

# **ENCLOSURE 1**

## **ATTACHMENT C**

### **BFN Unit 2**

#### **ASME Section XI ISI Program Plan**

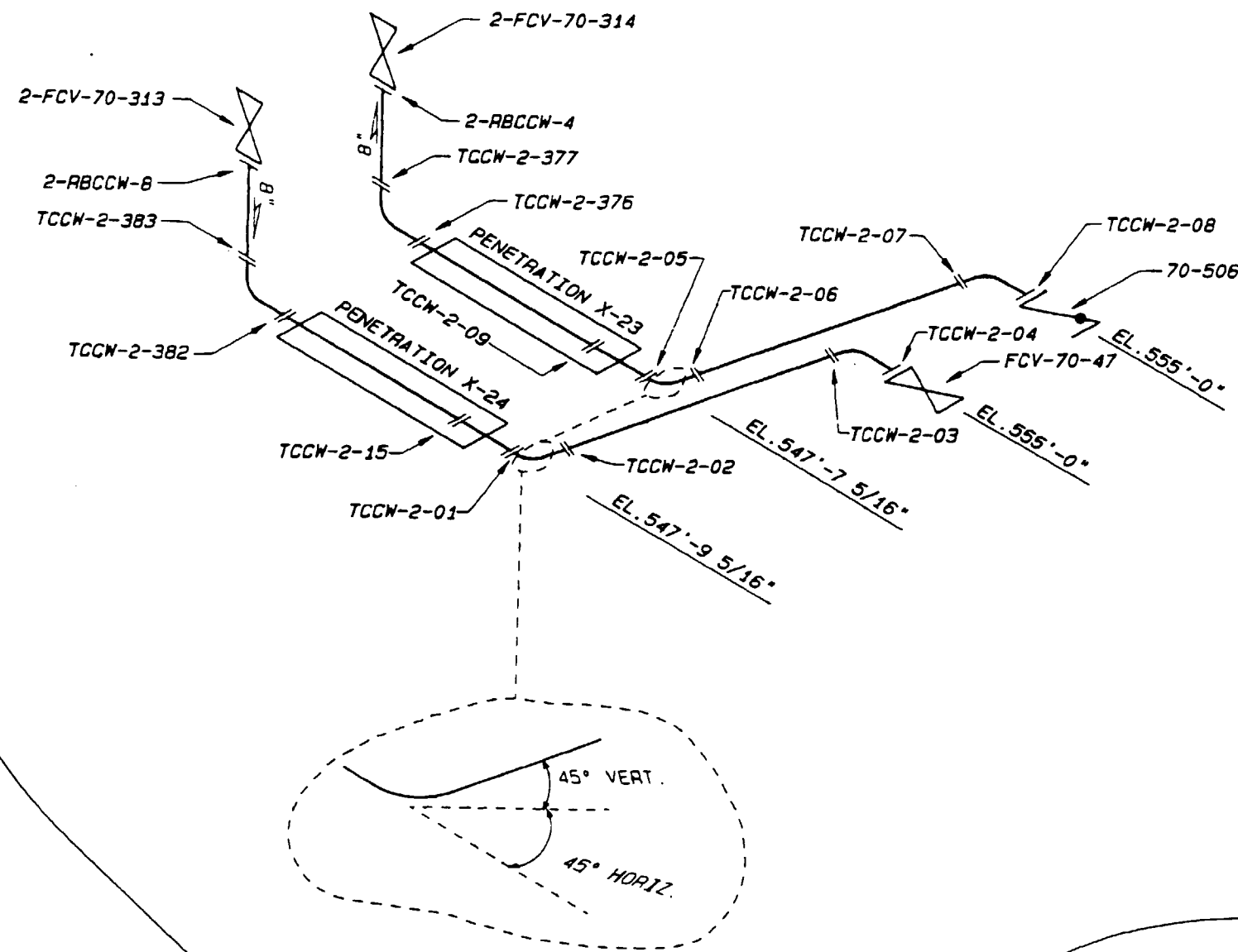
##### **Third Interval**

##### **Bolting, Nozzle, and Weld Drawings**

## **BFN Unit 2, Bolting Nozzle, and Weld Drawings**

2-ISI-0031-C, Sheet 1  
ISI-0040-C, Sheets 1 and 2  
2-ISI-0103-C, Sheets 1 and 2  
2-ISI-0128-C, Sheets 1 thru 3  
2-ISI-0129-C, Sheet 1  
2-ISI-0221-C, Sheets 1 and 2  
2-ISI-0222-C, Sheets 1 thru 4  
ISI-0266-C, Sheet 1  
2-ISI-0269-C, Sheet 1  
2-ISI-0270-C, Sheets 1 and 2  
2-ISI-0271-C, Sheet 1  
2-ISI-0272-C, Sheets 1 thru 3  
2-ISI-0273-C, Sheet 1  
2-ISI-0292-C, Sheets 1 and 2  
2-ISI-0312-B, Sheet 1  
ISI-0316-A, Sheet 1  
ISI-0343-A, Sheet 1  
ISI-0347-B, Sheet 1  
ISI-0351-A, Sheet 1  
2-ISI-0380-C, Sheet 1  
2-ISI-0383-C, Sheets 1 and 2  
2-ISI-0406-C, Sheet 1  
2-ISI-0407-C, Sheet 1  
ISI-0408-C, Sheet 1  
2-ISI-0410-C, Sheet 1  
ISI-0444-C, Sheet 1  
CHM-1090-A, Sheet 1  
CHM-1091-A, Sheet 1  
CHM-1094-A, Sheets 1 thru 7  
CHM-1095-A, Sheets 1 thru 5  
2-CHM-2046-C, Sheets 1 and 2  
2-MSG-0018-C, Sheets 1 thru 12  
2-MSG-0021-C, Sheets 1 and 2

REFERENCE DRAWINGS  
 47N2054 R1  
 GE73-D-160-01  
 ISI-0032-C (SH. 1) SUPPORT LOCATIONS  
 MATERIAL SPECIFICATIONS  
 8" X .322" NOM. WALL THK. SCH. 40 CS  
 ASME CC-2 (EQUIVALENT)



Information Only

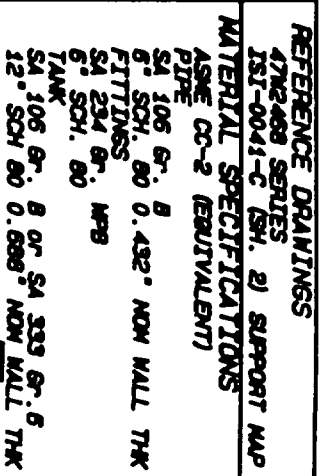
ALL A/D HISTORY RESEARCHED TO R000

000	CCO/ADMIN	RCP	RLD	HEH	
ISSUED TO CREATE CCD, SUPERSEDES A/D ISI-0031-C-1 R004 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000821 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT #2					
CLOSED COOLING WATER SYSTEM					
WELD LOCATIONS					
DRAWN: KEY	SUBMITTED	APPROVED	SCALE: NTS		
DATE: 10-23-81	DATE: ---	DATE: ---	SHEET 01 OF 01 SHEET(S)		
CHECKED: JTL		GLB	DRAWING NO.	REV	
DATE: ---			2-151-0031-C	000	
CAD MAINTAINED DRAWING				CCD	



Information Only

[illegible]



# Information On The

[illegible]

ISI-0105-C (SH. 1) SUPPORT MAP

1. PIPE SEGMENT LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:

(BASE WELD) -LS-D (DOWNSTREAM)  
(BASE WELD) -LS-U (UPSTREAM)



**CARBON STEEL**

16"	SCH.	30	0.375"	NOM.	WALL	THK.
14"	SCH.	30	0.375"	NOM.	WALL	THK.
12"	STD.		0.375"	NOM.	WALL	THK.
10"	SCH.	40	0.365"	NOM.	WALL	THK.

## STAINLESS STEEL

12" SCH. 80 0.688" NOM. WALL THK.

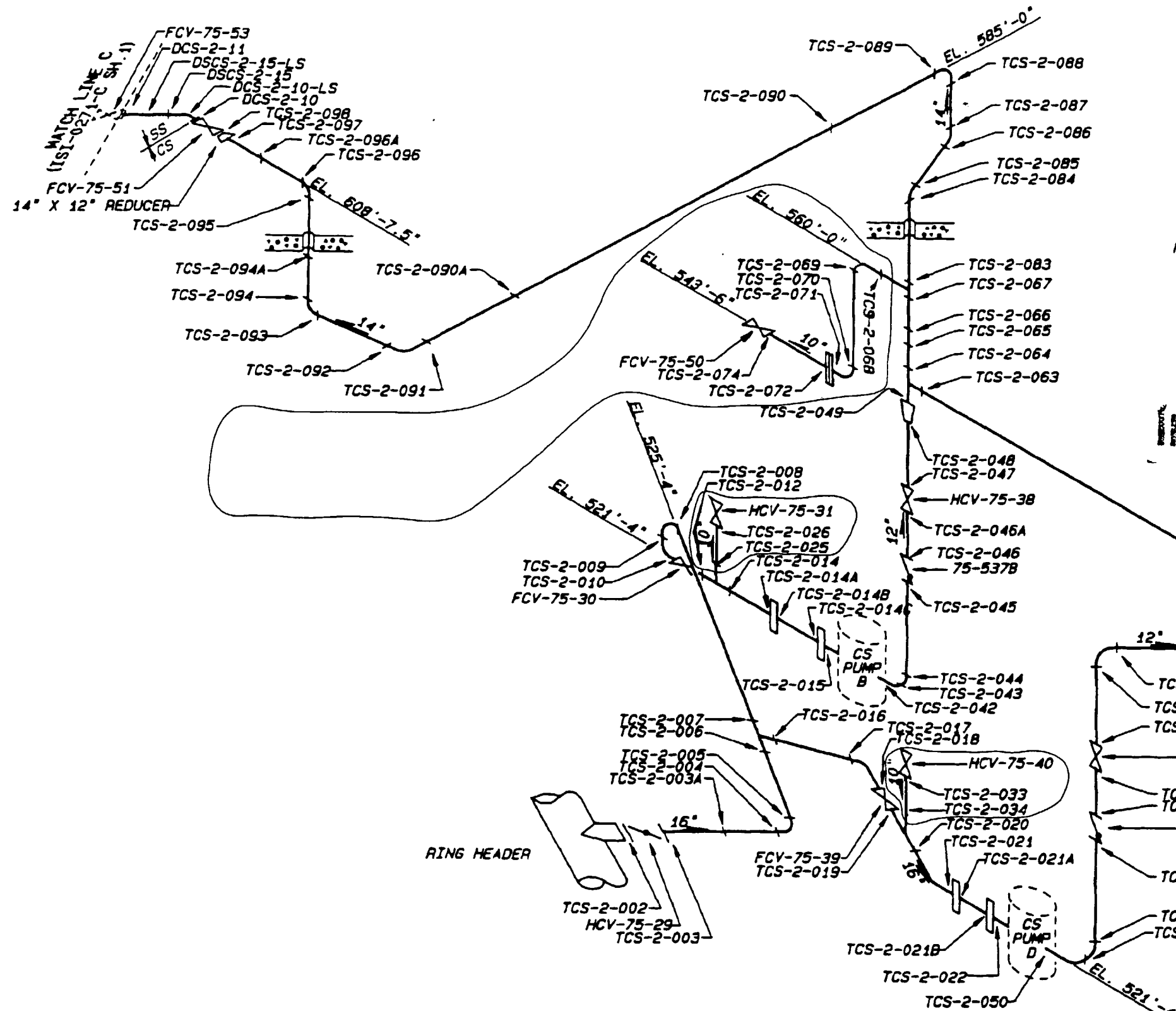
ASME CC-2 (EQUIVALENT)

# Information Only

001	ADMIN	RGP	RLD	HEH
REVISED PER RIMS MEMO R21 000821 001				
REV	CHANGE REF	PREPARER	CHECKER	APPROVED
DATE				
TENNESSEE VALLEY AUTHORITY				
BROWNS FERRY NUCLEAR PLANT				
UNIT 2				
CORE SPRAY SYSTEM				
WELD LOCATIONS				
DATE	REV	SUBMITTED	APPROVED	SCALE NTS
DATE	1-6-85	DATE	DATE	SHEET 1 OF 2 SHEETS
DATE	CHG 002 - JIL		GLB	DRAWING NO.
DATE				2-151-0103-C 001

CAD MAINTAINED DRAWING

CCD



REFERENCE DRAWINGS:  
 47W458 SERIES  
 47W335-15  
 ISI-0105-C (SH. 2) SUPPORT MAP

MATERIAL SPECIFICATIONS  
 ASME CC-2 (EQUIVALENT)  
 CARBON STEEL  
 16\"/>

NOTE:

1. PIPE SEGMENT LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:

(BASE WELD) -LS-D (DOWNSTREAM)  
 (BASE WELD) -LS-U (UPSTREAM)

Information Only

25  
25

000	CCD/ADMIN	RCP	RLD	HEH
ISSUED TO CREATE CCD, SUPERSEDES A/D ISI-0103-C-2 R006 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000821 001 (ADMINISTRATIVE REVISION)				
REV	CHANGE REF	PREPARER	CHECKER	APPROVED
TENNESSEE VALLEY AUTHORITY				
BROWNS FERRY NUCLEAR PLANT				
UNIT 2				
CORE SPRAY SYSTEM				
WELD LOCATIONS				
DRAWN BY	DATE	REVISION	DATE	REVISION
DATE 12-8-80	DATE	DATE	DATE	DATE
CHECKED BY	DATE	GLB	DATE	DATE
DATE	DATE	DATE	DATE	DATE
2-ISI-0103-C				000

ALL A/D HISTORY RESEARCHED TO R000

CAD MAINTAINED DRAWING

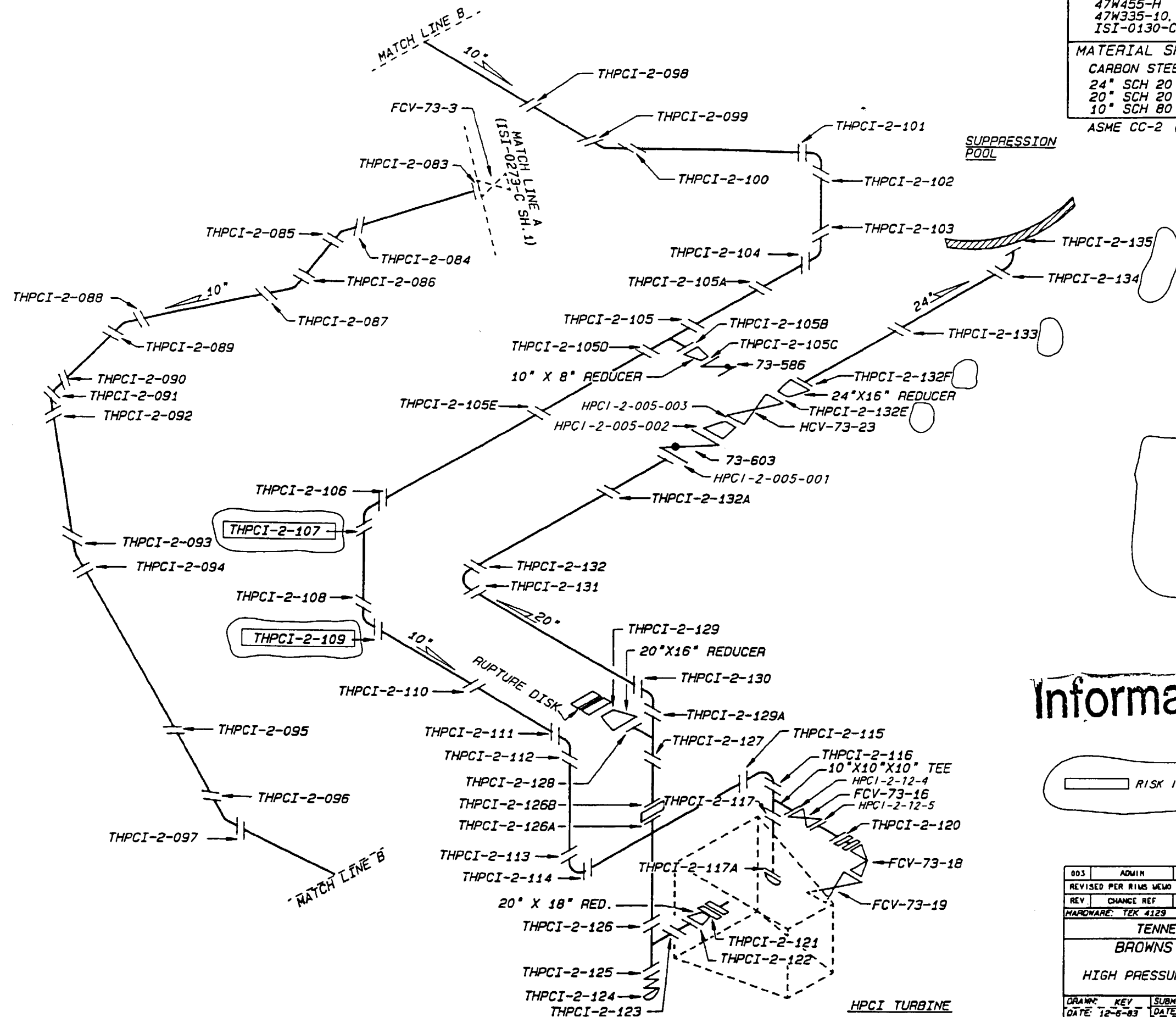
CCD

### MATERIAL SPECIFICATIONS

**CARBON STEEL**

24" SCH 20 (0.375" NOM WALL THK)  
20" SCH 20 (0.375" NOM WALL THK)  
10" SCH 80 (0.593" NOM WALL THK)

