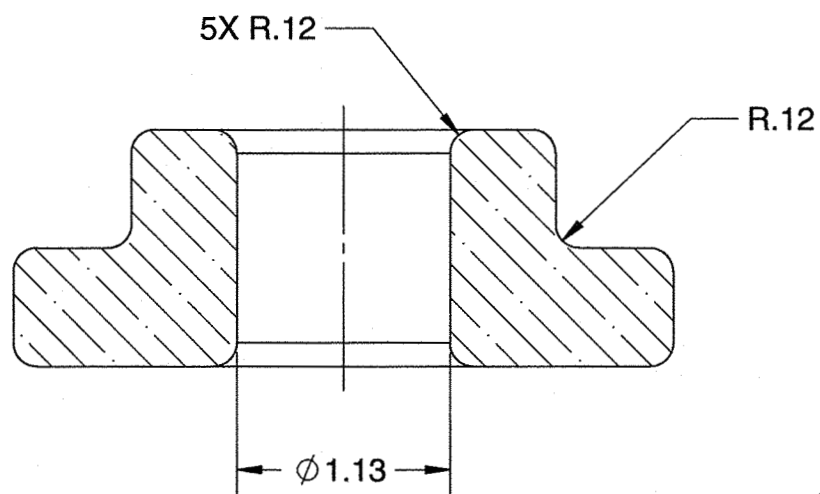
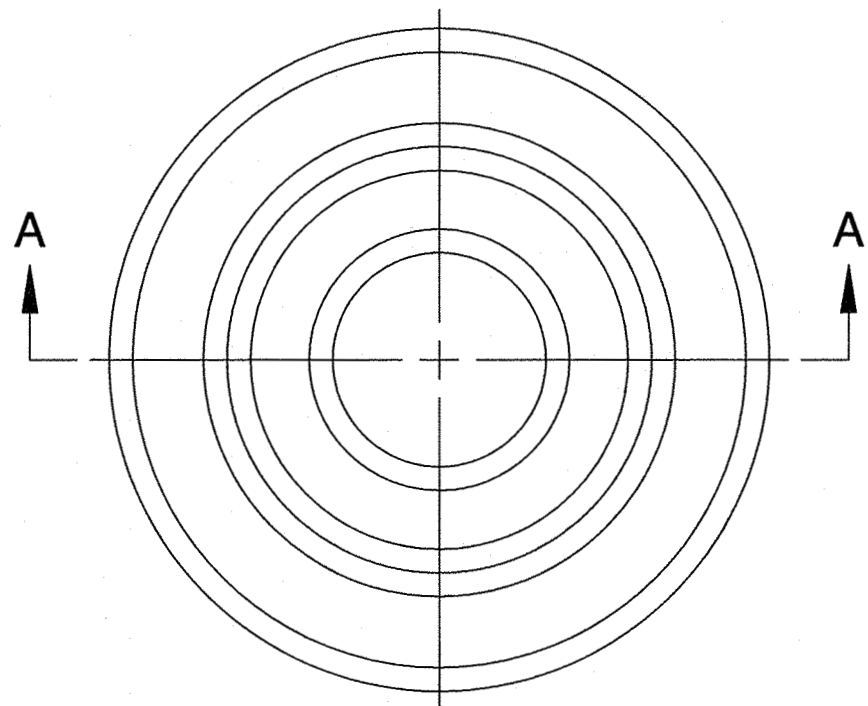
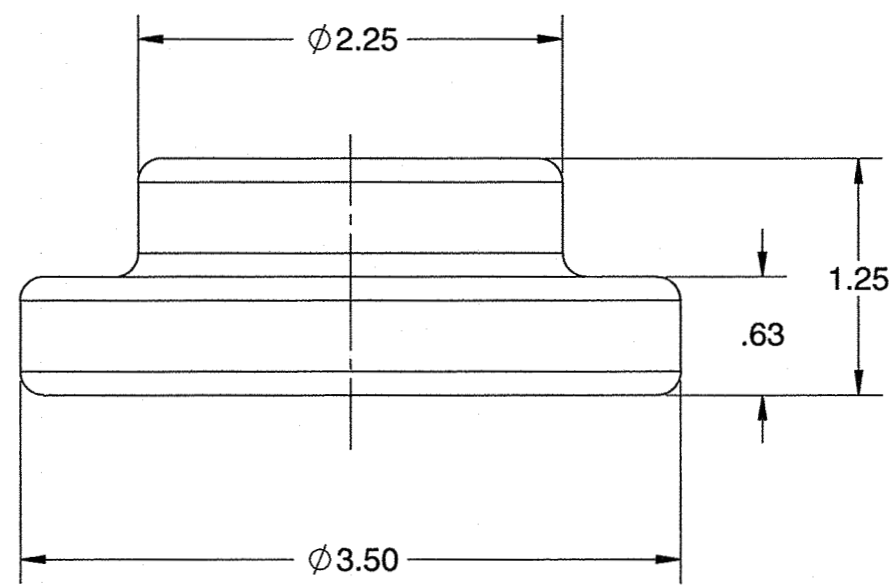


NOTES:

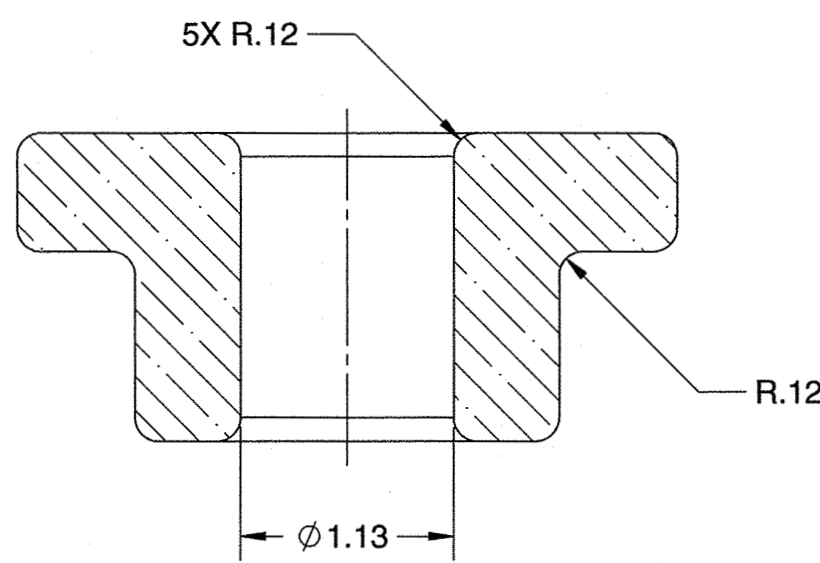
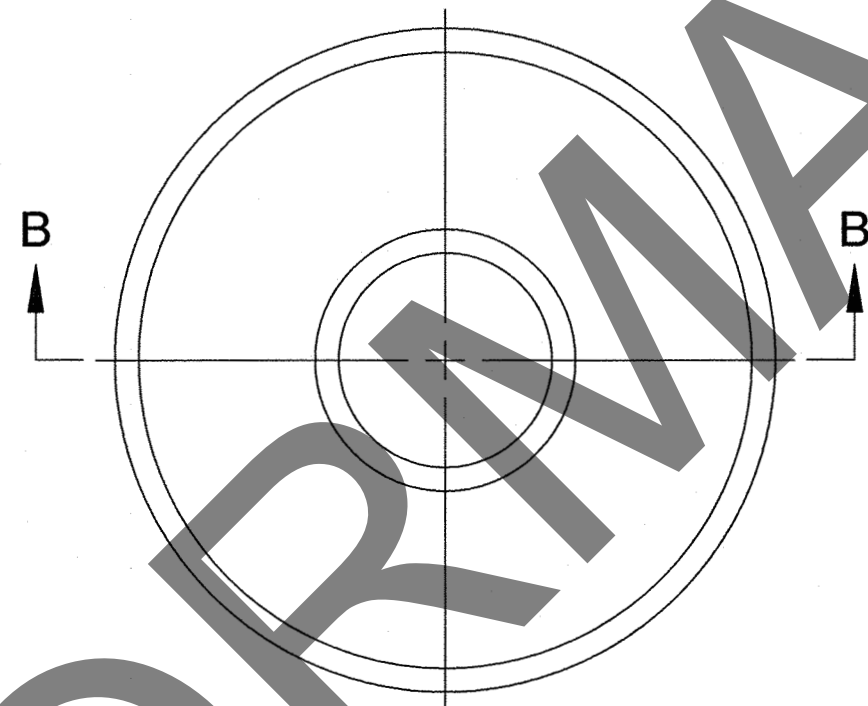
1. ALL DIMENSIONS, TOLERANCES, LIMITS OF SIZE, FORM, LOCATION, AND RELATED TERMINOLOGY AND SYMBOLS SHALL BE INTERPRETED IN ACCORDANCE WITH ASME Y14.5M-1994.
2. FOR FABRICATION AND MANUFACTURING SEE PROCUREMENT SPECIFICATION 24590-LAW-3PS-LMP-T0010.
3. REMOVE ALL BURRS AND SHARP EDGES.
4. NOT USED.
5. NOT USED.
6. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
7. ALL SUFACES TO HAVE MAXIMUM 125 MICRO-INCHES SURFACE FINISH.



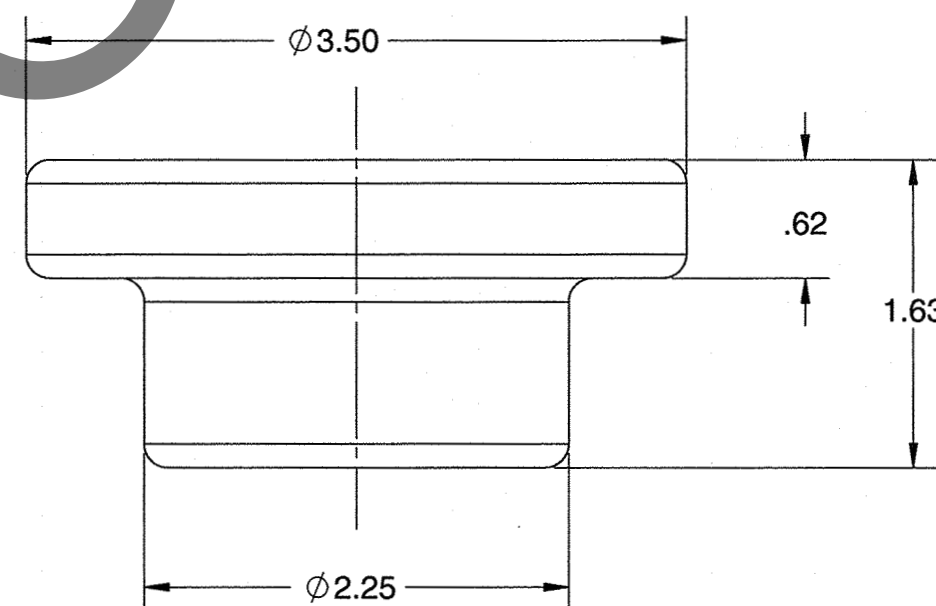
SECTION A-A



1 TOP ISOLATOR



SECTION B-B



2 BOTTOM ISOLATOR

QTY REQD	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE	MATERIAL SPECIFICATION	ITEM NO
		-2	BOTTOM ISOLATOR	MULLITE	2
		-1	TOP ISOLATOR	MULLITE	1
PARTS LIST					

CM

QUALITY DESIGNATOR

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR CONSTRUCTION					3/6/19

REVISION HISTORY



RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

LAW SPARE MELTER 1  
BUBBLER  
CERAMIC ISOLATOR DETAILS  
(WTP-M-12105)

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	20
ISSUED BY	DATE
ORIGINATOR	2/28/19
CHECKER	2/28/19
REVIEWER	3/6/19
APPROVER	3/6/19
APPLICATION	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	
DECIMALS	ANGLES
.X ± .1	± .5°
.XX ± .06	
.XXX ± .005	
DO NOT SCALE DRAWING	
SUPPLIER DWG NO.	SH
WTP-M-12105	1
CONTENT APPLICABLE TO ALARA?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ADR NO. 24590-LAW-ADR-ML-14-0001	REV: 0

SCALE:	1:1	24590-LAW-MX-LMP-01305	REV	0
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"D" SIZE - 34x22  
COMPUTER GENERATED - MANUAL  
DESIGN CHANGES NOT PERMITTED



