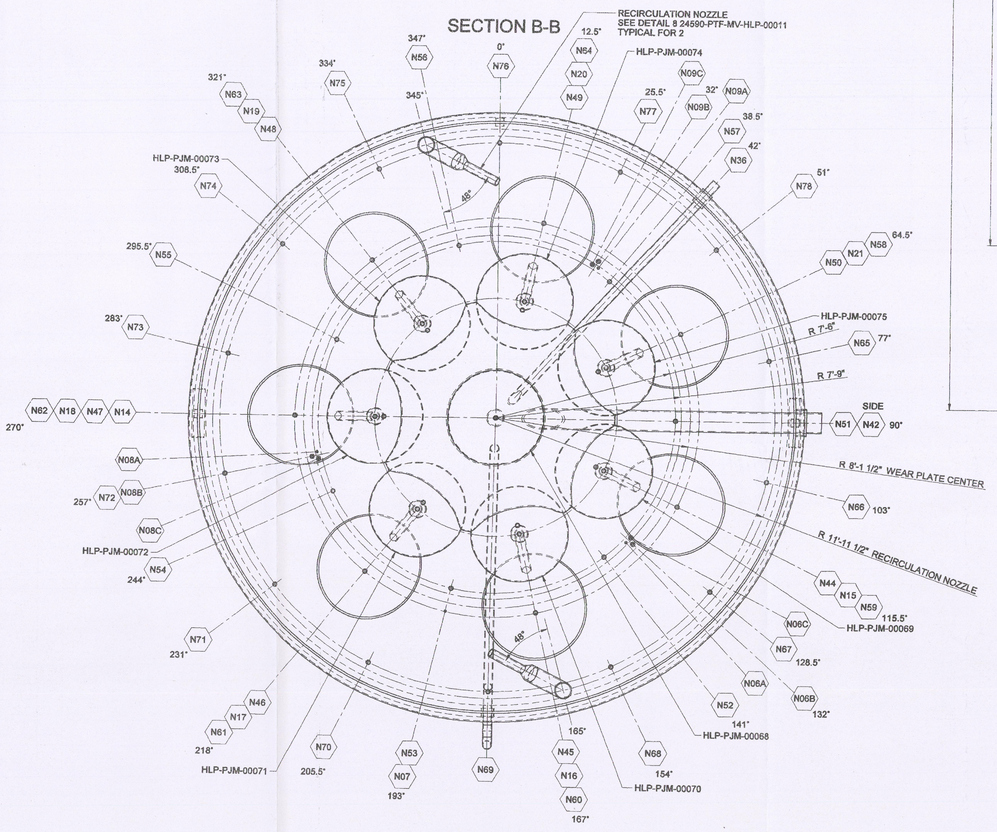
24590-PTF-MV-HLP-00010







REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PURCHASE					4/29/04

REVISION HISTORY

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	I0	
ORIGINATOR		11/24/04
CHECKER		4/29/04
APPROVER		4/29/04
REVIEWER		4/29/04