ASME CC-2 (EQUIVALENT)



# Information Only

☐ RISK INFORMED WELDS

003	ADMIN	ROL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
HARDWARE: TEK 4129		SOFTWARE: TECHNICAD		8" FLOPPY: 8F-8	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT # 2					
HIGH PRESSURE COOLANT INJECTION SYSTEM					
WELD LOCATIONS					
DRAWING KEY	SUBMITTED	APPROVED	SCALE: NYS		
DATE: 12-6-83	DATE: ---	DATE: ---	SHEET 01 OF 03 SHEET(S)		
CHECKED: JYL		GLB	DRAWING NO.		REV
DATE:			2-151-0128-C		003

CAD MAINTAINED DRAWING

CCD

ALL A/D HISTORY RESEARCHED AT R000

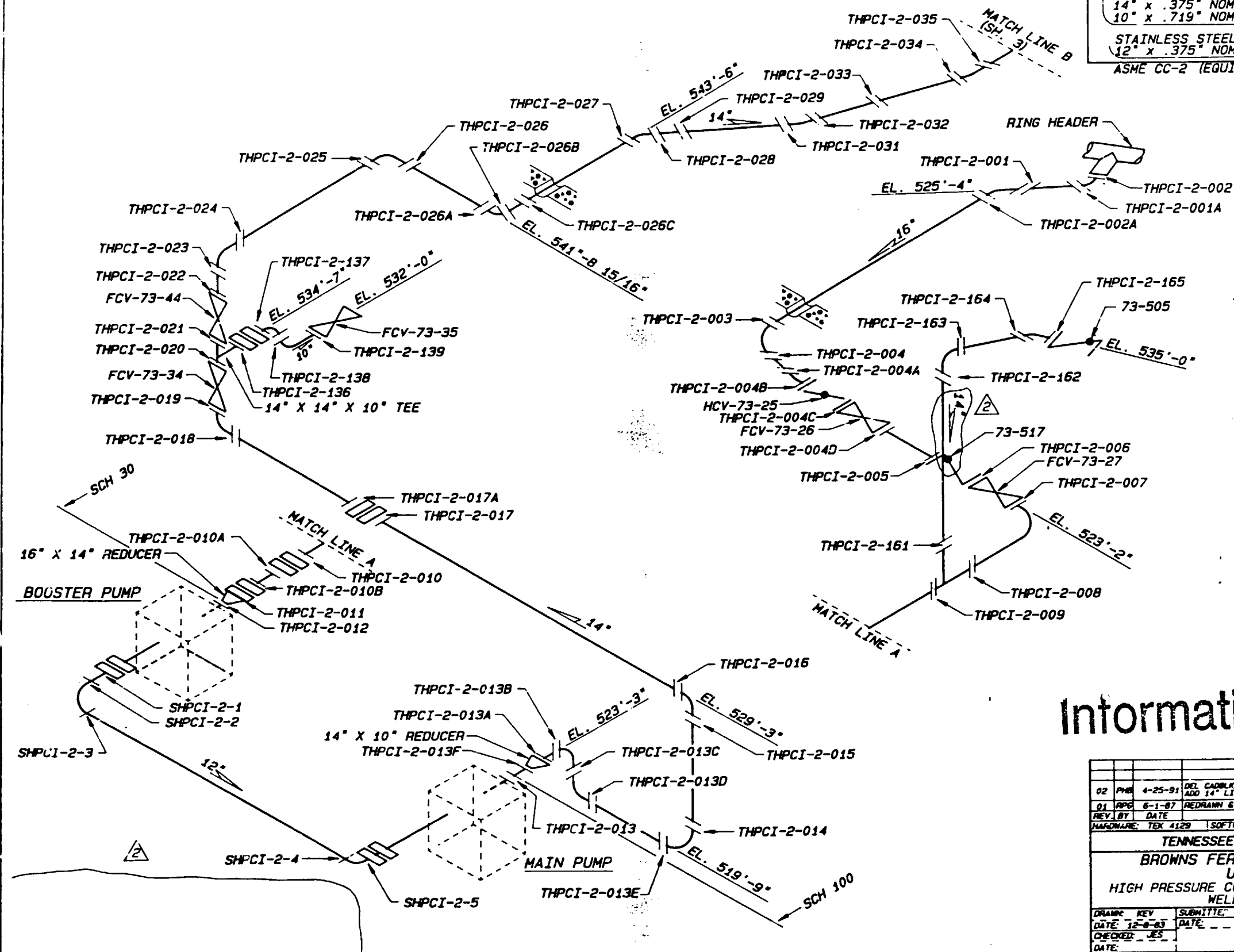


REFERENCE DRAWINGS  
 (47W335-9, 11)  
 ISI-0130-C (SH. 2) SUPPORT MAP

# MATERIAL SPECIFICATIONS

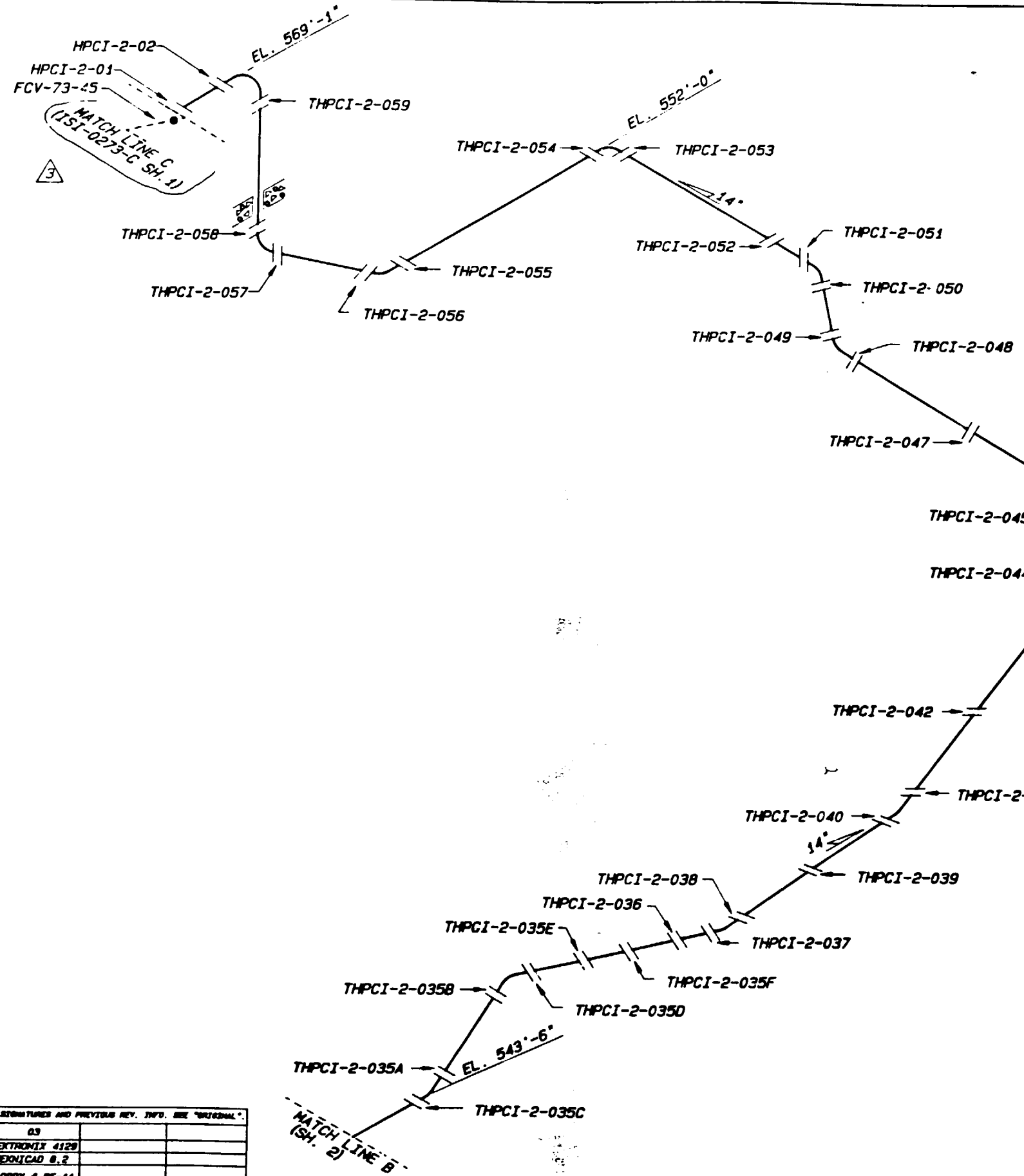
CARBON STEEL  
 16" x .375" NOM. WALL THK. SCH 30  
 14" x .938" NOM. WALL THK. SCH 100  
 14" x .375" NOM. WALL THK. SCH 30  
 10" x .719" NOM. WALL THK. SCH 100

STAINLESS STEEL  
 12" x .375" NOM. WALL THK. SCH 40S  
 ASME CC-2 (EQUIVALENT)



Information Only

02	PHB	4-25-91	DEL CADBLK, REV. REF. DIMS & NTL SPCS.	YES	NO
01	APC	6-1-87	ADD 14\" LINE SIZE	YES	NO
REV. BY	DATE	DESCRIPTION	CHK'D SUB	APP	
WARDWARE	TEX 4129	SOFTWARE: TECHNICAL	8\" FLOPPY	BF-11	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT # 2					
HIGH PRESSURE COOLANT INJECTION SYSTEM					
WELD LOCATIONS					
DRAWN	REV	SUBMITTE	APPROVED	SCALE	NYS
DATE	12-8-83	DATE	DATE	SHEET 02 OF 03 SHEET(S)	
CHECKED	JES		GLB	DRAWING NO.	REV
DATE				ISI-0128-C	02

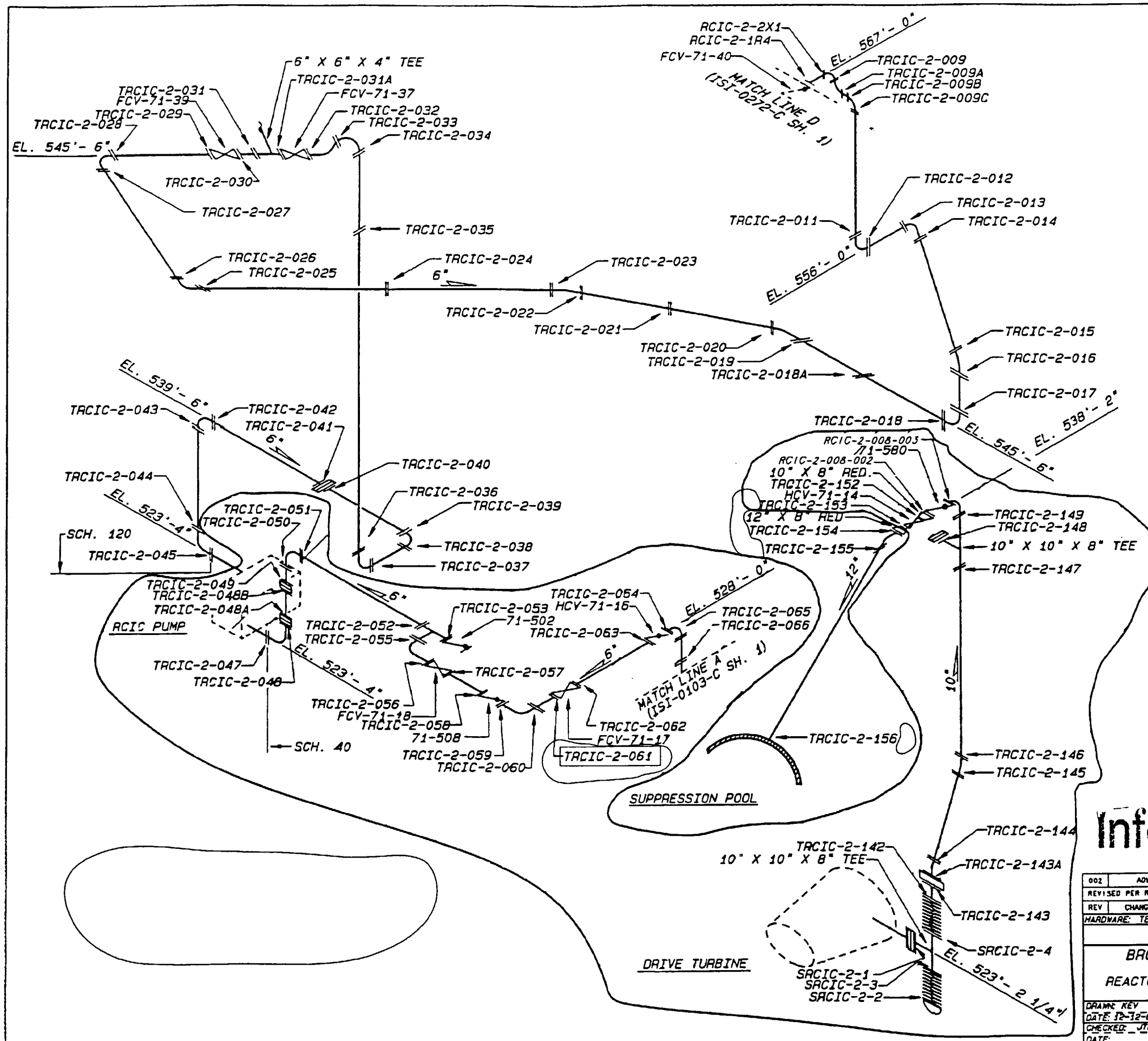


REFERENCE DRAWINGS	
47W335-9	11
ISI-0130-C (SH. 3) SUPPORT MAP	
MATERIAL SPECIFICATIONS	
CARBON STEEL	
(14" x .938" NOM. WALL THK. SCH 100)	
ASME CC-2 (EQUIVALENT)	

Information Only

FOR ORIGINAL SIGNATURES AND PREVIOUS REV. INFO. SEE "ORIGINAL"	
REV	03
HARDWARE	TEXTORIX 4129
SOFTWARE	TECHNICAL 8.2
FLOPPY	FLOPPY 8 BF-11
ON TAPE	

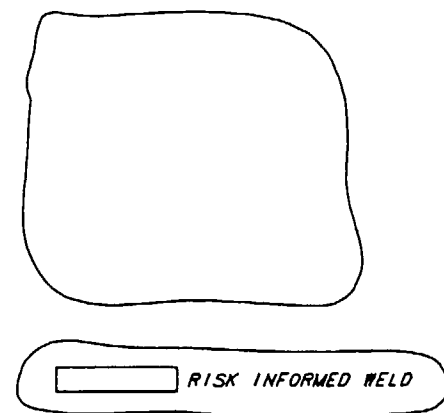
03	PHS	10-5-88	REVISED MATCH LINE C. REFERENCE 6				
02	PHS	6-16-87	MATERIAL SPECIFICATION				
01	JAA	7-3-86	REDRAWN & REVISED FOR PRISM				
00	JAA	7-3-86	ADD SPOOL PIECE				
REV. BY	DATE		DESCRIPTION	CHK'D	SUB	APP	
TENNESSEE VALLEY AUTHORITY							
BROWNS FERRY NUCLEAR PLANT							
UNIT # 2							
HIGH PRESSURE COOLANT INJECTION SYSTEM							
WELD LOCATIONS							
DRAWN: KEY	DATE	12-12-89	SUBMITTED	DATE	APPROVED	DATE	SCALE: NYS
CHECKED: X	DATE		X	DATE			SHEET 03 OF 03 SHEET(S)
DATE							DRAWING NO.
							ISI-0128-C
							03