R11942367



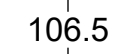










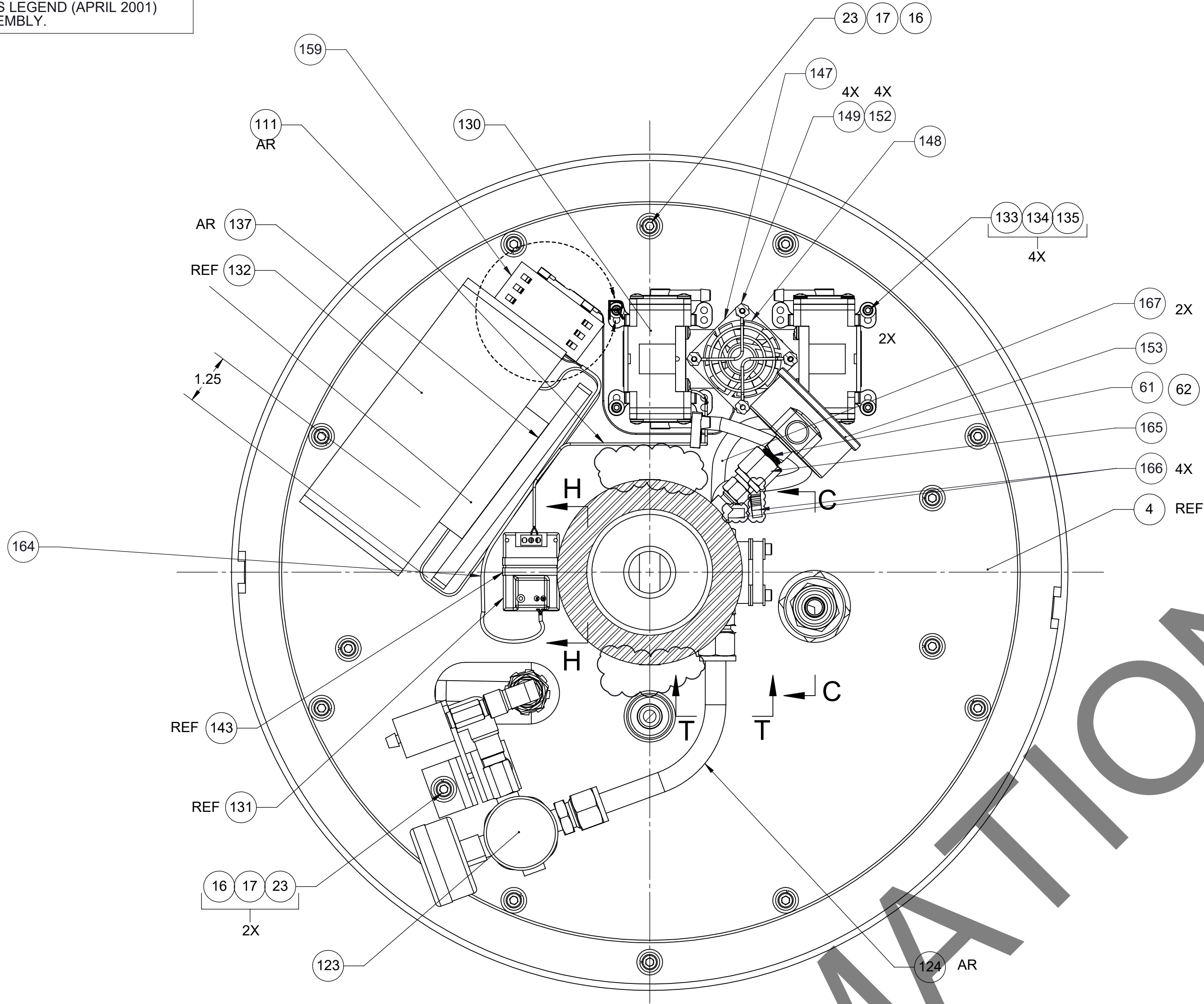


**VIEW B**  
ROTATED 90° CW

REV  
04

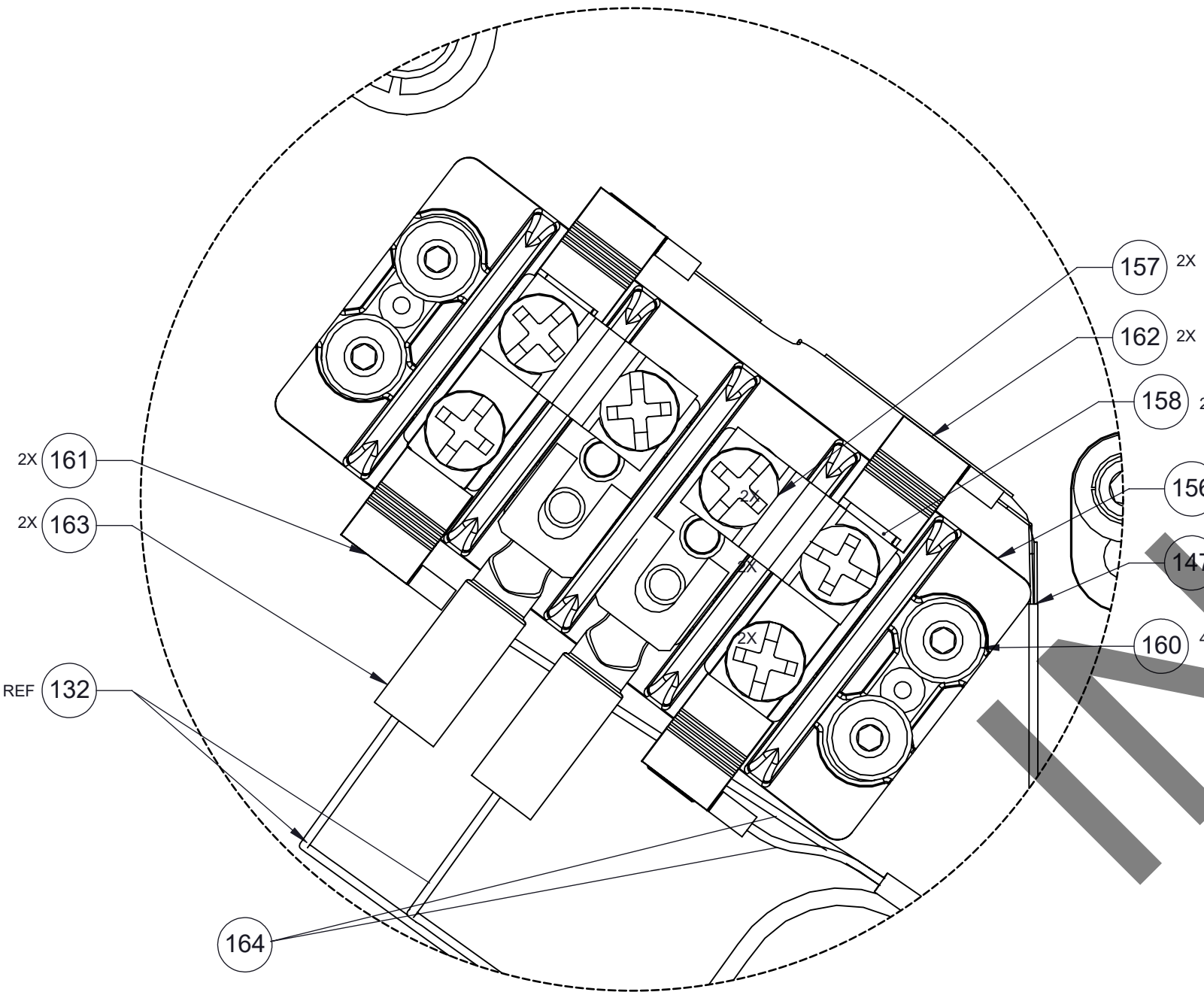


"PROPRIETARY DATA" USE OR DISCLOSURE IS SUBJECT TO THE RESTRICTIONS IN THE LIMITED RIGHTS LEGEND (APRIL 2001) LOCATED ON SHEET 001 OF THIS ASSEMBLY.