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

EQUIPMENT ASSEMBLY
HLW LAG STORAGE VESSEL
HLP-VSL-00027B

SCALE: NONE

24590-PTF-MV-HLP-00010

REV 0

SIZE - 44x34

COMPUTER GENERATED BY SOLID EDGE-MANUAL CHANGES NOT PERMITTED

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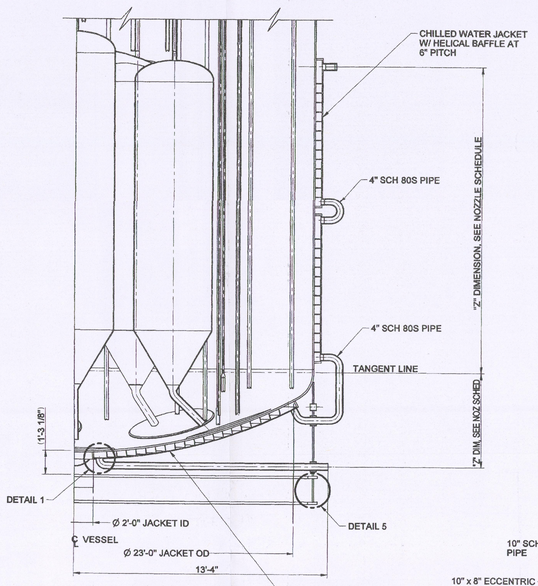
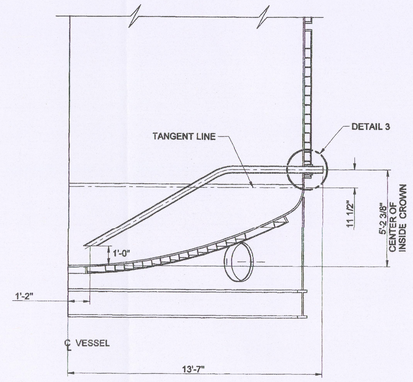
FORM E_MASTR 03/2003



SECTION D-D



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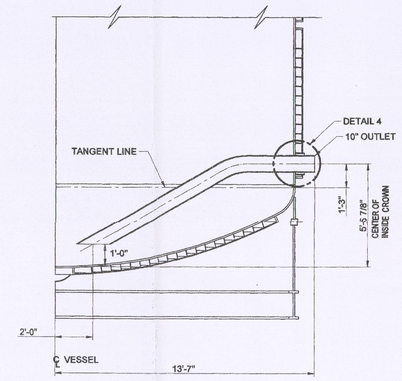
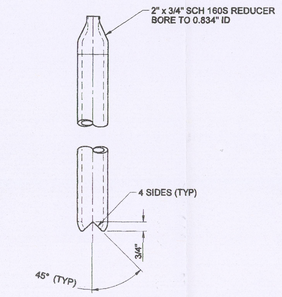


SECTION F-F



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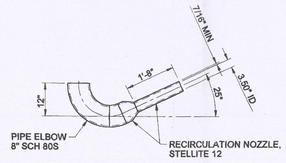

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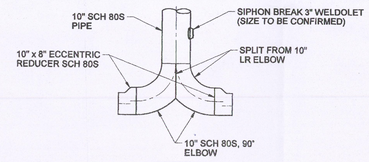

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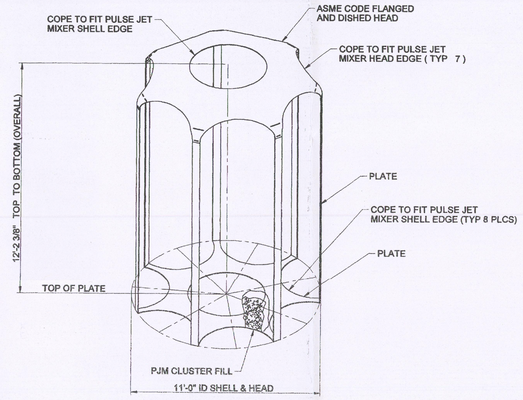
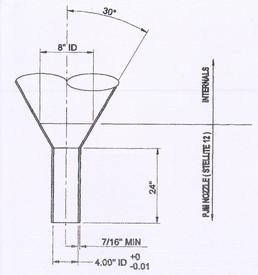
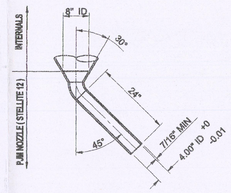