REFERENCE DRAWINGS  
 47W335-16  
 47W335-17  
 ISI-0131-C (SH. 1) SUPPORTS

MATERIAL SPECIFICATIONS  
 CARBON STEEL

12\"/>
 10\"/>
 8\"/>
 6\"/>
 6\"/>
 ASME CC-2 (EQUIVALENT)



# Information Only

002	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
HARDWARE: TEK 4129		SOFTWARE: TEKNICAD		8" FLOPPY: BF-10	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
REACTOR CORE ISOLATION COOLING SYSTEM					
WELD LOCATIONS					
DRAWN: KEV	SUBMITTED	APPROVED	SCALE: NTS		
DATE: 12-12-83	DATE: --	DATE: --	SHEET 1 OF 1 SHEET (S)		
CHECKED: JTL	EDC	GLB	DRAWING NO.		REV
DATE:			2-151-0129-C		002
CAD MAINTAINED DRAWING			CCD		

ALL A/D HISTORY RESEARCHED AT R000

1. PIPE SEGMENTS CONTAINING TWO LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:

(BASE WELD NO.)-LS-1D (DOWNSTREAM)  
(BASE WELD NO.)-LS-2D (DOWNSTREAM)  
(BASE WELD NO.)-LS-1U (UPSTREAM)  
(BASE WELD NO.)-LS-2U (UPSTREAM)

THE -LS-1 SEAM WILL BE NUMERICALLY CLOSEST TO 0° ON THE PIPE, AND THE -LS-2 SEAM WILL BE NUMERICALLY FARTHERMOST FROM 0° ON THE PIPE. (e.g. -LS-1 AT 130°, AND -LS-2 AT 310°)

2. PIPE SEGMENTS CONTAINING ONLY ONE LONGITUDINAL SEAM WILL BE IDENTIFIED AS:

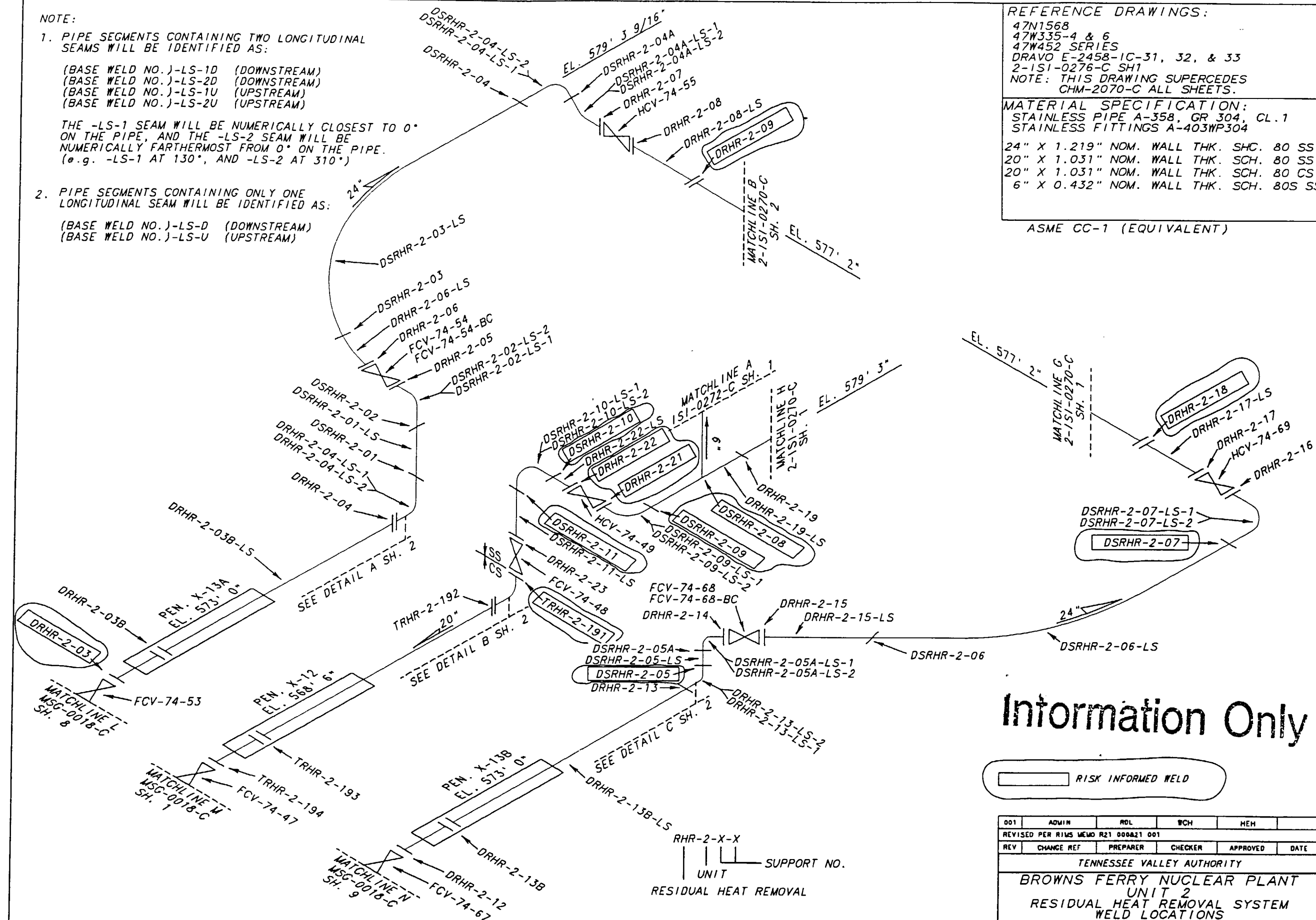
(BASE WELD NO.)-LS-D (DOWNSTREAM)  
(BASE WELD NO.)-LS-U (UPSTREAM)

47N1568  
47W335-4 & 6  
47W452 SERIES  
DRAVO E-2458-1C-31, 32, & 33  
2-1S1-0276-C SH1  
NOTE: THIS DRAWING SUPERCEDES  
CHM-2070-C ALL SHEETS.

MATERIAL SPECIFICATION:  
STAINLESS PIPE A-358, GR 304, CL. 1  
STAINLESS FITTINGS A-403WP304

24" X 1.219" NOM.	WALL THK.	SCH.	80 SS
20" X 1.031" NOM.	WALL THK.	SCH.	80 SS
20" X 1.031" NOM.	WALL THK.	SCH.	80 CS
6" X 0.432" NOM.	WALL THK.	SCH.	80S SS

ASME CC-1 (EQUIVALENT)



# Information Only

☐ RISK INFORMED WELD

001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000&21 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: RPG		DATE: 6-20-88		SCALE: NTS	
CHECKED: JES		APPROVED: GLB		SHEET 01 OF 02	
SUBMITTED: EDC				2-151-0221-C	

CAD MAINTAINED DRAWING

CCD

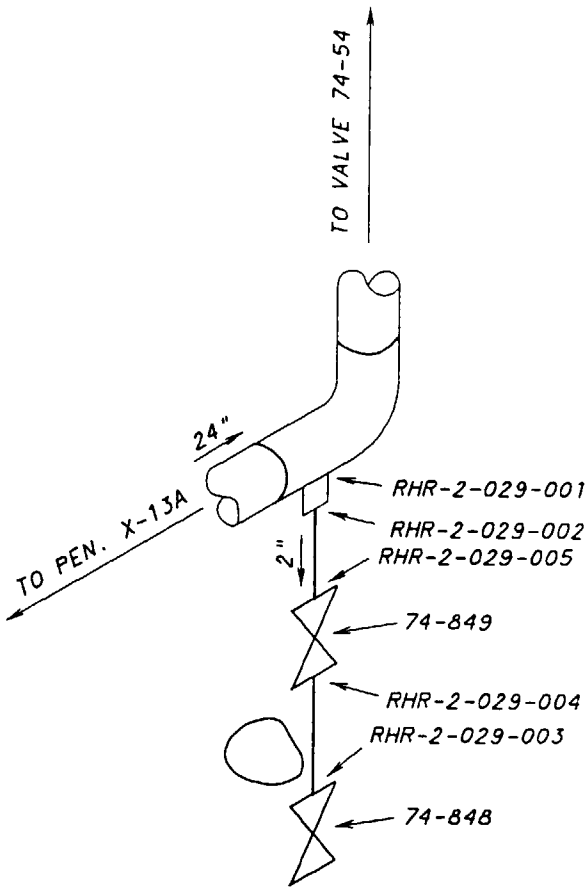
ALL A/D HISTORY RESEARCHED AT R000

REFERENCE DRAWINGS:  
RHR-2-029

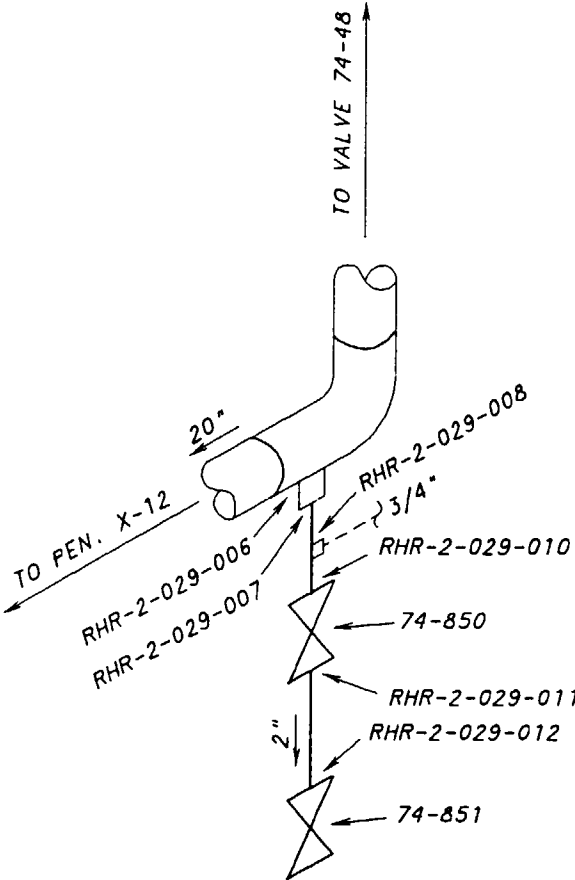
MATERIAL SPECIFICATION:

PIPE  
SA376 TP 304  
2" SCH. 80S  
FITTINGS  
SA182 F304  
2" HALF COUPLING  
VALVES  
SA182 F316  
848, 849  
SA351 GR CF8M OR CF3M  
850, 851, 852, 853

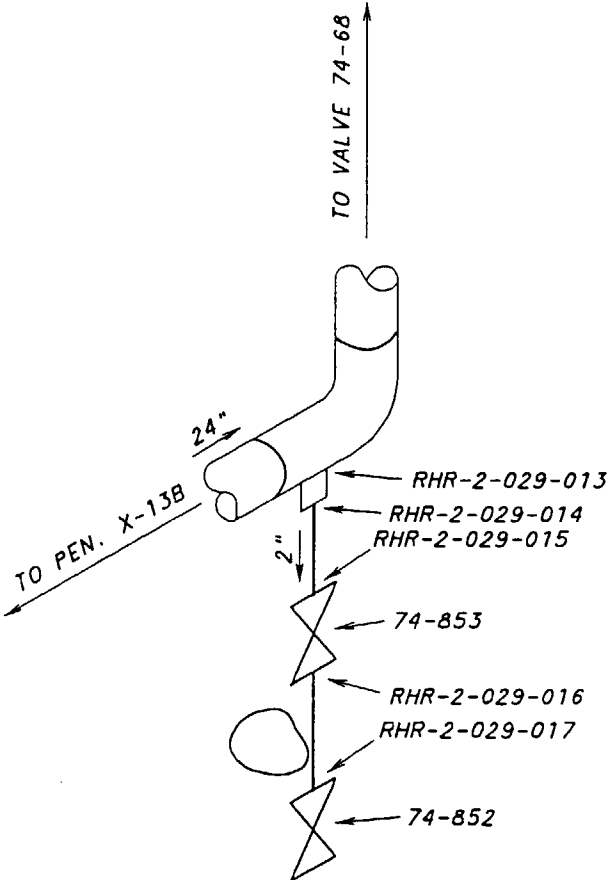
ASME CC-1 (EQUIVALENT)



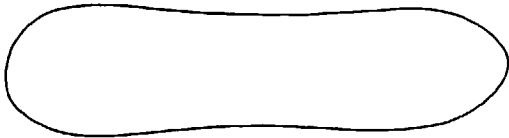
DETAIL A  
(SEE SH. 1 FOR LOCATION)



DETAIL B  
(SEE SH. 1 FOR LOCATION)



DETAIL C  
(SEE SH. 1 FOR LOCATION)



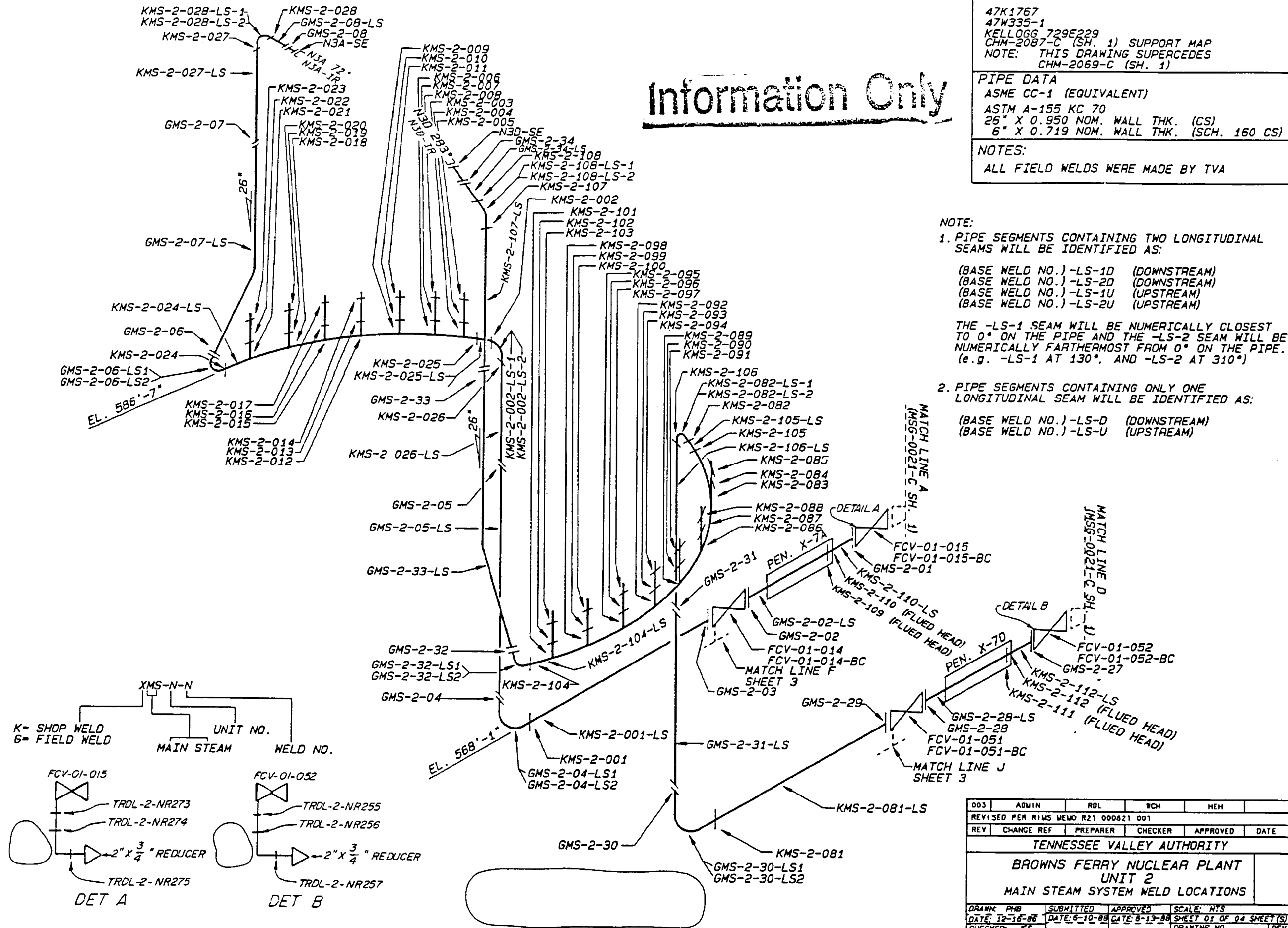
# Information Only

001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: PHB	DATE:	SCALE: NTS	CADAM/ISI/COMP		
CHECKED: JES	APPROVED:	SHEET 02 OF 02	REV		
SUBMITTED: JAA	RME	2-151-0221-C	001		

ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING

CCD



# Information Only

REFERENCE DRAWINGS:  
 47K1767  
 47W335-1  
 KELLOGG 729E229  
 CHM-2087-C (SH. 1) SUPPORT MAP  
 NOTE: THIS DRAWING SUPERCEDES  
 CHM-2069-C (SH. 1)

PIPE DATA  
 ASME CC-1 (EQUIVALENT)  
 ASTM A-155 KC 70  
 26" X 0.950 NOM. WALL THK. (CS)  
 6" X 0.719 NOM. WALL THK. (SCH. 160 CS)

NOTES:  
 ALL FIELD WELDS WERE MADE BY TVA

- NOTE:
- PIPE SEGMENTS CONTAINING TWO LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:  
 (BASE WELD NO.)-LS-1D (DOWNSTREAM)  
 (BASE WELD NO.)-LS-2D (DOWNSTREAM)  
 (BASE WELD NO.)-LS-1U (UPSTREAM)  
 (BASE WELD NO.)-LS-2U (UPSTREAM)  
 THE -LS-1 SEAM WILL BE NUMERICALLY CLOSEST TO 0° ON THE PIPE AND THE -LS-2 SEAM WILL BE NUMERICALLY FARTHEST FROM 0° ON THE PIPE. (e.g. -LS-1 AT 130°, AND -LS-2 AT 310°)
  - PIPE SEGMENTS CONTAINING ONLY ONE LONGITUDINAL SEAM WILL BE IDENTIFIED AS:  
 (BASE WELD NO.)-LS-D (DOWNSTREAM)  
 (BASE WELD NO.)-LS-U (UPSTREAM)

003	ADMIN	RDL	WCH	HEM	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
MAIN STEAM SYSTEM WELD LOCATIONS					
DRAWN: PHB	SUBMITTED	APPROVED	SCALE: NYS	SHEET 01 OF 04 SHEET(S)	
DATE: 12-16-88	DATE: 6-10-88	DATE: 6-13-88		DRAWING NO.	REV
CHECKED: JES	EDC	GLB		2-ISI-0222-C	003
DATE: 6-10-88					

ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING

CCD

# Information Only

## REFERENCE DRAWINGS:

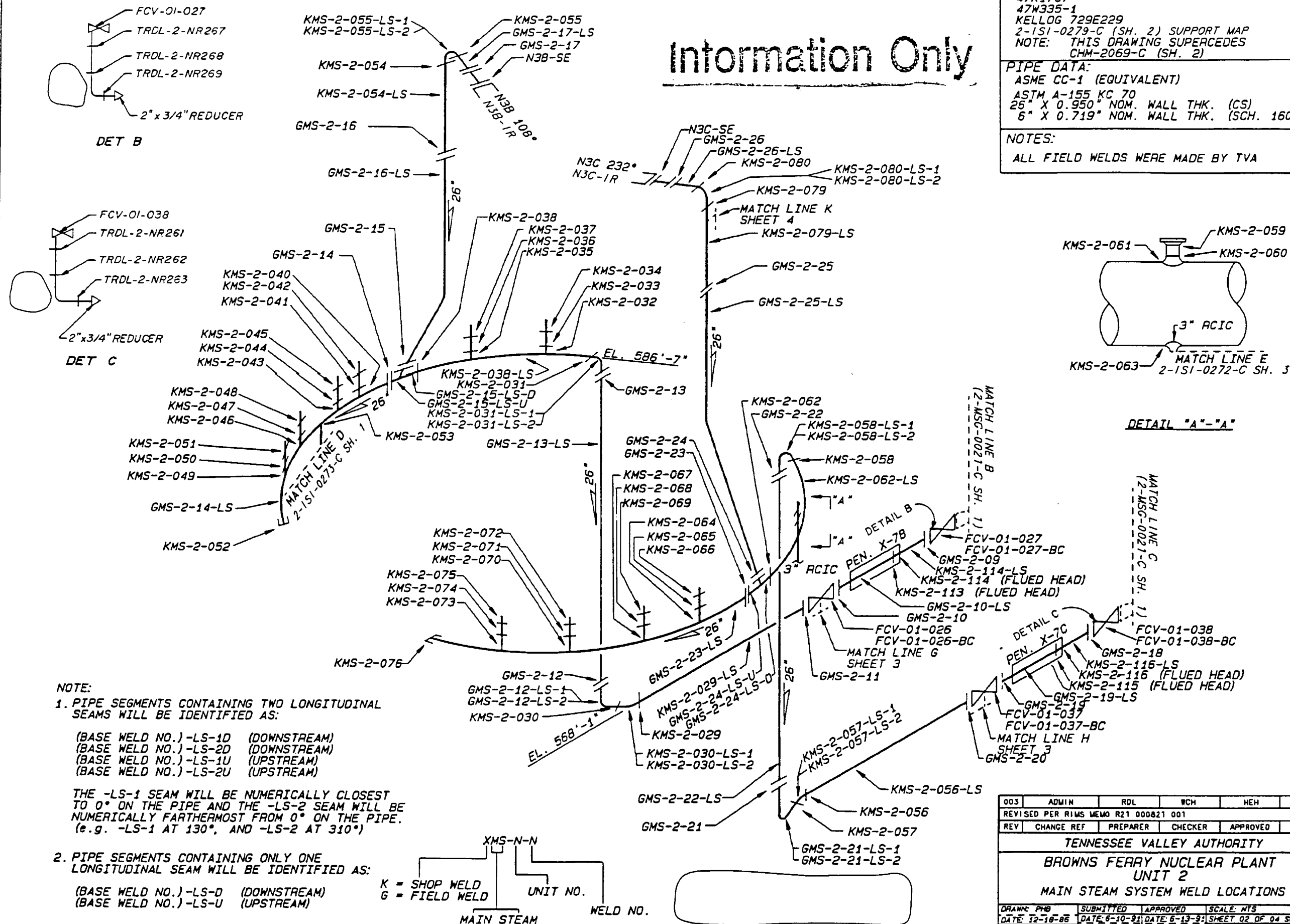
47K1767  
47W335-1  
KELLOG 729E229  
2-1SI-0279-C (SH. 2) SUPPORT MAP  
NOTE: THIS DRAWING SUPERCEDES  
CHM-2069-C (SH. 2)

## PIPE DATA:

ASME CC-1 (EQUIVALENT)  
ASTM A-155 KC 70  
26" X 0.950" NOM. WALL THK. (CS)  
6" X 0.719" NOM. WALL THK. (SCH. 160 CS)

## NOTES:

ALL FIELD WELDS WERE MADE BY TVA



## NOTE:

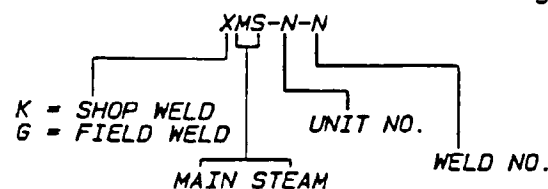
1. PIPE SEGMENTS CONTAINING TWO LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:

(BASE WELD NO.)-LS-1D (DOWNSTREAM)  
(BASE WELD NO.)-LS-2D (DOWNSTREAM)  
(BASE WELD NO.)-LS-1U (UPSTREAM)  
(BASE WELD NO.)-LS-2U (UPSTREAM)

THE -LS-1 SEAM WILL BE NUMERICALLY CLOSEST TO 0° ON THE PIPE AND THE -LS-2 SEAM WILL BE NUMERICALLY FARTHEST FROM 0° ON THE PIPE. (e.g. -LS-1 AT 130°, AND -LS-2 AT 310°)

2. PIPE SEGMENTS CONTAINING ONLY ONE LONGITUDINAL SEAM WILL BE IDENTIFIED AS:

(BASE WELD NO.)-LS-D (DOWNSTREAM)  
(BASE WELD NO.)-LS-U (UPSTREAM)

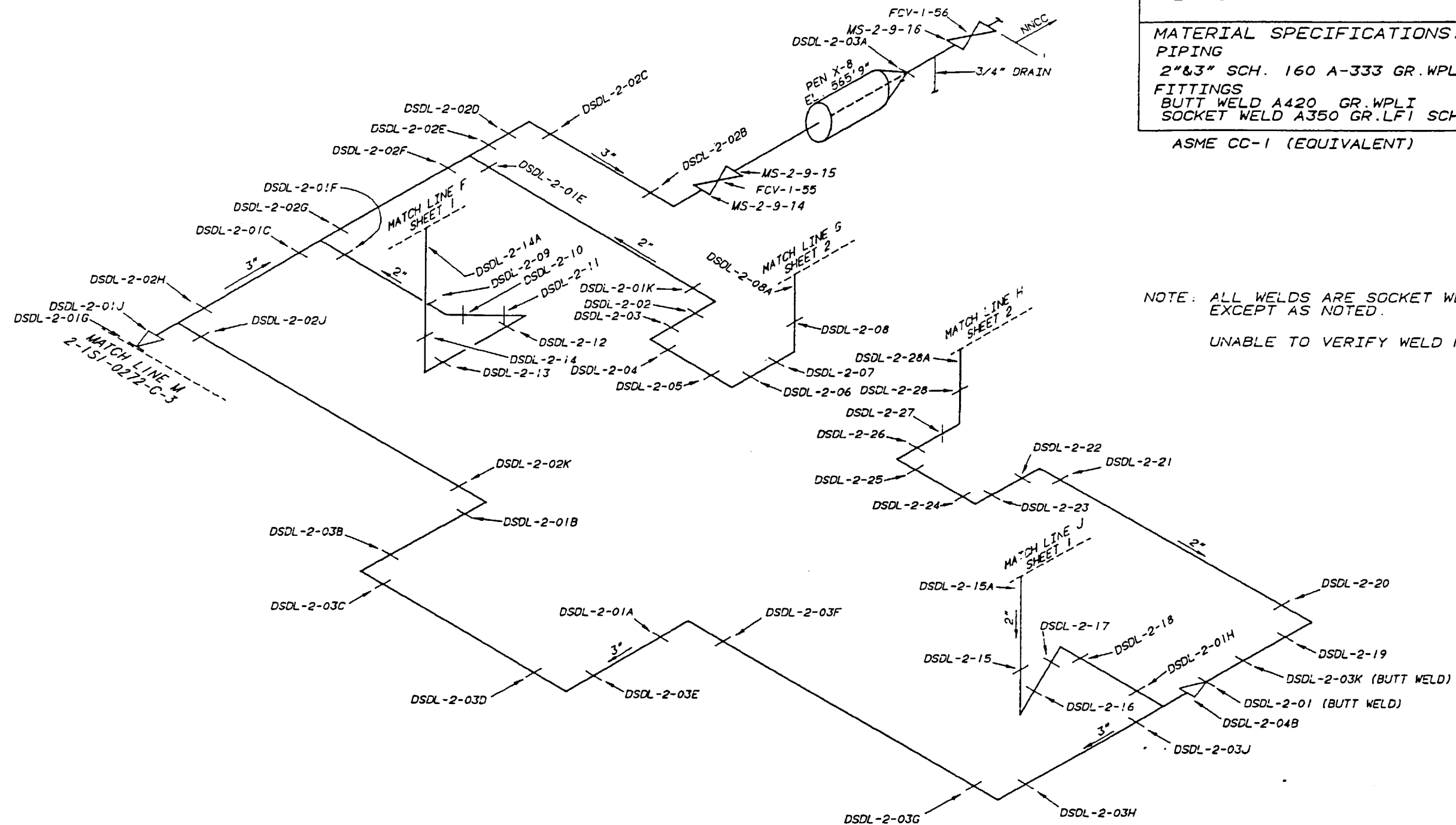


ALL A/D HISTORY RESEARCHED AT R000

003	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
MAIN STEAM SYSTEM WELD LOCATIONS					
DRAWN: PHB	SUBMITTED	APPROVED	SCALE: NTS	SHEET 02 OF 04 SHEET(S)	
DATE: 12-18-86	DATE: 6-10-91	DATE: 6-13-91		DRAWING NO.	REV
CHECKED: JES	EDC	GLB		2-1SI-0222-C	003
DATE: 6-10-91					
CAD MAINTAINED DRAWING					
CCD					

REFERENCE DRAWINGS:  
 47W400 SERIES  
 47B400 SERIES  
 2-47E801-1

MATERIAL SPECIFICATIONS:  
 PIPING  
 2" & 3" SCH. 160 A-333 GR. WPLI CS  
 FITTINGS  
 BUTT WELD A420 GR. WPLI  
 SOCKET WELD A350 GR. LFI SCH 160  
 ASME CC-1 (EQUIVALENT)



NOTE: ALL WELDS ARE SOCKET WELDED  
 EXCEPT AS NOTED.  
 UNABLE TO VERIFY WELD NOS.

Information Only

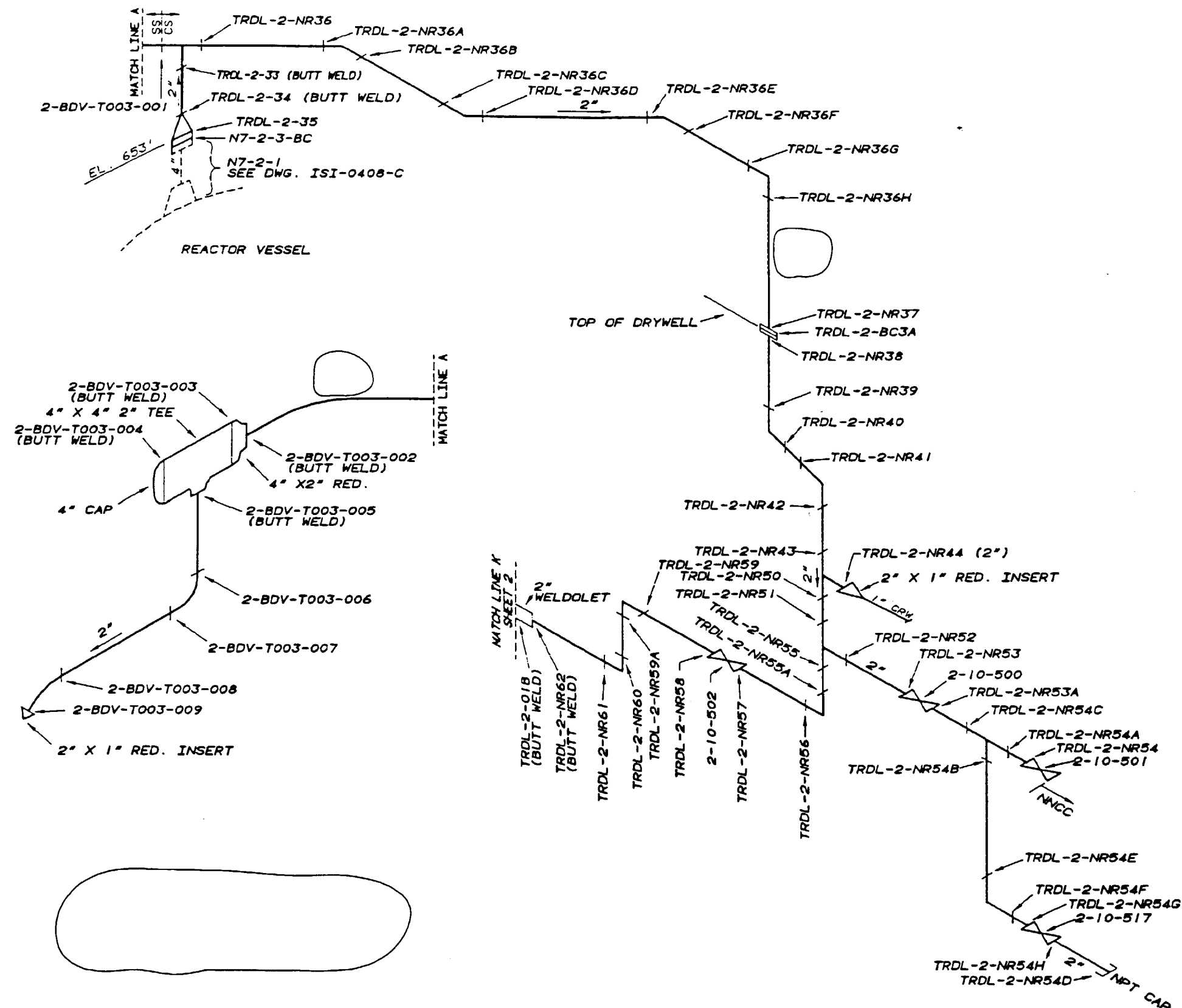
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REVISED PER RIMS MEMO R21 000621 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
MAIN STEAM SYSTEM					
DRAIN WELD LOCATIONS					
DRAWN: PWB	SUBMITTED	APPROVED	SCALE NTS		
DATE: 9-7-91	DATE: 9-20-91	DATE: 9/21/91	SHEET 03 OF 04 SHEET(S)		
CHECKED: [Signature]	DATE: 9-20-91	DATE: 9/21/91	DRAWING NO.	REV.	
			2-151-0222-C	002	

CCD

ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING





REFERENCE DRAWINGS:  
 47W465 SERIES PIPING DWG  
 47W465 H SERIES SUPPORT DWG  
 47B465 SERIES SUPPORT DWG  
 47A465 SERIES SUPPORT DWG  
 2-47E817-1 FLOW DIAGRAM

#### MATERIAL SPECIFICATIONS:

##### PIPING

2" SCH. 160 CS A106 GR B

##### FITTINGS

2" - 6000 LB. SA-105 GR II

##### FLANGE

4" - 900 LB. A508 CL2

##### REDUCER

4" SCH. 80 X 2" SCH. 160 CS A-234  
 (0.337" X 0.344") NOM. WALL

##### STAINLESS STEEL

##### PIPING

ASTM A312 TP304

2" SCH. 160 S.S.