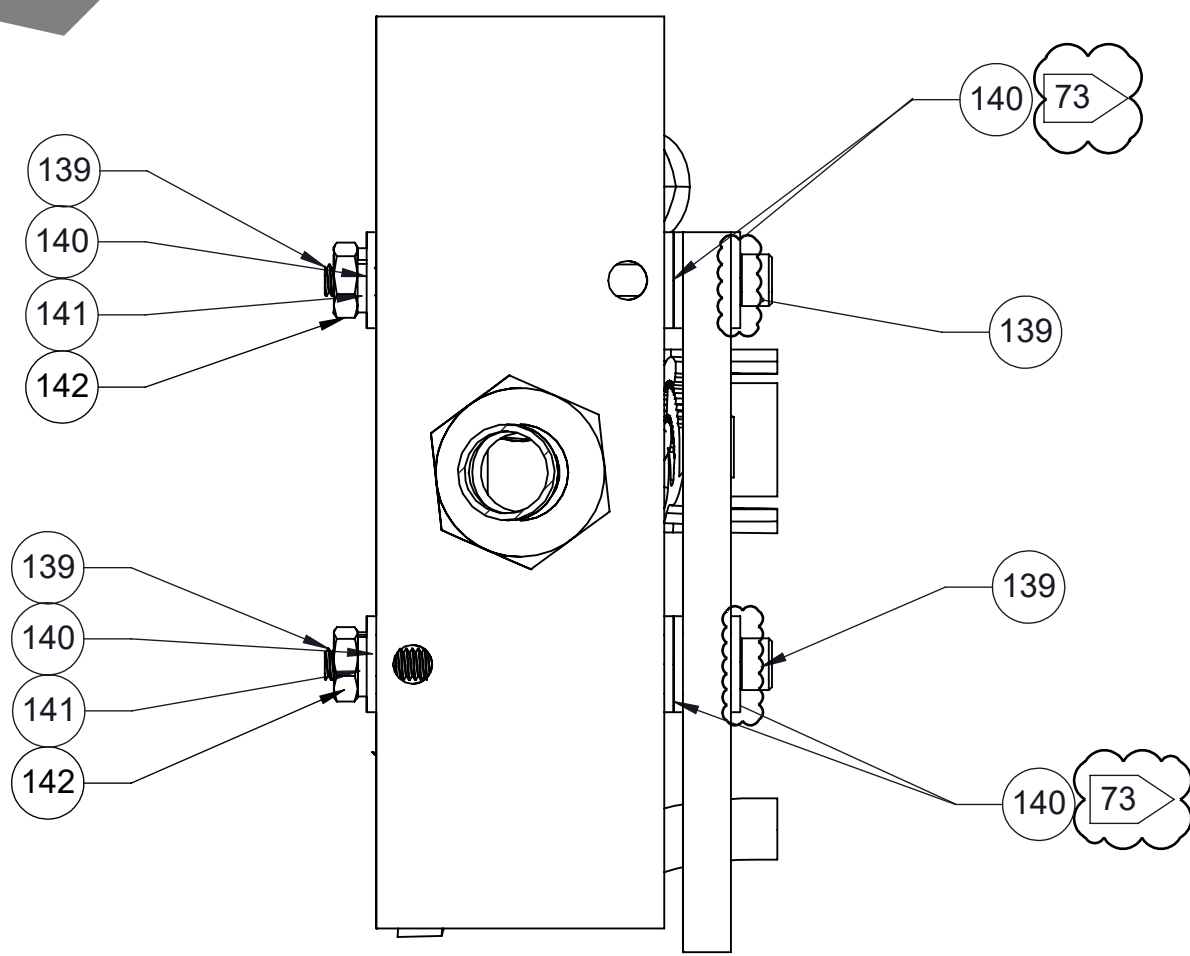
SECTION D-D  
ROTATED 90°CCW  
FROM SH 003  
SCALE: 1:4