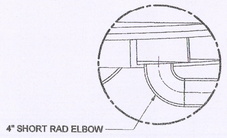
ISOMETRIC DETAIL 6
PULSE JET MIXER CLUSTER
SUPPORT STRUCTURE



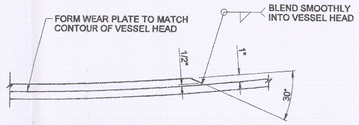
DETAIL 10



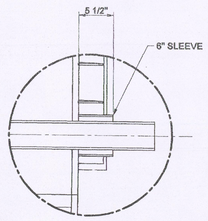
DETAIL 11



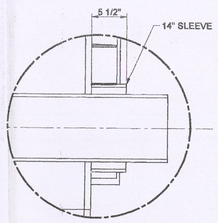
DETAIL 1



DETAIL 2



DETAIL 3



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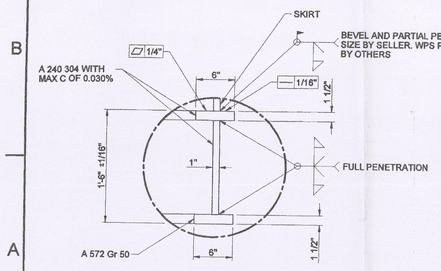
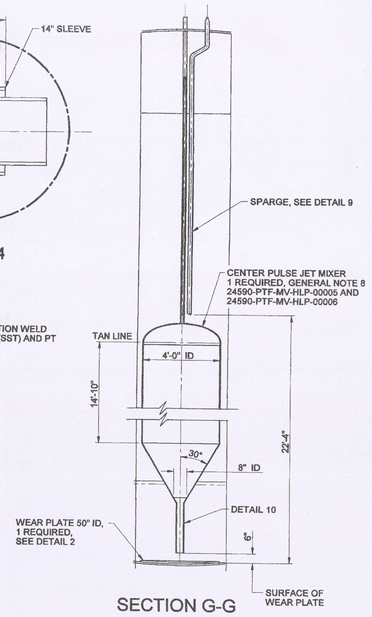


DETAIL 5
RING BEAM



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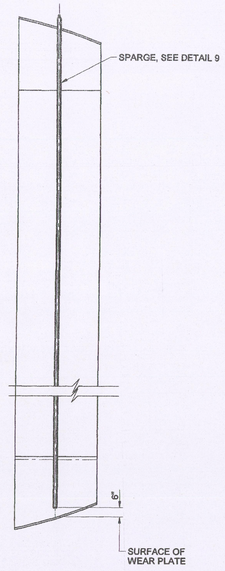

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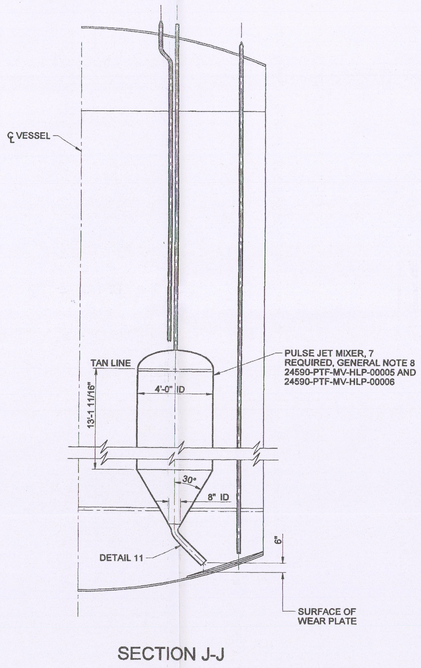
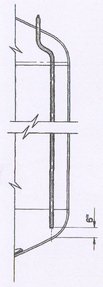


SECTION J-J



SECTION K-K

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE under the AEA. In the AEA, DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PURCHASE					4/29/04