##### SOCKET FITTINGS

ASTM A182 F304

#6000 S.S.

##### B.W. FITTINGS

SA 403 WP 304

SCH. 160 S.S.

ASME CC-1 (EQUIVALENT)

#### NOTES:

1. ALL 2" WELDS ARE SOCKET WELDED, UNLESS OTHERWISE NOTED.

Information Only

001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
HARDWARE: IBM 5085		SOFTWARE: CADAM		USER: ISICMP	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
FEEDWATER SYSTEM					
INSTRUMENTATION WELD LOCATIONS					
DRAWN: PHB		SUBMITTED		APPROVED	
DATE: 9-16-91		DATE: 9-29-91		DATE: 9-29-91	
CHECKED: JAA		JES		GLB	
DATE: 9-20-91					
				SCALE NTS	
				SHEET 04 OF 04 SHEET(S)	
				DRAWING NO.	
				2-151-0222-C	
				REV	

ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING

CCD

REFERENCE DRAWINGS  
B&W 122863

NOTE: THIS DRAWING SUPERSEDES  
CHM-2001-C (UNIT 2)

ASME CC-1 (EQUIVALENT)

0° - SOUTH  
W

300°

60°

270° - EAST Z

X 90° - WEST

240°

120°

SECTION A-A

180° - NORTH  
Y

92 6.75" TAPPED HOLES ON  
267.25" DIA. B.C. REF.

NUMBERS (01 THRU 92) ARE PREFIXED BY:

LIGAMENTS (THREADS)...RPV-LIGS-2-  
STUDS...RPV-STUDS-2-  
NUTS...RPV-NUTS-2-  
WASHERS...RPV-WASH-2-  
BUSHINGS...RPV-BUSH-2-

Information Only

1	PHB	425	425	3/13/92					
ADD BUSHING PREFIX, CHANGE NOTE, REF. DNG., ADD FLANGE PROFILE									
REV.	BY	CHECKED	SUBMITTED	APPROVED	DATE				
HARDWARE: IBM 5085		SOFTWARE: CADAM		USER: ISTOMP					
TENNESSEE VALLEY AUTHORITY									
BROWNS FERRY NUCLEAR PLANT									
UNIT 2									
REACTOR VESSEL STUD LOCATIONS									
DRAWN: PHB		SUBMITTED		APPROVED		SCALE: NTS			
DATE: 9-20-88		DATE: 5-3-89		DATE: 5-17-89		SHEET 01 OF 01 SHEET(S)			
CHECKED: JES		EDC		GLB		DRAWING NO.		REV.	
DATE: 5-3-89						ISI-0266-C101			

REFERENCE DRAWINGS

47K1545-1  
47K1545-2  
GE 729E152  
ISI-0277-C (SH. 1) SUPPORT MAP  
THIS DRAWING SUPERCEDES CHN-2067-C  
ALL SHEETS.

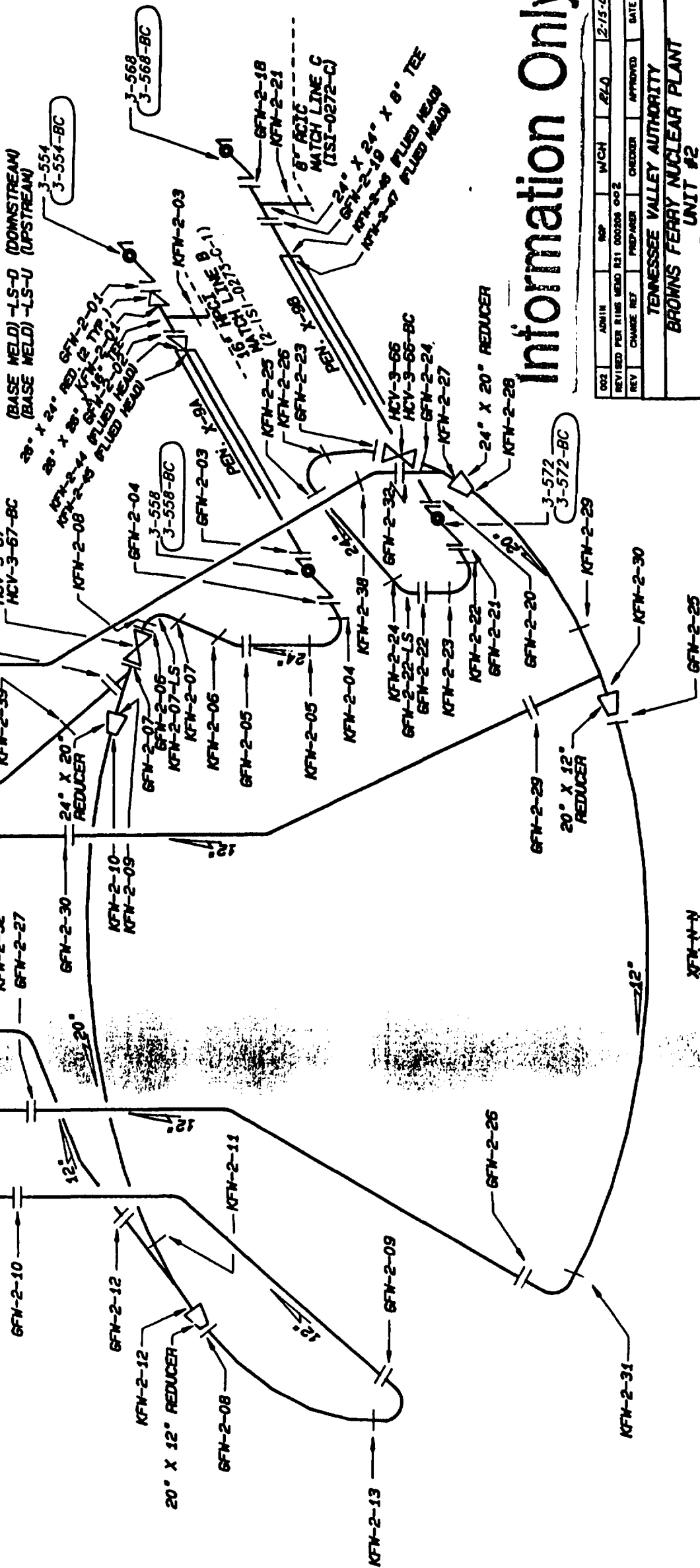
MATERIAL SPECIFICATIONS

ASTM A-106 OR B 80% 100 OR ASTM A-106 OR K07700L  
12" X 0.25" NOM. WALL CS  
18" X 1.031" NOM. WALL CS  
20" X 1.287" NOM. WALL CS  
24" X 1.531" NOM. WALL CS  
28" X 2.0" TEE BOH. 100 CS  
ASTM A-106 OR B 80% 100  
12" X 1.00" NOM. WALL SPOOL PEICE TO NOZZLED  
24" FLUED HEAD CS  
ASTM A-106 OR B 80% 100  
ASTM A-234 OR B 80% 100 OR X 100% MIN WALL  
(FOR SET PIPE AS PUNCTURED)  
ALL OTHER TEES, ELBS, AND REDUCERS

ASME CC-1 (EQUIVALENT)

NOTES

1. GE FIELD WELDS WERE MADE IN THE FIELD BY TVA.
2. PIPE SEGMENT LONGITUDINAL SEAMS WILL BE IDENTIFIED AS:  
(BASE WELD) -LS-D (DOWNSTREAM)  
(BASE WELD) -LS-U (UPSTREAM)

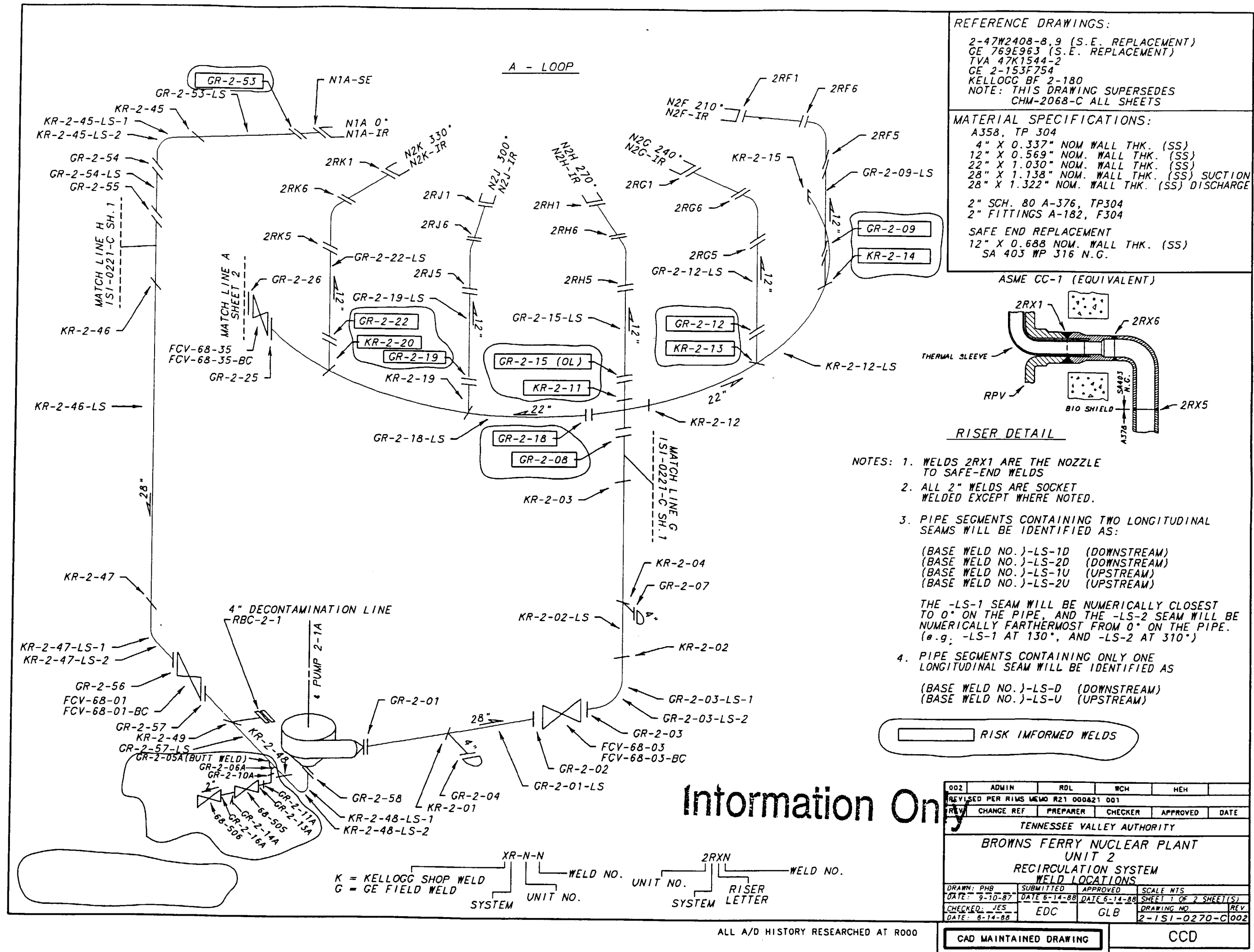


Information Only

REV	CHANGE REF	PREPARED	CHECKED	APPROVED	DATE
002					2/15/00
REVISED PER R116 WELD R11 000000 002					
Tennessee Valley Authority					
BROWNS FERRY NUCLEAR PLANT					
UNIT #2					
FEEDWATER SYSTEM					
WELD LOCATIONS					
DATE	DESIGNED	APPROVED	SCALE	WTS	
11-11-00	DATE	11-11-00	11-11-00	11-11-00	11-11-00
CHANGED	BY	DATE	BY	DATE	BY
002	EDC	2-15-00	GLB	2-15-00	002

ALL A/D HISTORY RESEARCHED AT 0000

CAD MAINTAINED DRAWING





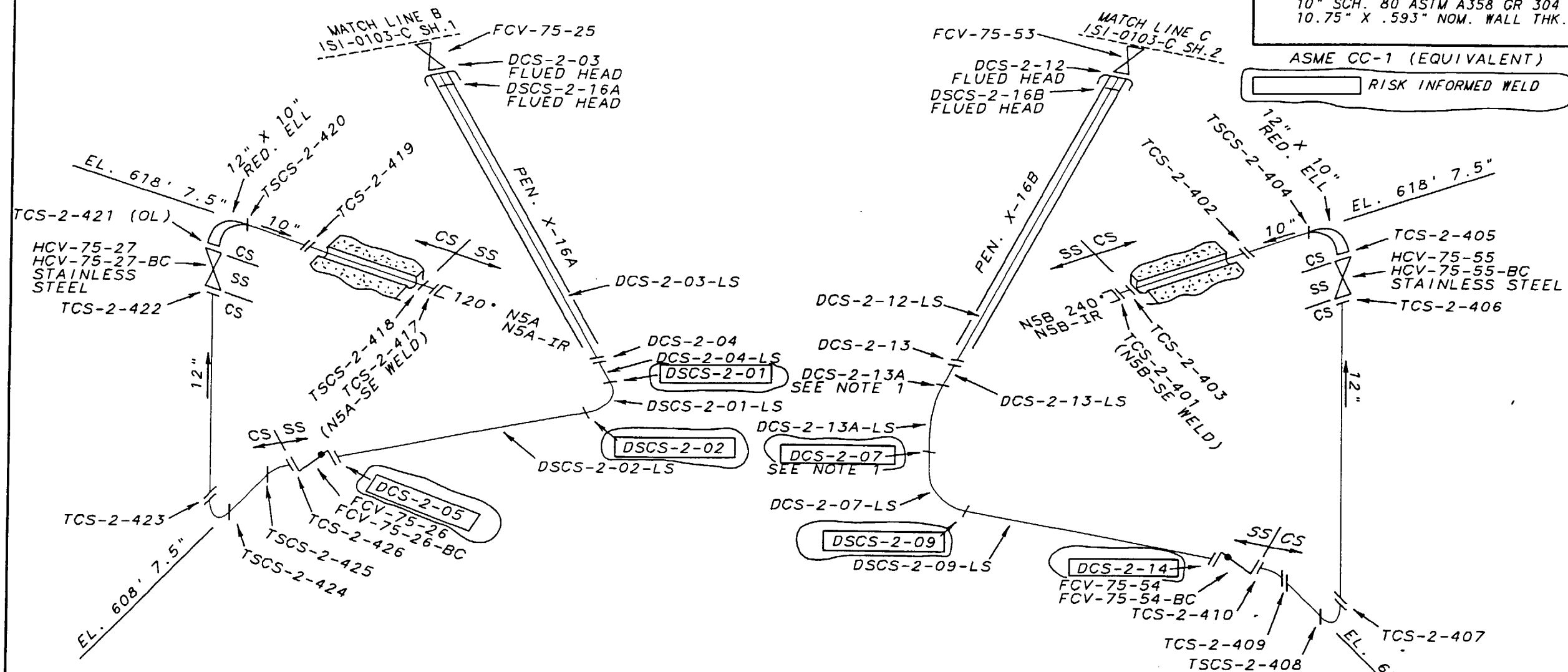
REFERENCE DRAWINGS  
 DRAVO E-2458-1C-34  
 DRAVO E-2458-1C-35  
 NOTE: THIS DRAWING SUPERSEDES CHM-2071-C  
 ALL SHEETS

MATERIAL SPECIFICATIONS

12" SCH. 80 SA 333 GR6 CS  
 12.75" X .687" NOM. WALL THK.  
 12" SCH. 80 ASTM A358 GR 304 SS  
 12.75" X .687" NOM. WALL THK.  
 10" SCH. 80 SA 333 GR6 CS  
 10.75" X .593" NOM. WALL THK.  
 10" SCH. 80 ASTM A358 GR 304 SS  
 10.75" X .593" NOM. WALL THK.