67



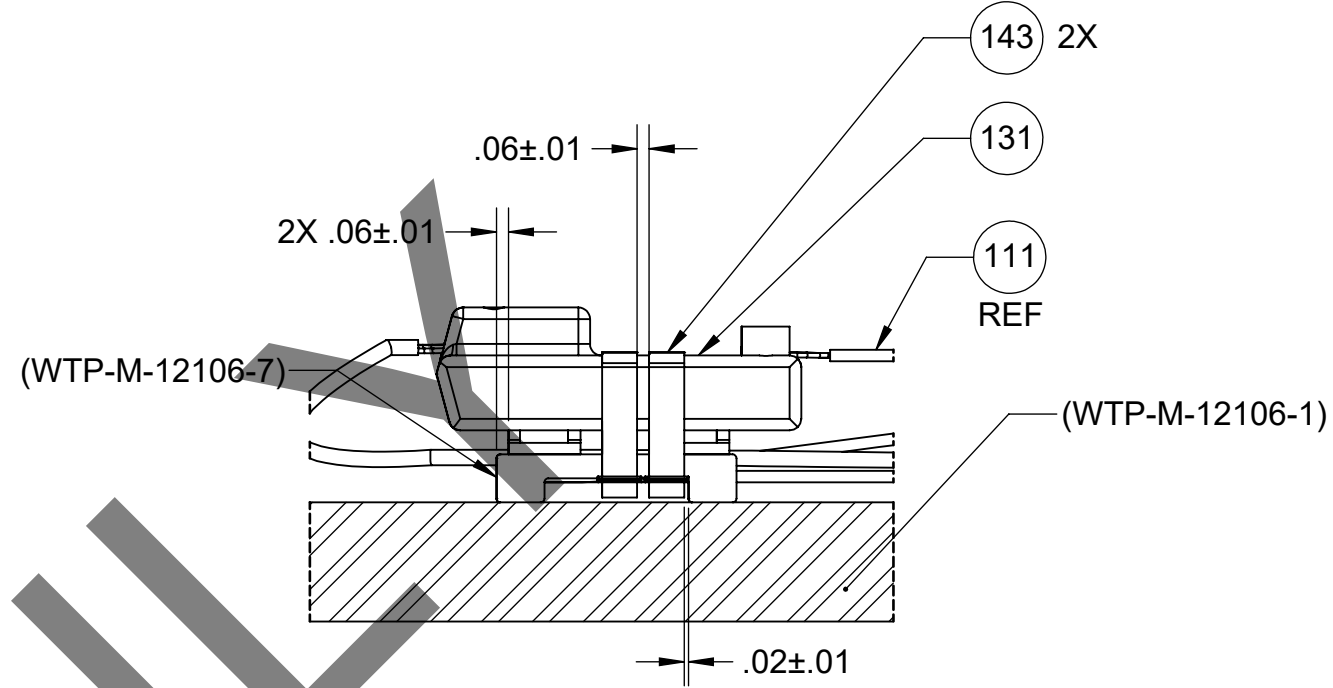
DETAIL R

SCALE: \_2/1  
ITEMS 132 & 159 REMOVED

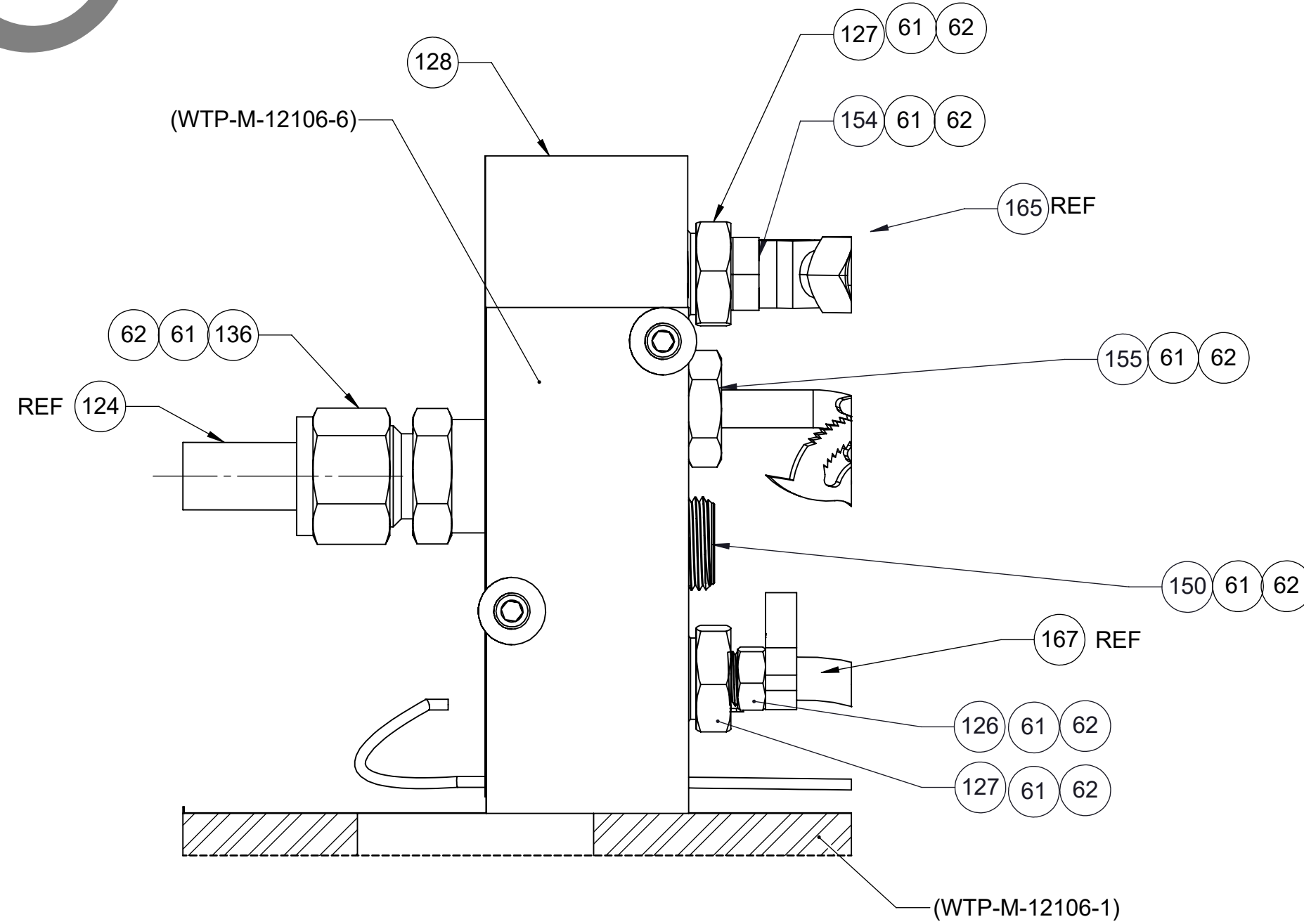


SECTION T-T  
ROTATED 90° CW FROM VIEW C-C

SCALE: \_1/1



VIEW H-H  
ROTATED 90°CW  
ITEM WTP-M-12106-8 AND 133 REMOVED FOR CLARITY  
SCALE: 1:1



VIEW C-C  
ROTATED 90°CW  
ITEM 4 & 144 REMOVED FOR CLARITY  
SCALE: 1:1

CHANGE DOCUMENTS INCORPORATED BY REFERENCE:  
REVISION 0-8: NONE

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
8	ADDED FLAG NOTE 73 IN SECTION T-T.	IK	DLM	GKG	JKS	8/3/2022
7	UPDATED TO REMOVE CCB PINTLE CLAMP. REFER TO 24590-QL-PMA-MEEM-00084. INCORPORATED 24590-WTP-SDDR-ML-22-00024	IK	DLM	GKG	JKS	7/26/2022
1 - 6	SEE PREVIOUS REVISIONS FOR REVISION HISTORY	---	---	---	---	---
0	ISSUED FOR CONSTRUCTION	TGS	DLM	LCL	CER	3/6/2019

CM

QUALITY DESIGNATOR

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	20
BY	TOMMY SPARKS
DATE	2/21/2019
CHECKER	DICK MCGREW
DATE	2/28/2019
REVIEWER	LANCE LEWIS
DATE	3/4/2019
APPROVER	CARRIE ROBERTS
DATE	3/6/2019

CONTENT APPLICABLE TO ALARA? ☒ YES ☐ NO  
ADR NO. 24590-LAW-ADR-ML-14-0001 REV: 0



RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No: 24590-QL-HC4-W000-00011

LAW SPARE MELTER 1  
BUBBLER ASSEMBLY  
(WTP-M-12100)

SCALE:  
SHOWN

24590-LAW-MX-LMP-01057004

REV  
08



REV  
01

LAST SAVED BY: ijkemp  
FILE NAME: 24590-law-mx-lmp-01057005\_  
DATE: 8/2/2024 10:42:00 AM





LIMITED RIGHTS LEGEND (APRIL 2001)

THIS TECHNICAL DATA CONTAINS "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" FURNISHED UNDER CONTRACT NO. DE-AC27-01RV14136 WITH THE U.S. DEPARTMENT OF ENERGY WHICH MAY BE DUPLICATED AND USED BY THE GOVERNMENT WITH THE EXPRESS LIMITATIONS THAT THE "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" MAY NOT BE DISCLOSED OUTSIDE OF THE GOVERNMENT WITHOUT PRIOR PERMISSION OF THE CONTRACTOR, EXCEPT THAT FURTHER DISCLOSURE OR USE MAY BE MADE SOLELY FOR THE FOLLOWING PURPOSES:

(A) USE (EXCEPT FOR MANUFACTURE) BY SUPPORT SERVICES CONTRACTORS WITHIN THE SCOPE OF THEIR CONTRACTS. THIS "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" MAY BE DISCLOSED FOR EVALUATION PURPOSES UNDER THE RESTRICTION THAT THE "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" BE RETAINED IN CONFIDENCE AND NOT BE FURTHER DISCLOSED;

(B) THIS "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" MAY BE DISCLOSED TO OTHER CONTRACTORS OR SUBCONTRACTORS PARTICIPATING IN THE GOVERNMENT'S FOLLOW-ON PILOT MELTER PROGRAM AT THE COLUMBIA SITE IN COLUMBIA, MARYLAND, AND FOR THE DESIGN, CONSTRUCTION, AND OPERATION OF THE WASTE TREATMENT AND IMMOBILIZATION PLANT (WTP), OR FOR THE TREATMENT OF HANFORD TANK WASTE, FOR INFORMATION OR USE IN CONNECTION WITH THE WORK PERFORMED UNDER THEIR CONTRACTS OR SUBCONTRACTS AND UNDER THE RESTRICTION THAT THE "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" BE RETAINED IN CONFIDENCE AND NOT BE FURTHER DISCLOSED;

(C) THIS "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" MAY BE USED BY THE GOVERNMENT OR OTHERS ON ITS BEHALF FOR EMERGENCY REPAIR OR OVERHAUL WORK UNDER THE RESTRICTED USE THAT THE "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" BE RETAINED IN CONFIDENCE AND NOT BE FURTHER DISCLOSED; OR

(D) DOE MAY MAKE THIS "LIMITED RIGHTS DATA" WHICH MAY ALSO BE MARKED AS "PROPRIETARY DATA" AVAILABLE TO GOVERNMENTAL DEPARTMENTS AND AGENCIES IN A MANNER THAT PROVIDES FOR THE PROTECTION OF PROPRIETARY DATA TO ENABLE DOE, OR ANY CONTRACTOR ACTING ON ITS BEHALF TO OBTAIN NECESSARY PERMITS AND LICENSES.

LIMITED RIGHTS DATA OR PROPRIETARY DATA SHALL MEAN TECHNICAL DATA WHICH EMBODY TRADE SECRETS DEVELOPED AT PRIVATE EXPENSE, SUCH AS DESIGN PROCESSES OR TECHNIQUES, CHEMICAL COMPOSITION OF MATERIALS, OR MANUFACTURING METHODS, PROCESSES, OR TREATMENTS, INCLUDING MINOR MODIFICATIONS THEREOF, PROVIDED THAT SUCH DATA: (I) ARE NOT GENERALLY KNOWN OR AVAILABLE FROM OTHER SOURCES WITHOUT OBLIGATION CONCERNING THEIR CONFIDENTIALITY; (II) HAVE NOT BEEN MADE AVAILABLE BY THE OWNER TO OTHERS WITHOUT OBLIGATION CONCERNING THEIR CONFIDENTIALITY; AND (III) ARE NOT ALREADY AVAILABLE TO THE GOVERNMENT WITHOUT OBLIGATION CONCERNING THEIR CONFIDENTIALITY.

THIS LEGEND SHALL BE MARKED ON ANY REPRODUCTION OF THIS DATA IN WHOLE OR IN PART, AND SUPERSEDES ANY EARLIER LEGEND. EACH PAGE CONTAINING DATA ASSERTED TO BE LIMITED RIGHTS DATA OR PROPRIETARY DATA SHALL BE IDENTIFIED ACCORDINGLY AND THE COVER SHEET OF EACH DOCUMENT CONTAINING SUCH PROTECTABLE DATA SHALL BE MARKED WITH THE LEGEND SET FORTH ABOVE.

NOTES:

- ALL DIMENSIONS, TOLERANCES, LIMITS OF SIZE, FORM, LOCATION, AND RELATED TERMINOLOGY AND SYMBOLS SHALL BE INTERPRETED IN ACCORDANCE WITH ASME Y14.5M-1994.
- FOR FABRICATION AND MANUFACTURING SEE PROCUREMENT SPECIFICATION 24590-LAW-3PS-LMP-T0010.
- REMOVE ALL BURRS AND SHARP EDGES.
- NOT USED.
- WELD JOINT SYMBOLS SHALL BE INTERPRETED IN ACCORDANCE WITH AWS A2.4 AND AWS A3.0.
- ALL TRACES OF SULPHURIZED AND CHLORINATED METAL WORKING FLUIDS USED DURING THE FABRICATION PROCESS SHALL BE REMOVED FROM THE PARTS SURFACE USING A CLEANING PRODUCT COMPATIBLE WITH THE PART.
- ALL INCONEL SHALL BE PROTECTED FROM CARBON STEEL CORROSION. ANY METAL SURFACE THAT COMES IN CONTACT WITH INCONEL DURING FABRICATION SHALL BE STAINLESS STEEL.
- A .50 INCH MINIMUM DIAMETER DOWEL MUST BE ABLE TO PASS WELDS INSIDE BOTH LEGS.
- NOT USED.
- NOT USED.
- ITEM 7 (SLEEVE), MUST FIT OVER SUPPORT TUBE, LOWER (PART OF ITEM 9, WTP-M-12107 ITEM 1), OUT OF ROUNDNESS THAT DOES NOT IMPAIR THIS FIT IS ACCEPTABLE.
- NOT USED.
- INCONEL MA-758 CAN NOT BE SUCCESSFULLY TESTED USING A LIQUID PENETRANT TEST. IN-PROCESS VISUAL EXAMINATION SHALL BE USED TO INSPECT EACH WELD LAYER PERFORMED ON INCONEL MA-758.
- 17. NOT USED.
- USE THE LOWEST REASONABLE TEMPERATURE FOR WELDING INCONEL MA-758.