REVISION HISTORY

	BY	DATE
ORIGINATOR		4/29/04
CHECKER		4/29/04
APPROVER		4/29/04
REVIEWER		4/29/04

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

ISSUED BY RIVER PROTECTION PROJECT 4/29/04

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	10

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

SECTIONS AND DETAILS
HLW LAG STORAGE VESSEL
HLP-VSL-00027A & B

SCALE: NONE

24590-PTF-MV-HLP-00011

REV 0

'E' SIZE - 44x34
COMPUTER GENERATED BY SOLID EDGE-
MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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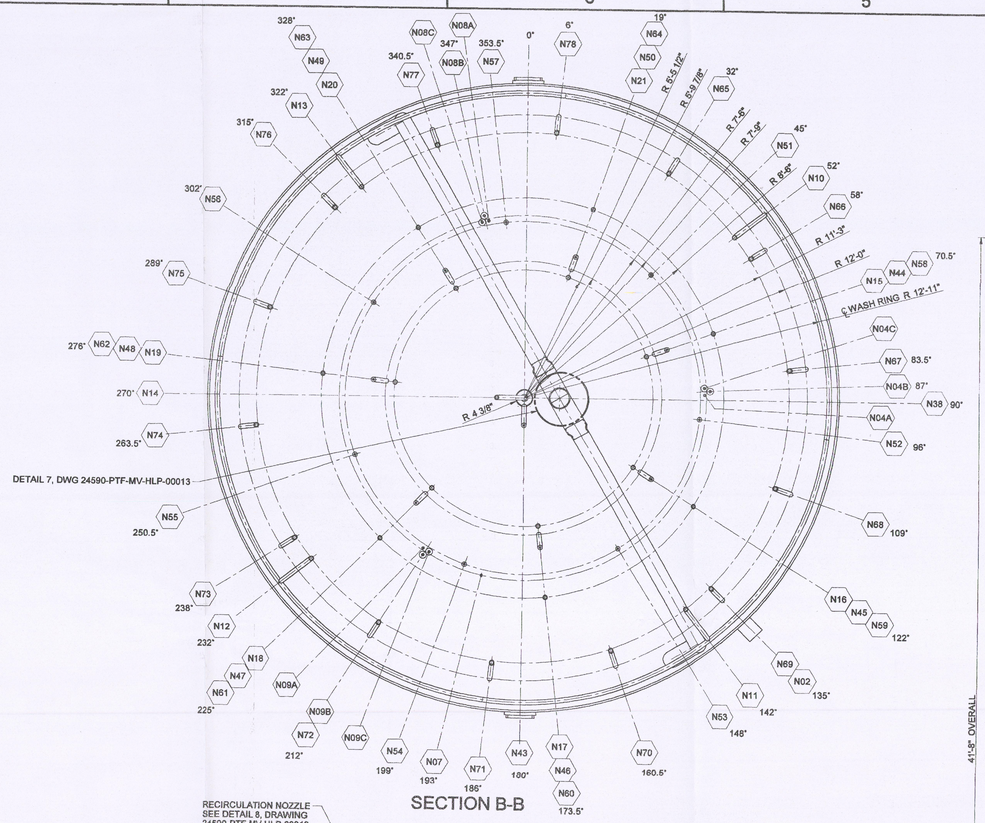
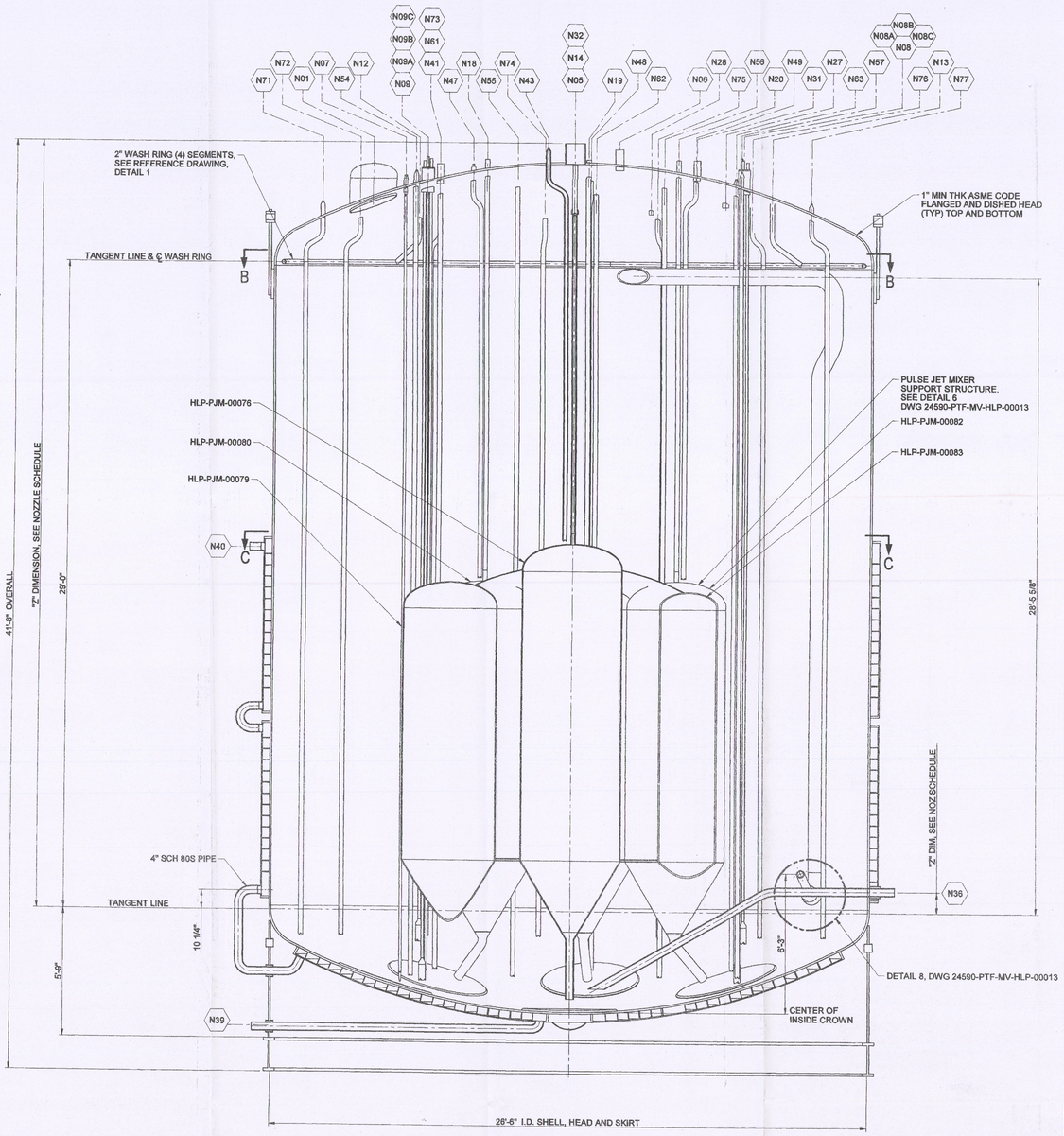
FORM E_MASTER 03/2003