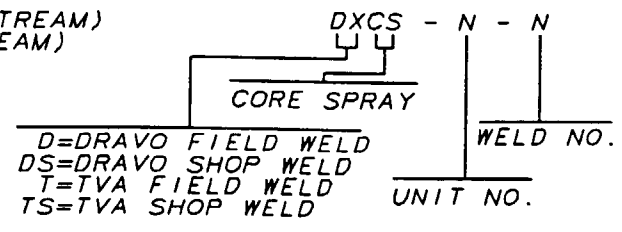
ASME CC-1 (EQUIVALENT)

RISK INFORMED WELD



- NOTE:
1. WELDS DCS-2-07 AND DCS-2-13A ARE DRAVO SHOP WELDS.
  2. PIPE SEGMENTS CONTAINING ONLY ONE LONGITUDINAL SEAM WILL BE IDENTIFIED AS:

(BASE WELD NO.)-LS-D (DOWNSTREAM)  
 (BASE WELD NO.)-LS-U (UPSTREAM)



Information Only

003	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
CORE SPRAY SYSTEM					
WELD LOCATIONS					
DRAWN: PHB		DATE: 5-17-89		SCALE: NTS	CADAM/ISICMP
CHECKED: JES		APPROVED:		SHEET 01 OF 01	REV
SUBMITTED: EDC		CLB		2-151-0271-C	003
CAD MAINTAINED DRAWING				CCD	

# REFERENCE DRAWINGS

CRD-2-005  
RCIC-2-004  
RWC-2-001  
47W335-14, -17

NOTE:  
THIS DRAWING SUPERSEDES CHM-2075-C  
AND CHM-2072-C (ALL SHEETS)

## MATERIAL SPECIFICATIONS

### STAINLESS STEEL

#### FITTINGS

6" SA403 WP316NG SCH. 80 SS

#### PIPING

6" SA376 TP316NG SCH. 80 SS

6" A376GR TP304 SCH. 80 SS

6" A312GR TP304 SCH. 80 SS

### CARBON STEEL

4" SCH. 80 A-333, GR1 (SEAMLESS) CS

6" X 0.562" NOM WALL SCH. 120 CS

8" X 0.593" NOM WALL SCH. 100 CS

#### VALVE

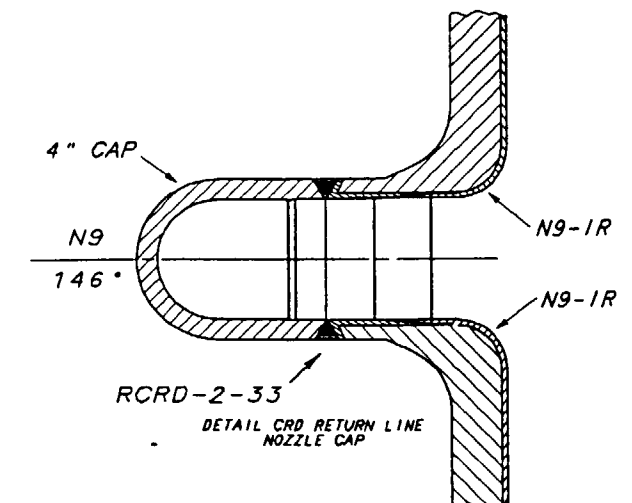
2-69-630 SA182 F316

#### CRD CAP

4" X 0.674" NOM WALL SS

## ASME CC-1 (EQUIVALENT)

RISK INFORMED WELD



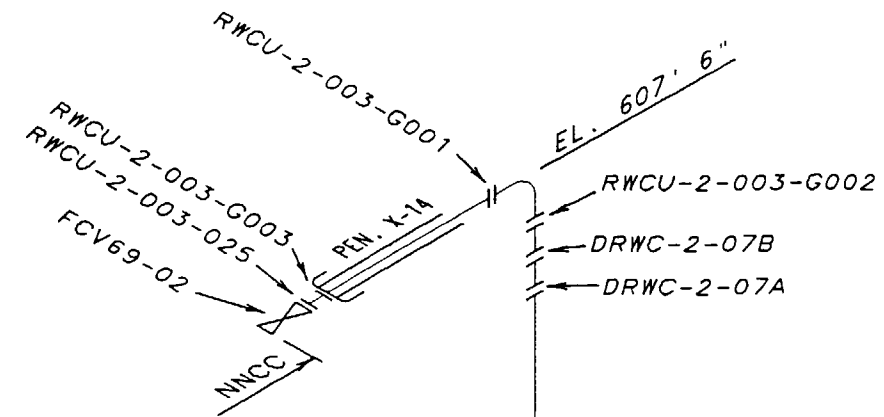
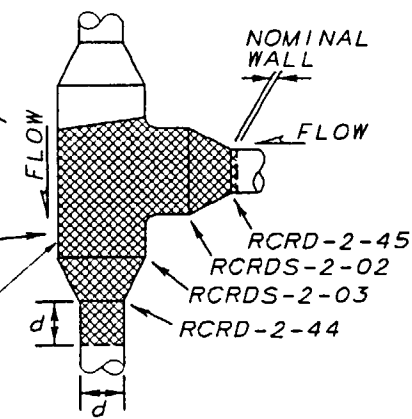
# Information Only

REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
006	ADMIN	RDL	WCH	HEH	
REVISED PER RIUS MEMO R21 000821 001, R21 000822 001					
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
REACTOR WATER CLEAN UP, RCIC, AND CRD WELD IDENTIFICATION					
DRAWN:	PHB	DATE:	6-9-88	SCALE:	NTS
CHECKED:	JES	APPROVED:	GLB	SHEET	01 OF 03
SUBMITTED:	EDC			REV	2-151-0272-C006

CAD MAINTAINED DRAWING

CCD

REGION OF THERMAL FATIGUE  
EXAMINATION PER NUREG-0619  
THERMAL TEE  
(UPSTREAM OF VALVE  
2-FCV-69-630)



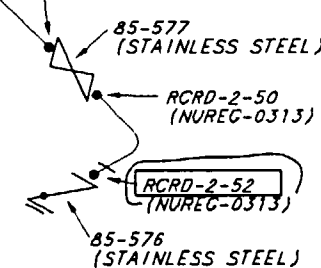
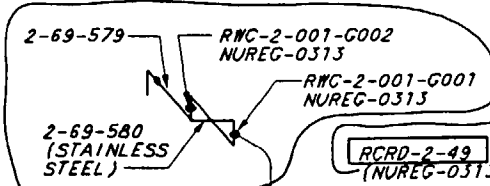
DSRWC-2-06

CARBON STEEL

STAINLESS STEEL

DSRWC-2-05 (OL)

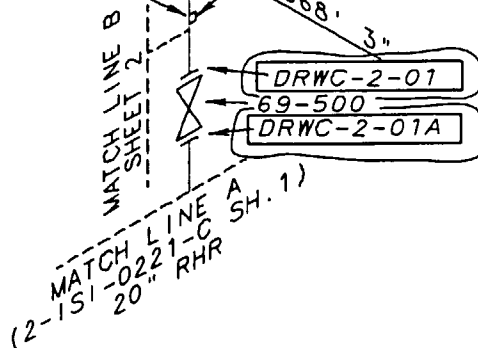
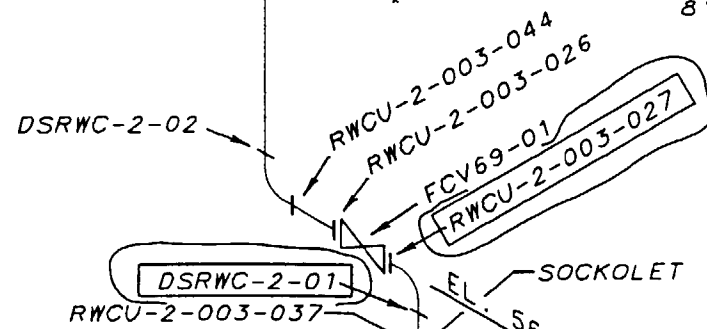
MATCH LINE  
2-151-0269-02  
24" FEEDWATER  
SCH. 1



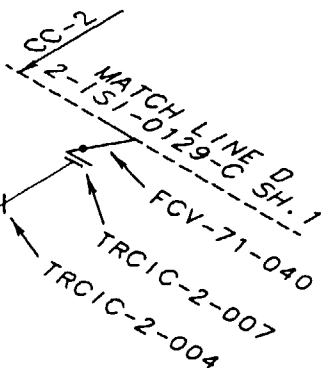
ASME XI  
CODE CLASS I  
BOUNDARY

TRCIC-2-001  
8" X 8" X 4" TEE  
TRCIC-2-001A  
8" X 6" RED.  
TRCIC-2-002

RWCU-2-004-084  
RWCU-2-004-083  
2-69-630  
RWCU-2-004-082  
(NUREG 0313)



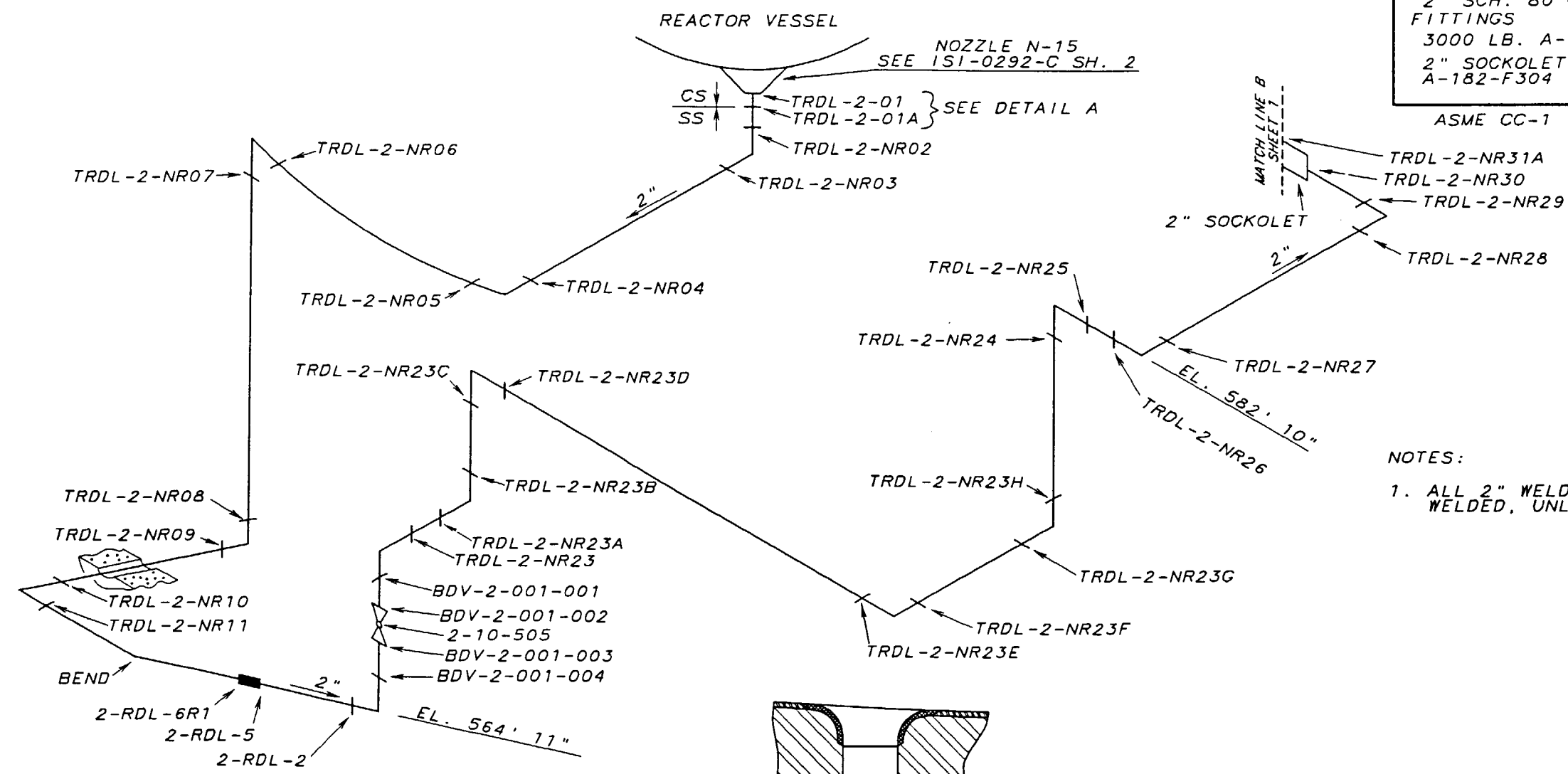
TRCIC-2-003



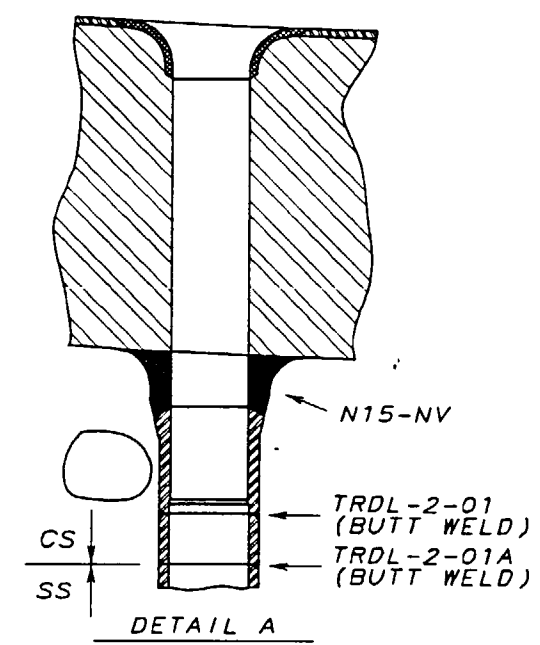
ALL A/D HISTORY RESEARCHED AT R000

REFERENCE DRAWINGS:  
 47W465 SERIES PIPING DWG  
 47W465 H SERIES SUPPORT DWG  
 47B465 SERIES SUPPORT DWG  
 47A465 SERIES SUPPORT DWG  
 2-47E817-1 FLOW DIAGRAM

MATERIAL SPECIFICATIONS:  
 PIPING  
 2" SCH. 80 SS A-182-F304 OR F316  
 2" SCH. 80 CS A-106-GR B  
 FITTINGS  
 3000 LB. A-182-F304 OR F316  
 2" SOCKOLET FITTING MATERIAL  
 A-182-F304 OR F316  
 ASME CC-1 (EQUIVALENT)



NOTES:  
 1. ALL 2" WELDS ARE SOCKET WELDED, UNLESS OTHERWISE NOTED.