19. ADDED TOLERANCE TO DIMENSIONS IN ZONE E4 & D4. REFER TO 24590-QL-POB-MEEM-00001-RF1-21-00012

A

A

SEE SHEET 002

10 2X

2X 8

2X

7 2X

11

2X 98.68 ± .19

36.10 ± .06

9

DRAWING INDEX		
SH	DOCUMENT NO	TITLE
001	24590-LAW-MX-LMP-01303001	LAW SPARE MELTER 1 BUBBLER PIPE ASSEMBLY (WTP-M-12103)
002	24590-LAW-MX-LMP-01303002	LAW SPARE MELTER 1 BUBBLER PIPE ASSEMBLY (WTP-M-12103)

2		WTP-M-12108-2	SUPPORT TUBE UPPER		10
1		WTP-M-12107-1	BUBBLER PIPE		9
			NOT USED		8
2		WTP-M-12108-1	SLEEVE		7
			NOT USED		1 - 6
QTY REQD	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE	MATERIAL SPECIFICATION	ITEM NO
PARTS LIST					

CHANGE DOCUMENTS INCORPORATED BY REFERENCE:  
NONE

2	SEE NOTE 19	IK	DLM	JLB	SC	5/28/2021
1	CORRECT NOTE 13 (REF 24590-QL-POB-MEEM-00001-RF1-20-00163)	DLM	JLB	SC	JKS	12/2/2020
0	ISSUED FOR CONSTRUCTION	TGS	DLM	LCL	CER	3/6/2019
REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE

CM

QUALITY DESIGNATOR

REVISION HISTORY

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	20



RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No: 24590-101-TSA-W000-0010

LAW SPARE MELTER 1  
BUBBLER PIPE ASSEMBLY  
(WTP-M-12103)

SCALE:  
1:2

24590-LAW-MX-LMP-01303001

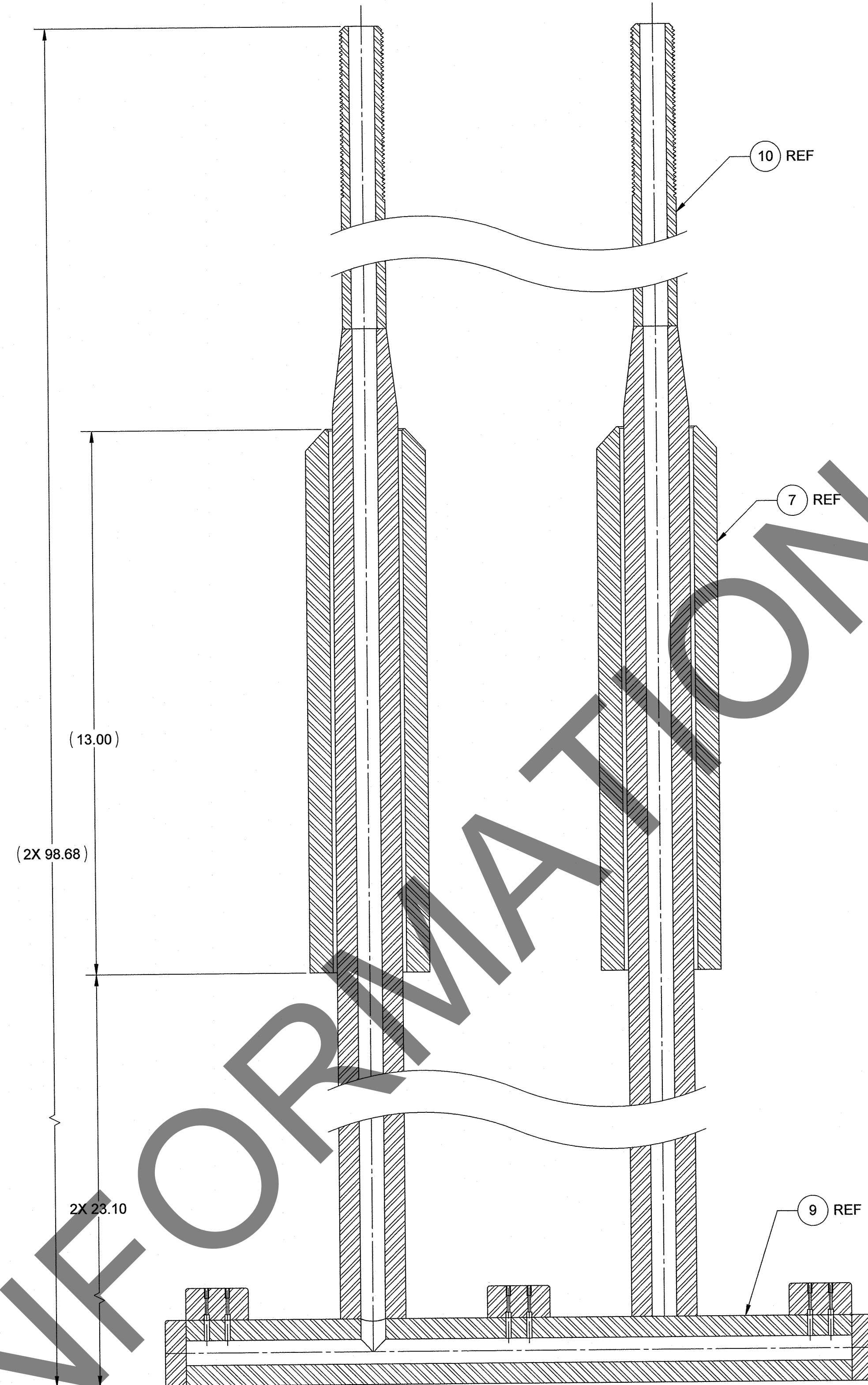
REV  
2

WTP-M-12100-1		ORIGINATOR T SPARKS 2/25/2019
NEXT ASSY	USED ON	CHECKER D MCGREW 2/28/2019
APPLICATION		REVIEWER L LEWIS 3/4/2019
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES, TOLERANCES ARE: DECIMALS X ± .1 XX ± .06 XXX ± .005 DO NOT SCALE DRAWING		APPROVER C ROBERTS 3/6/2019
SUPPLIER DWG NO. WTP-M-12103	SH 1	CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ADR NO. 24590-LAW-ADR-ML-14-0001 REV: 0

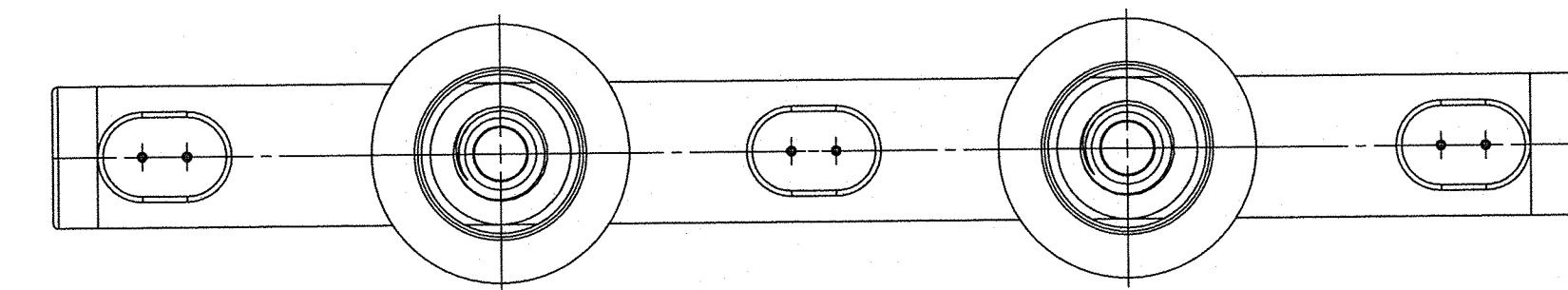
'D' SIZE - 34x22  
COMPUTER GENERATED - MANUAL  
DESIGN CHANGES NOT PERMITTED



"PROPRIETARY DATA" USE OR DISCLOSURE IS SUBJECT TO THE  
RESTRICTIONS IN THE LIMITED RIGHTS LEGEND (APRIL 2001)  
LOCATED ON SHEET 001 OF THIS ASSEMBLY.