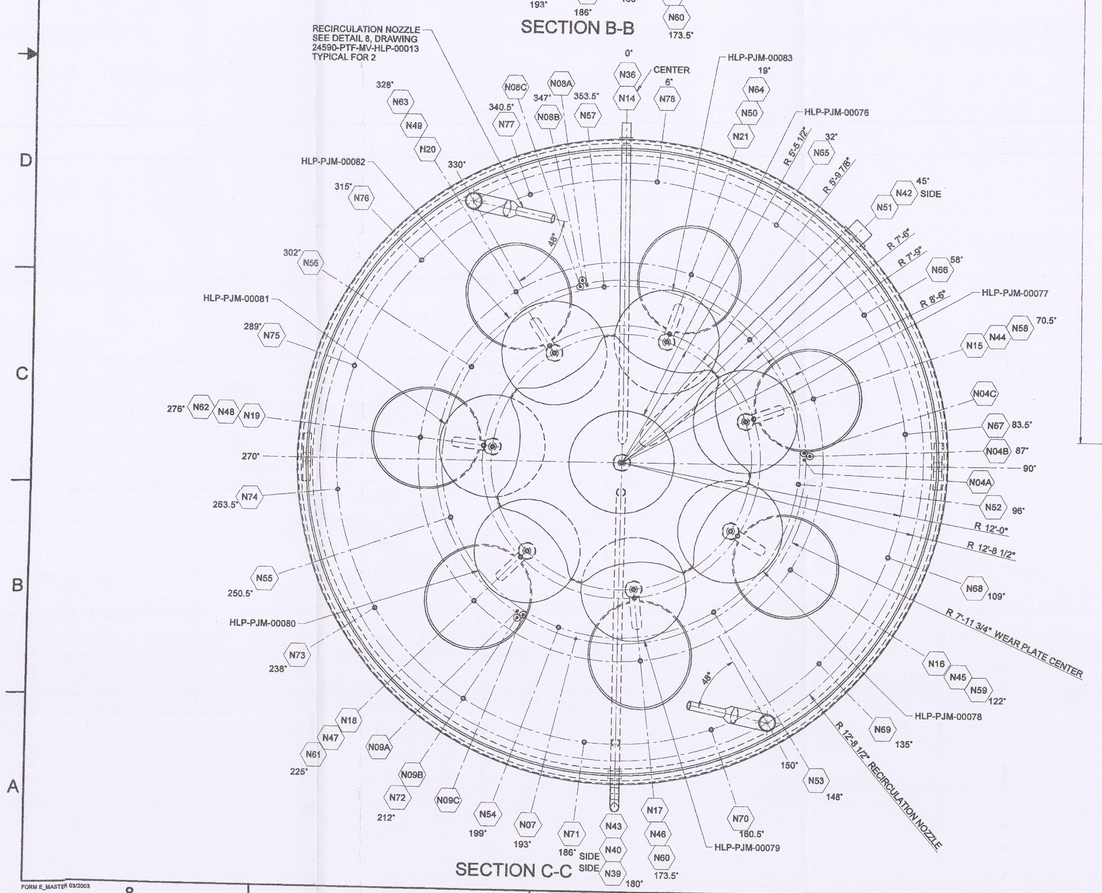
24590-PTF-MV-HLP-00012



SECTION B-B



SECTION A-A



SECTION C-C

Please note that source, special nuclear, and byproduct materials, as defined by the Atomic Energy Act of 1954 (AEA) are regulated at the U.S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. At DOE facilities, pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials. Any other radioactive material or other contaminant hazards or radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PURCHASE					4/29/04

REVISION HISTORY

Q

ISSUED BY: DOE-RL/ORP PROJECT ENGINEER INIT DATE; ISSUE STAMP

	BY	DATE
ORIGINATOR		4/29/04
CHECKER		4/29/04
APPROVER		4/29/04
REVIEWER		4/29/04

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	10

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

LAYOUT OF INTERNALS HLW FEED BLEND VESSEL HLP-VSL-00028

SCALE: NONE

24590-PTF-MV-HLP-00012

REV 0

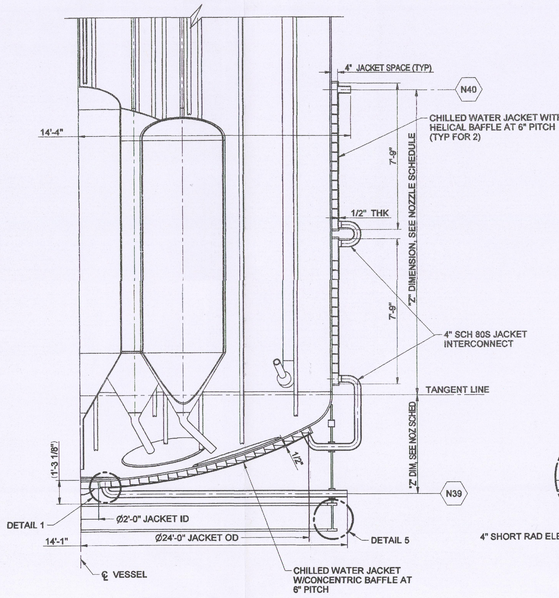
"E" SIZE - 44x34

COMPUTER GENERATED BY SOLID EDGE- MANUAL CHANGES NOT PERMITTED

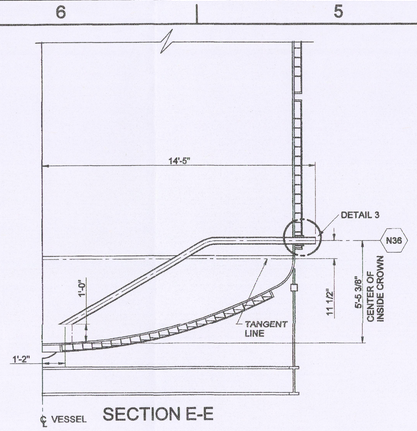
WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