# Information Only

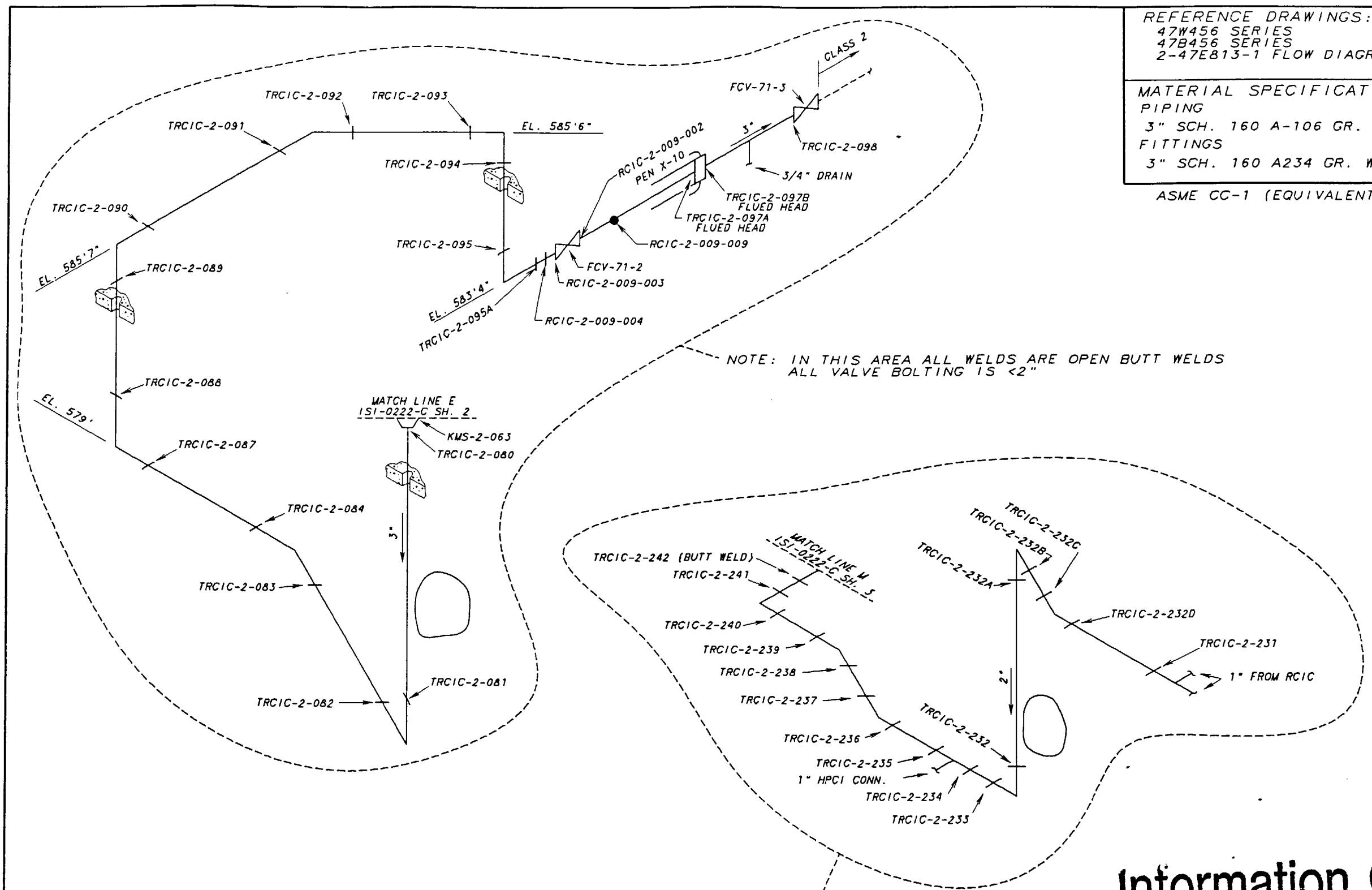
001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
REACTOR WATER CLEAN UP, RCIC, AND CRD					
HYDR. RETURN LINE WELD LOCATIONS					
DRAWN: PHB	DATE: 9-29-91	SCALE: NTS	CADAM/ISICMP		
CHECKED: JAA	APPROVED: GLB	SHEET 02 OF 03	REV		
SUBMITTED: JES		2-151-0272-C	001		
CAD MAINTAINED DRAWING				CCD	



REFERENCE DRAWINGS:  
47W456 SERIES  
47B456 SERIES  
2-47E813-1 FLOW DIAGRAM

MATERIAL SPECIFICATIONS:  
PIPING  
3" SCH. 160 A-106 GR. B  
FITTINGS  
3" SCH. 160 A234 GR. WPB

ASME CC-1 (EQUIVALENT)



NOTE: IN THIS AREA ALL WELDS ARE OPEN BUTT WELDS  
ALL VALVE BOLTING IS <2"

NOTE: IN THIS AREA ALL WELDS ARE SOCKET WELDED  
EXCEPT AS NOTED

# Information Only

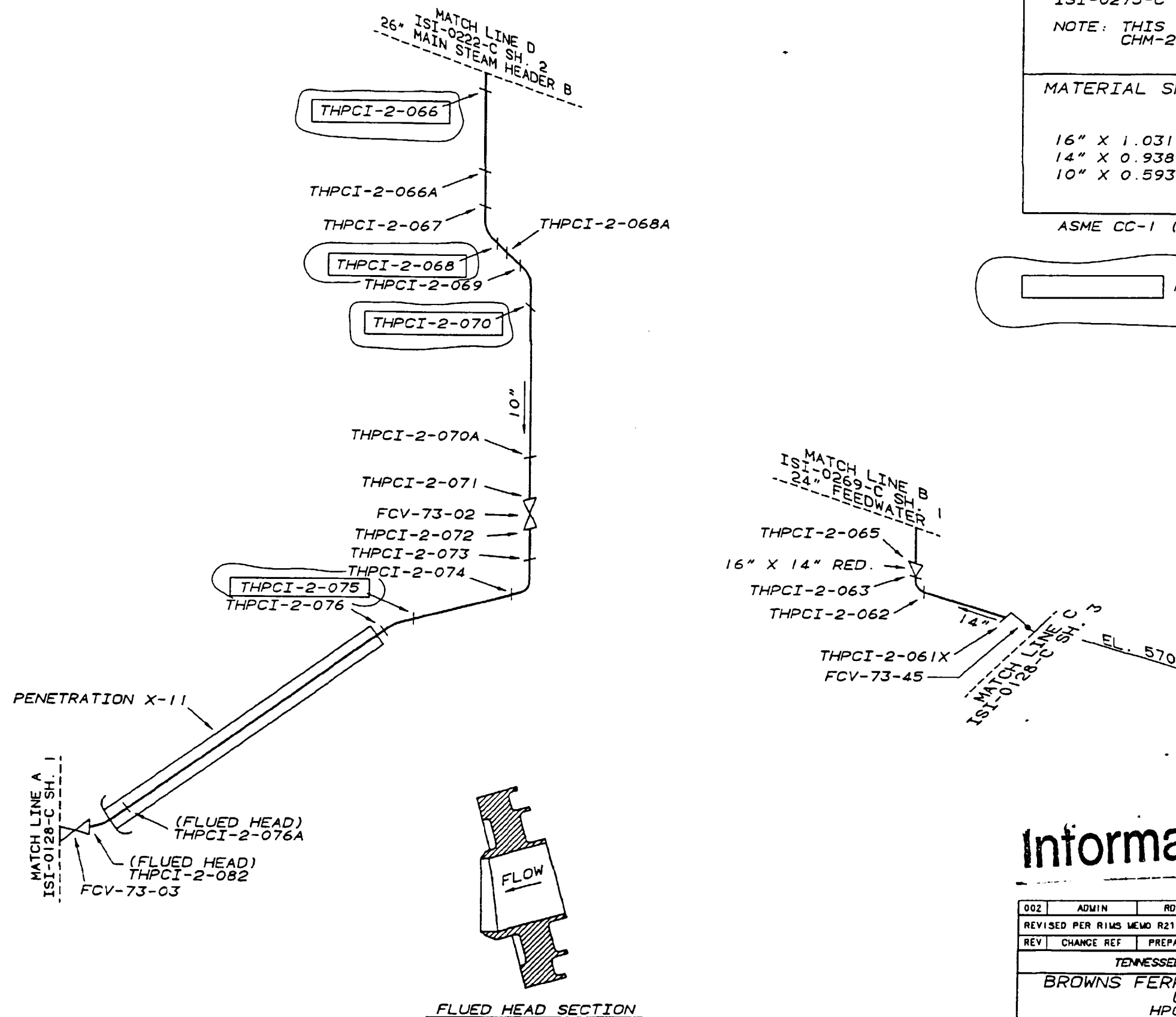
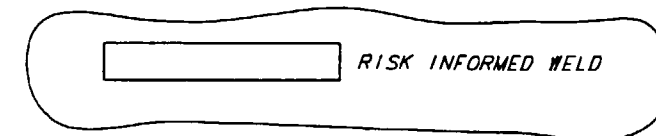
002	ADMIN	RDL	WCH	HEH	
REVISED FOR RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
REACTOR CORE ISOLATION COOLING SYSTEM					
WELD LOCATIONS					
DRAWN: PHB	DATE: 9-29-91		SCALE: NTS	CADAM/ISTCMP	
CHECKED: JAA	APPROVED:		SHEET 03 OF 03		REV
SUBMITTED: JES	GLB		2-151-0272-C		002
CAD MAINTAINED DRAWING			CCD		

REFERENCE DRAWINGS  
TVA 47W335-11  
TVA 47W335-12  
TVA 47K1547  
ISI-0275-C (SH. 1) SUPPORT MAP  
NOTE: THIS DRAWING SUPERSEDES  
CHM-2074-C ALL SHEETS

# MATERIAL SPECIFICATIONS

16" X 1.031" NOM. WALL THK, CS  
14" X 0.938" NOM. WALL THK, CS  
10" X 0.593" NOM. WALL THK, CS

ASME CC-1 (EQUIVALENT)



## Information Only

002	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
HPCI SYSTEMS					
WELD LOCATIONS					
DRAWN: PHB	DATE: 6-9-88	SCALE: NTS	CADAN/ISICNP		
CHECKED: JES	APPROVED: GLB	SHEET 01 OF 01	REV		
SUBMITTED: EDC		2-1SI-0273-C	002		

ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING

CCD

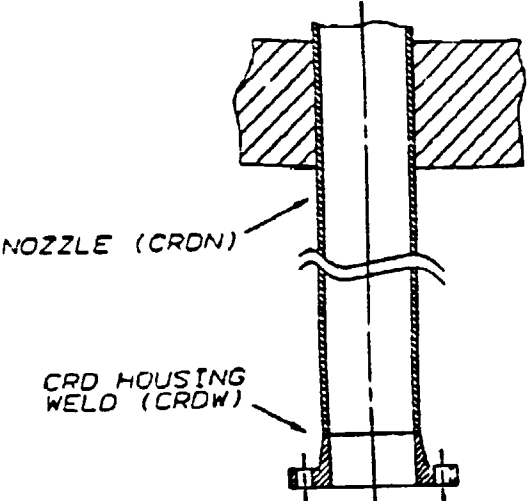
ASSUMED NORTH LOOKING  
DOWN ON VESSEL

EXAMPLES OF TVA NUMBERS

WELD NO. CRDW-2- $\frac{X}{1011}$

NOZZLE NO. CRDN-2- $\frac{X}{0615}$

- NOTES:
- 1. THIS DRAWING SUPERSEDES CHM-2002-C (UNIT 2)
  - 2. NOZZLES ARE SPECIFIED BY CRDN-2-"X"-Y
  - 3. WELDS ARE SPECIFIED BY CRDW-2-"X"-Y
  - 4. BOLTING IS SPECIFIED BY CRDN-2-"X"-Y-BC.

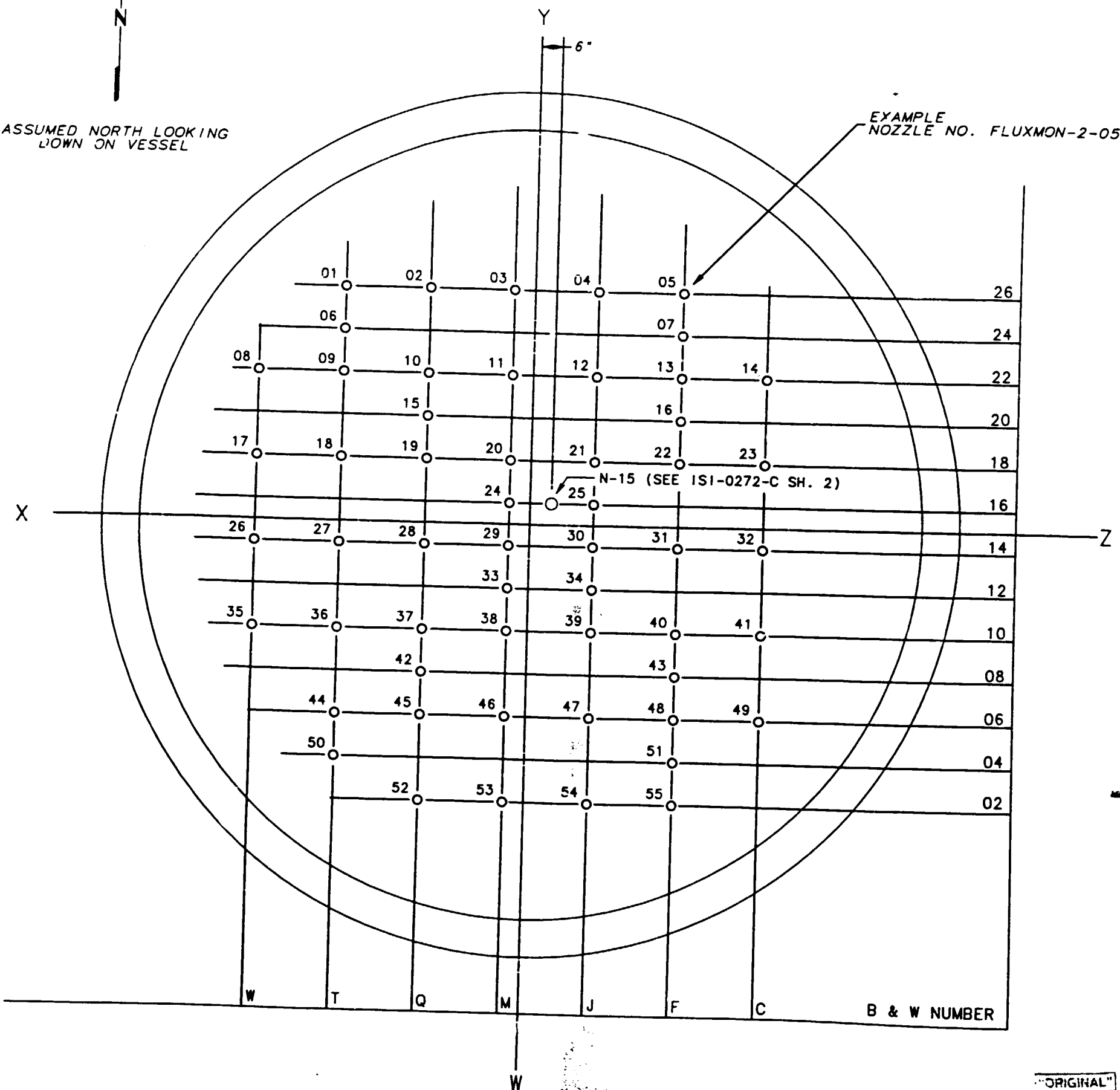


CRD HOUSING DETAIL

Information Only

ADMIN	NDL	N/A	N/A	N/A	N/A
REVISED PER RING MEMO R14 576324 301					
REV NO.	CHANGE REF	DATE	DTTR	CHKR	DSGN
HARDWARE: IBM 5045		SOFTWARE: CADAM		USER: TSICMP	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
REACTOR VESSEL PENETRATIONS					
CONTROL ROD DRIVE					
DRAWN: P-2		SUBMITTED		APPROVED	
DATE: 2-13-89		DATE: 5-3-89		DATE: 5-17-89	
CHECKED: JES		BDC		CLB	
DATE: 5-2-89				2-ISI-0292-C 001	
CCD					

ASSUMED NORTH LOOKING  
DOWN ON VESSEL



## NOTE:

1. NOZZLES ARE SPECIFIED BY FLUXMON-2-XX.
2. BOLTED CONNECTIONS ARE SPECIFIED BY FLUXMON-2-XX-BC.

ADMIN

# Information Only



123456789012  
BFGD DRAWINGS  
CC 2-2-151-0292-C  
000002  
042197 000

DESIGNED	DATE	BY	CHKD	DATE	BY	CHKD	DATE	BY	CHKD
2-1-97	2-1-97	JT	N/A	2-1-97	N/A	2-1-97	N/A	2-1-97	N/A
ISSUED TO CREATE CCD SUPERSEDES AS-DESIGNED ISI-0292-C-2 R2 AND TO DEFECT AS CONSTRUCTED STATUS PER RIMS MEND R14 970324 3011 A/D RD-R1									
CHANGE REF	DATE	BY	CHKD	DATE	BY	CHKD	DATE	BY	CHKD
S									
TENNESSEE VALLEY AUTHORITY									
BROWNS FERRY NUCLEAR PLANT									
UNIT 2									
REACTOR VESSEL PENETRATIONS									
DRAIN NOZZLE & FLUX MONITOR NOZZLES									
DRAWN: PMS	SUBMITTED	APPROVED	SCALE NTS						
DATE: 3-13-92	DATE: 3-13-92	DATE: 3-13-92	SHEET 02 OF 02 SHEET(S)						
CHECKED: RPG	JES	GLB	DRAWING NO.	REV.					
DATE:			2-151-0292-C000						
CCD									

"ORIGINAL"