SECTION B-B

VIEW A-A  
FROM SHEET 001

CM

QUALITY DESIGNATOR

ISSUED BY

REV

ISSUE STAMP

BY

DATE

ORIGINATOR

CHECKER

REVIEWER

APPROVER

CONTENT APPLICABLE TO ALARA?

ADR NO. 24590-LAW-ADR-ML-14-0001

REV: 0

ISSUED FOR CONSTRUCTION

DESCRIPTION

ORG

CHKD

RWVD

APVD

DATE

REVISION HISTORY

PROJECT No. 24590

SITE HANFORD

AREA 200E

BUILDING No. 20

RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

WTP SUBCONTRACT No: 24590-101-TSA-W000-0010

LAW SPARE MELTER 1  
BUBBLER PIPE ASSEMBLY  
(WTP-M-12103)

SCALE: 1:2

24590-LAW-MX-LMP-01303002

REV 0

LAST SAVED BY: jsparks

FILE NAME: 24590-Law-mx-lmp-01303002

DATE: 2/25/2019 10:09:09 AM

R11942360



H

G

F

E

D

C

B

A

H

G

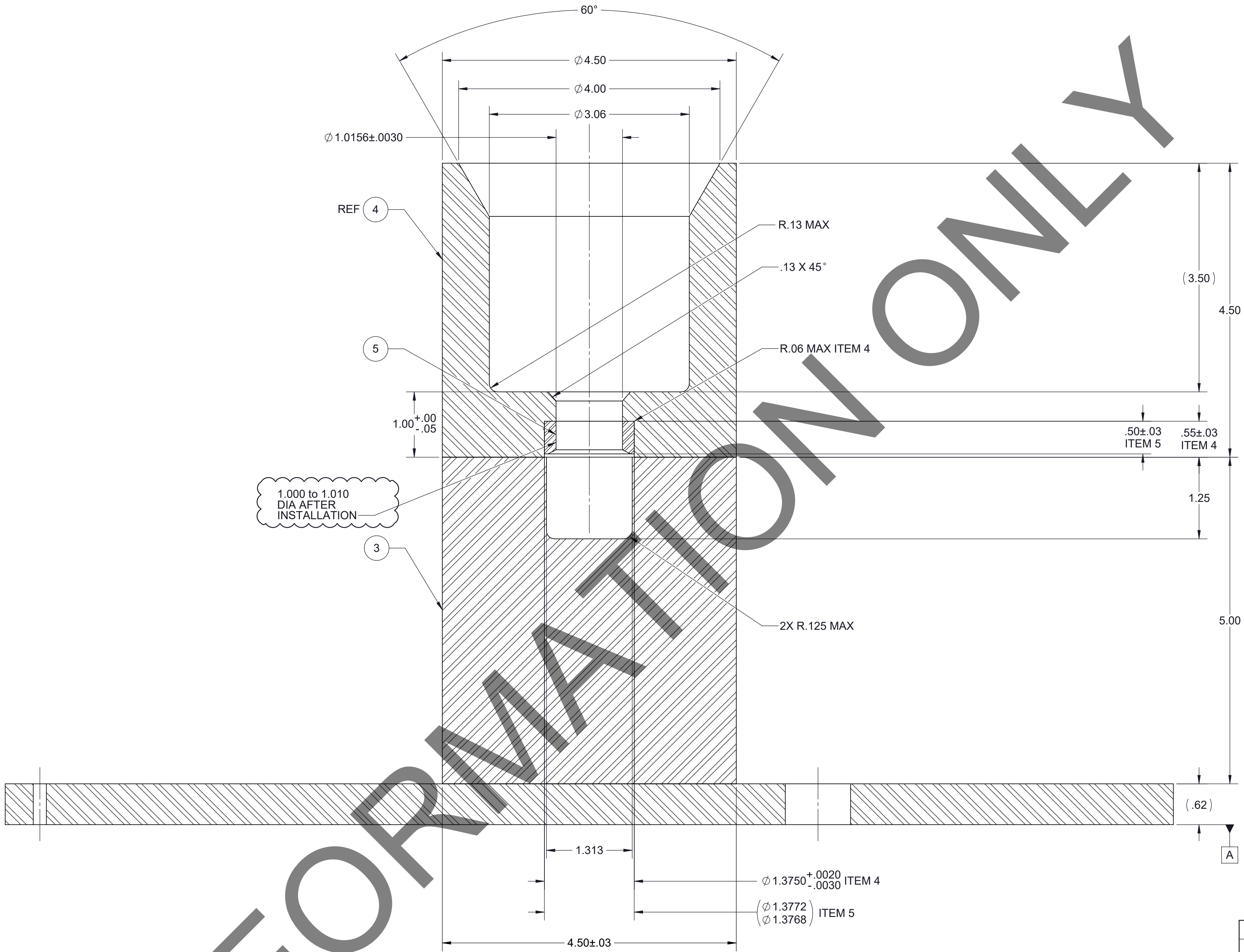
F

E

D

C

B



SECTION A-A  
FROM SH 001

DRAWING CHANGES INCORPORATED BY REFERENCE:  
NONE

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
1	ADD ITEM 5 INSTALLED DIA. DIMENSION	DLM	<i>gzb</i>	<i>JC</i>	<i>JS</i>	10/14/2020
0	ISSUED FOR CONSTRUCTION	TGS	DLM	LCL	CER	3/6/2019

CM

QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDC	PROJECT No.		24590
	SITE		HANFORD
	AREA		200E
	BUILDING No.		20
ISSUE STAMP			
	BY		DATE
ORIGINATOR	T SPARKS		2/25/2019
CHECKER	D MCGREW		2/28/2019
REVIEWER	L LEWIS		3/4/2019
APPROVER	C ROBERTS		3/6/2019

CONTENT APPLICABLE TO ALARA? ☒ YES ☐ NO  
ADR NO. 24590-LAW-ADR-ML-14-0001 REV: 0



RIVER PROTECTION PROJECT  
WASTE TREATMENT PLANT  
2435 STEVENS CENTER PLACE  
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136 WTP SUBCONTRACT No: 24590-101-TSA-W000-0010

LAW SPARE MELTER 1  
BUBBLER COVER  
(WTP-M-12106)

SCALE:  
1:1

24590-LAW-MX-LMP-01306002

REV  
1