04/29/2004 01:18 AM

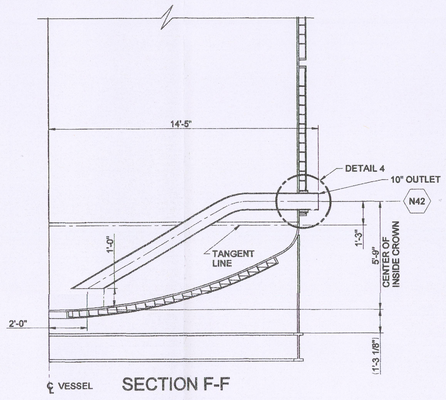
FORM E_MASTER 03/2003



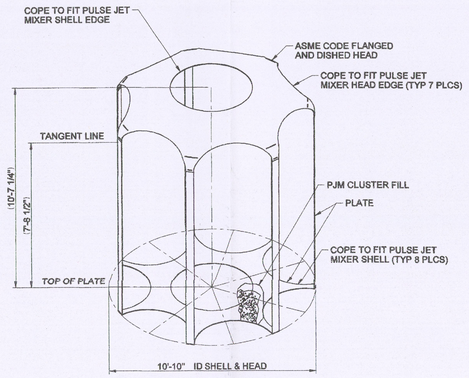
SECTION D-D



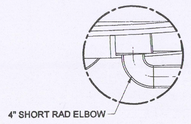
SECTION E-E



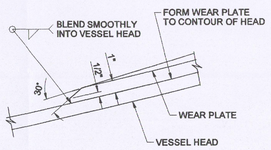
SECTION F-F



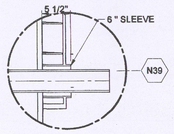
ISOMETRIC DETAIL 6
PULSE JET MIXER CLUSTER SUPPORT STRUCTURE



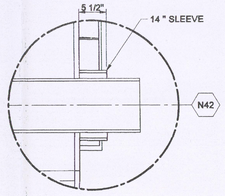
DETAIL 1



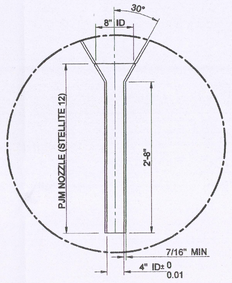
DETAIL 2



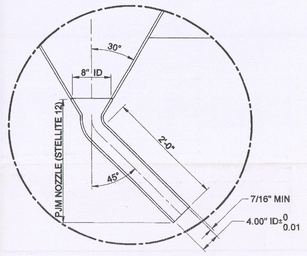
DETAIL 3



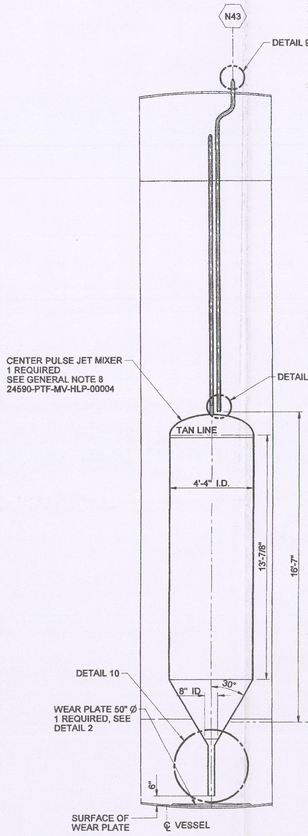
DETAIL 4



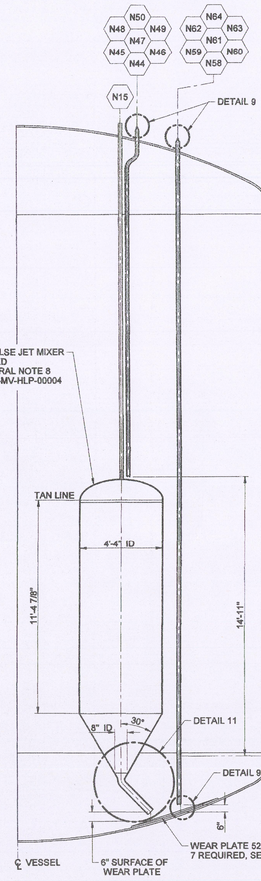
DETAIL10



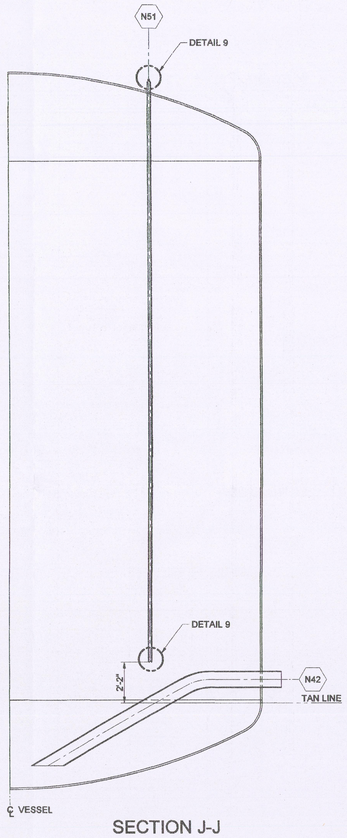
DETAIL11



SECTION G-G



SECTION H-H



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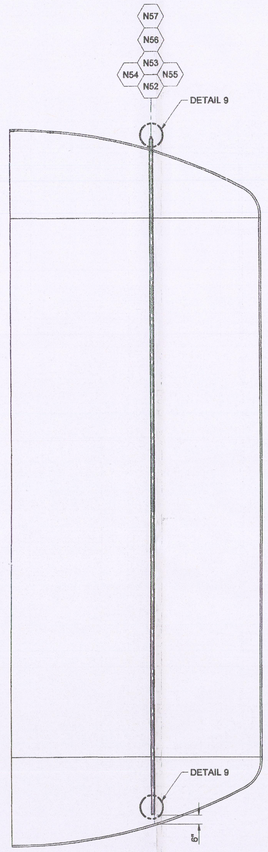

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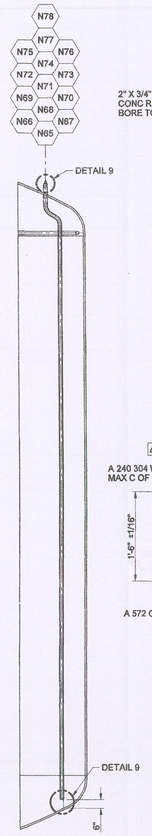
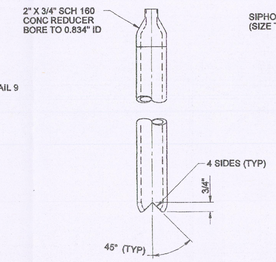
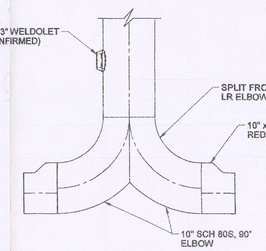


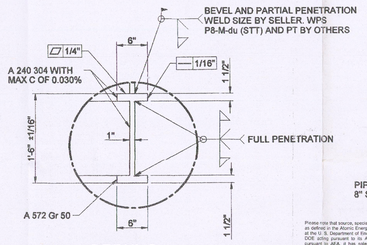
SECTION L-L



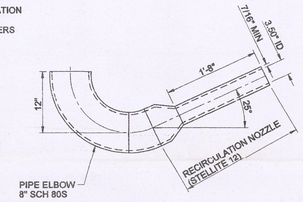
DETAIL 9
SPARGE ENDS



DETAIL 7



DETAIL 5
RING BEAM



DETAIL 8

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated by the U.S. Nuclear Regulatory Commission (NRC) and not by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein or any commodities is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PURCHASE					4/29/04

REVISION HISTORY

Q

ISSUED BY DOE-WRPO
ISSUE STAMP

	BY	DATE
PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	I0	
ORIGINATOR		4/14/04
CHECKER		4/29/04
APPROVER		4/29/04
REVIEWER		4/29/04

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-PTF-ADR-M-02-005 REV: 3

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

SECTIONS AND DETAILS HLW FEED BLEND VESSEL HLP-VSL-00028

SCALE: NONE

24590-PTF-MV-HLP-00013

REV 0

'E' SIZE - 44x34
COMPUTER GENERATED BY SOLID EDGE-MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

04/29/2004 01:46 AM

FORM E_MASTER 03/2003