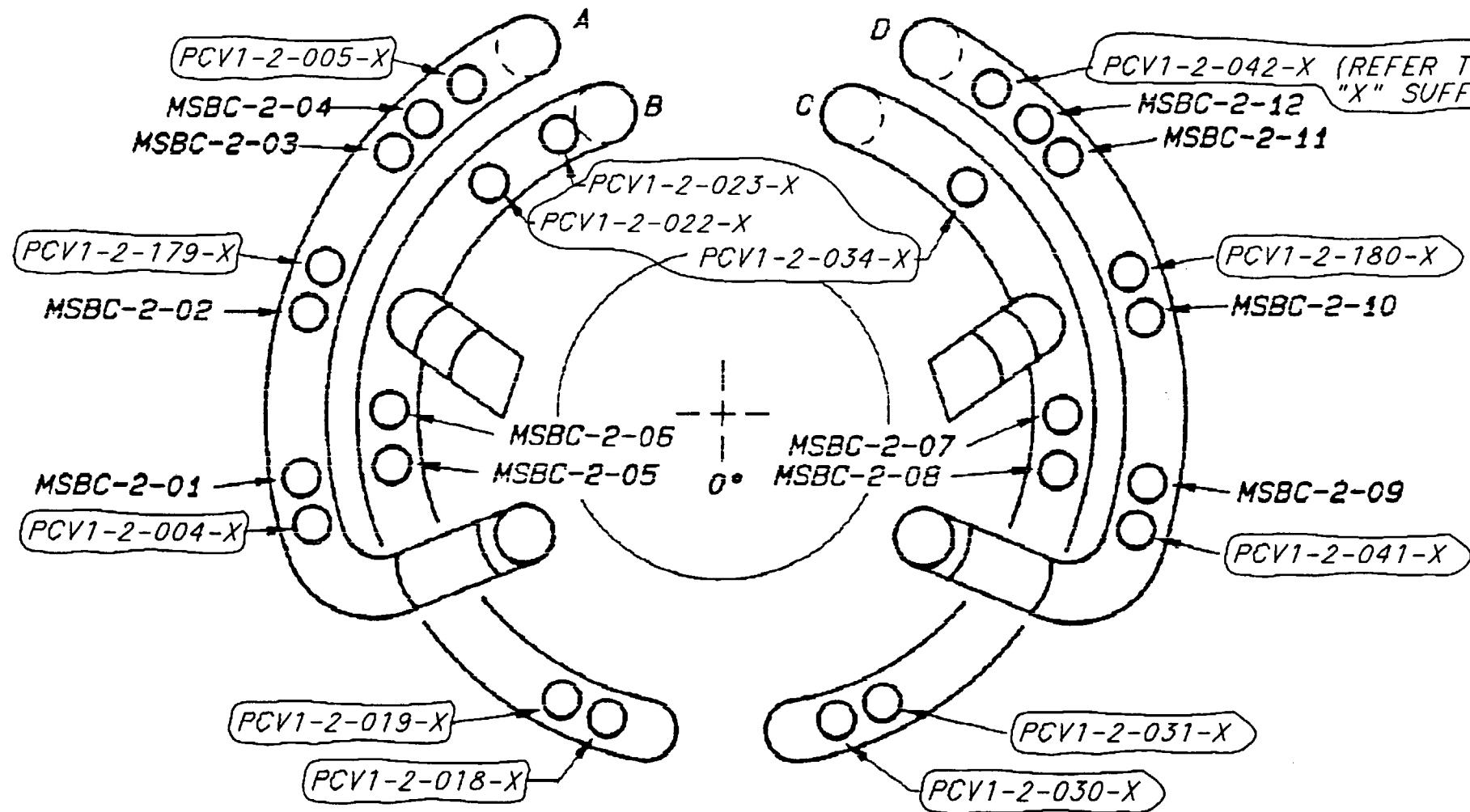
PCADAM

ALL A/D HISTORY RESEARCHED AT R000

REFERENCE DRAWINGS:

2-47E801-1

ASME CC-1 (EQUIVALENT)



ALL REVISION CIRCLES  
ARE ADMINISTRATIVE REVISION

NOTES:

1. THIS DRAWING SUPERSEDES ISI-0027-B FOR UNIT 2 ONLY.
2. SUBSTITUTE "VBC" FOR "X" WHEN EXAMINING VALVE BODY BOLTING AND "PBC" FOR "X" WHEN EXAMINING VALVE TO PIPE BOLTING.

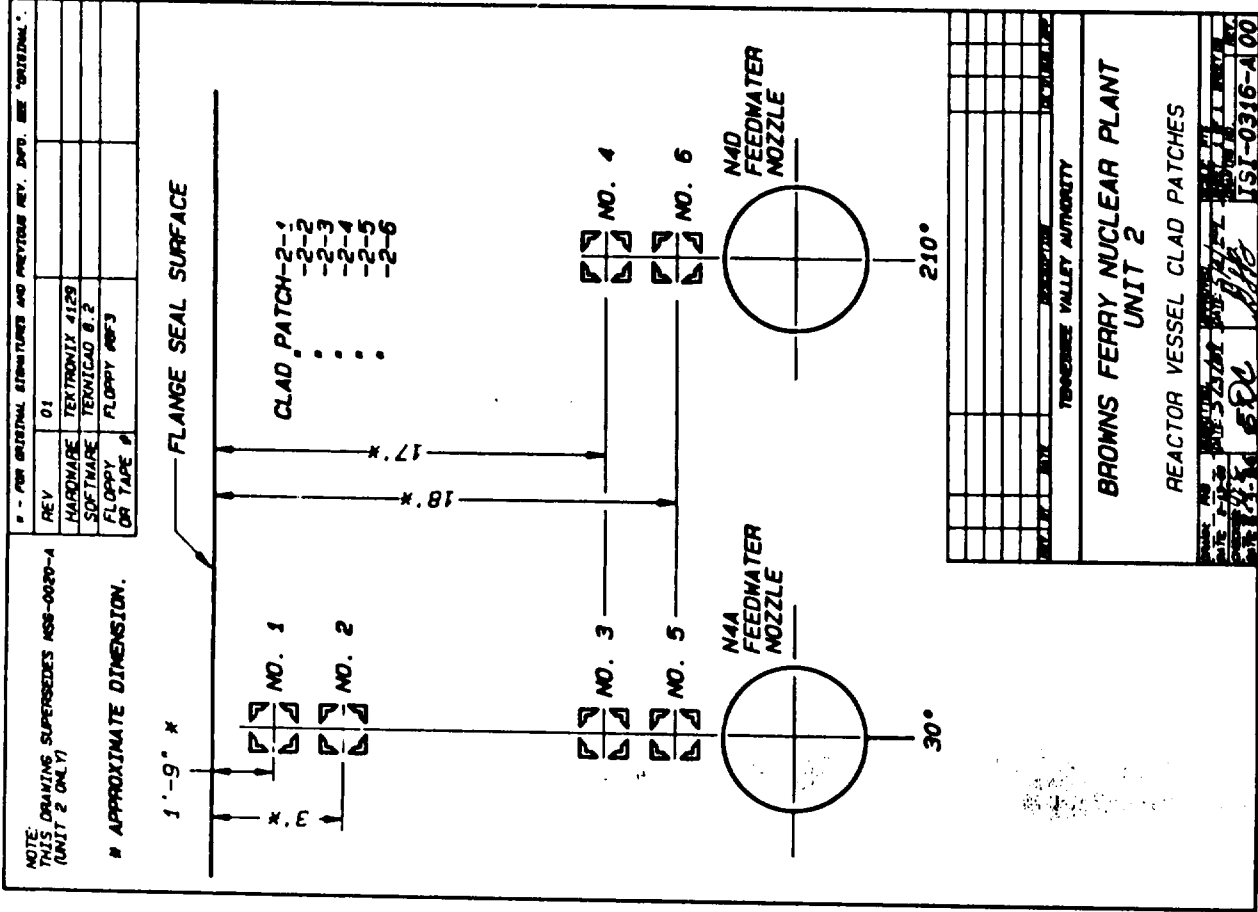
Information Only

	CCD ADMIN		BGC		N/A		N/A	N/A		
000	ISSUED TO CREATE CCD. SUPERSEDES AS-DESIGNED ISI-0312-B-1 R2 AND TO DEPICT AS-CONSTRUCTED STATUS PER A/D R0, R1; RIMS MEMO R92 960604 850 (ADMINISTRATIVE REVISION)									
REV NO	CHANGE REF	DATE	DFTR	CHKR	DSGN	RVWR	<sup>1</sup> APPD	<sup>2</sup> APPD	<sup>3</sup> APPD	ISSD
TENNESSEE VALLEY AUTHORITY										
S	BROWNS FERRY NUCLEAR PLANT UNIT 2 MAINSTEAM SYSTEM BOLTED CONNECTIONS									
DRAWN: PHB		SUBMITTED		APPROVED		SCALE: NTS				
DATE: *		DATE: --		DATE: --		SHEET 1 OF 1 SHEET(S)				
CHECKED: --		*		*		DRAWING NO.			REV	
DATE: *						2-ISI-0312-B			000	
HED AT R000						CCD				

\* FOR ORIGINAL SIGNATURES AND PREVIOUS  
REV. INFO. SEE "ORIGINAL".

HARDWARE	TEKTRONIX 4129
SOFTWARE	TEKNICAD 8.2
FLOPPY OR TAPE	FLOPPY #BF4

PROCAD



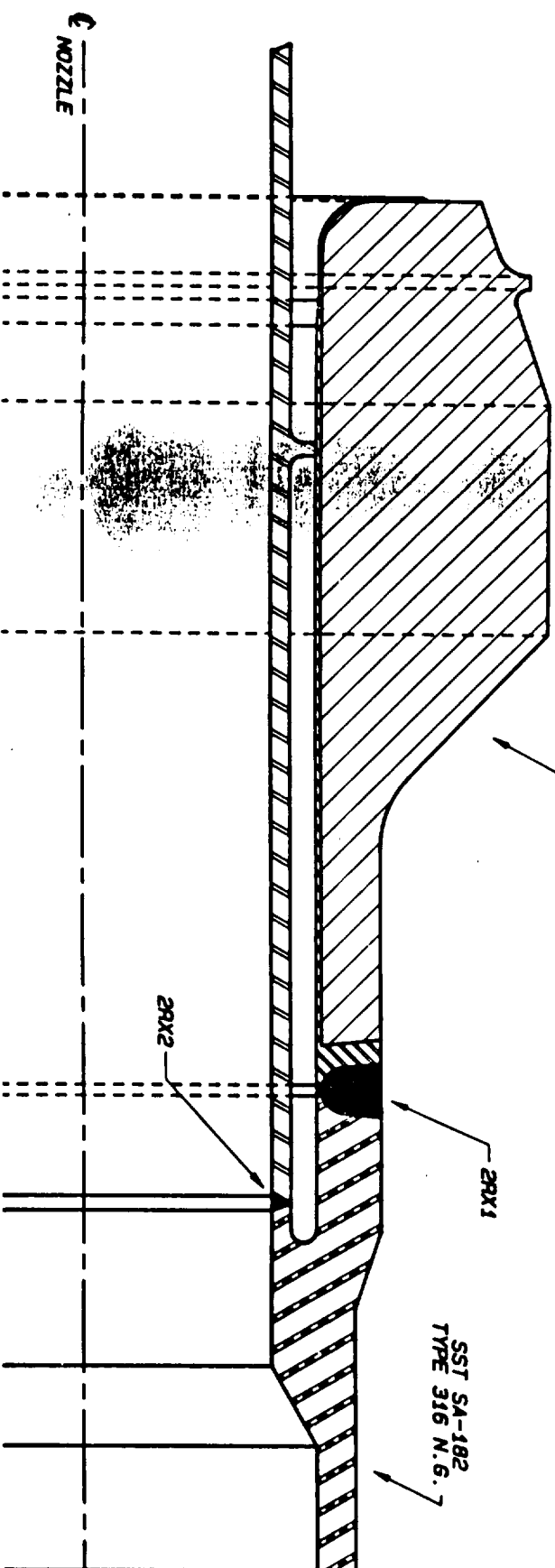
Information Only

8.5"

11"



LOW ALLOY  
STEEL NOZZLE  
SA-508 CL. II 7



**BROWNS FERRY NUCLEAR PLANT**  
**UNIT 2**  
**RECRYCULATION INLET NOZZLES**

REV	60
MACH/AGE	TERMINIX 4128
SER/TYPE	TERMINOX B.2
FLOPPY	FLIPPY 600-22
ON TAPE	

[illegible]

17-



11

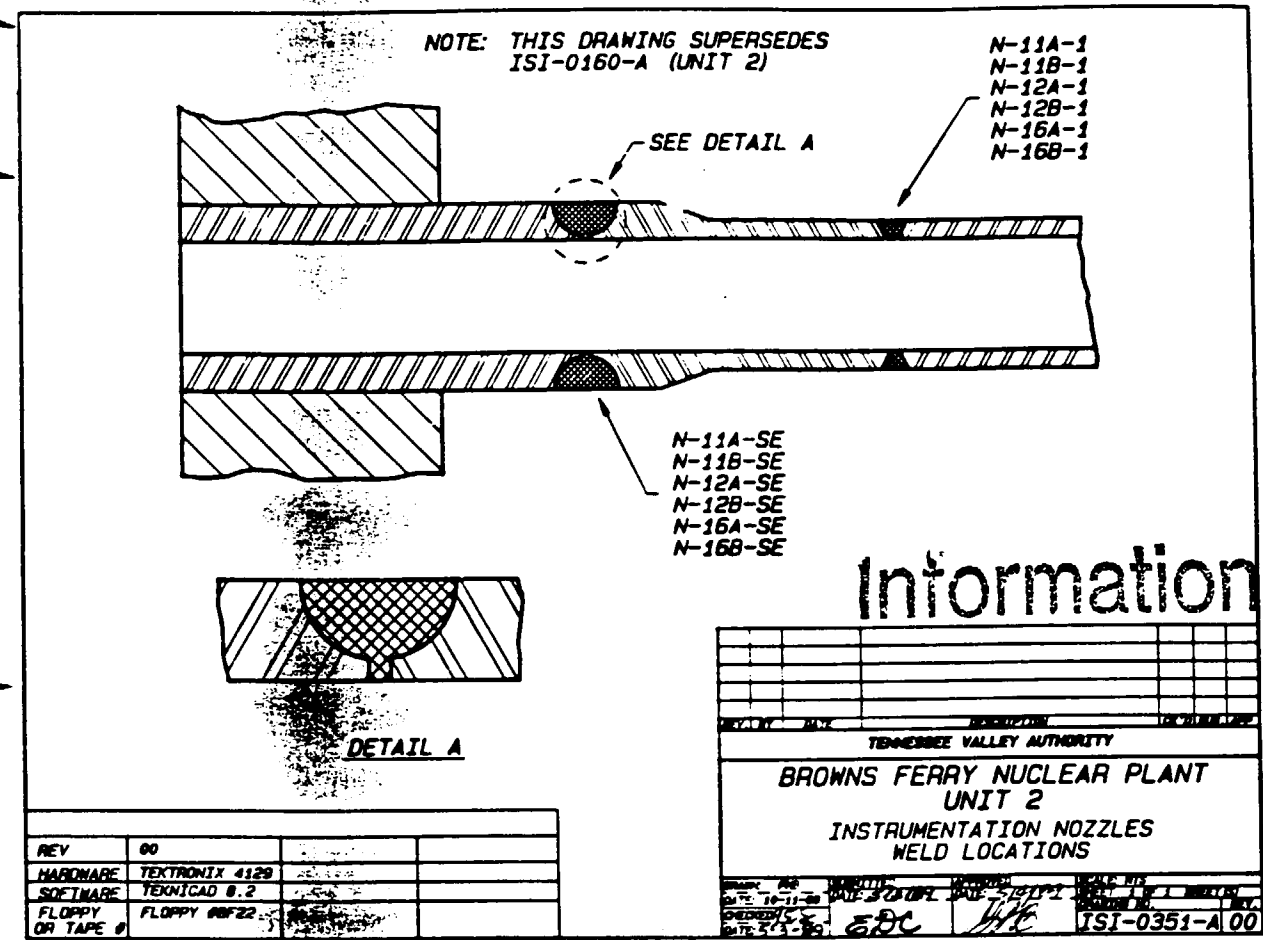
11

8.5

←

8.5

11



MATERIAL SPECIFICATIONS:  
PIPING  
1 1/2" & 2" SCH. 80 A-312 TP 304  
FITTINGS  
A182 F304, SCH. 80

MATERIAL SPECIFICATION  
PIPING  
1 1/2" & 2" SCH.  
FITTINGS  
A182 F304, SCH.  
ASME CC-1 (EQUIPMENT)

DETAIL A

TSBL-2-01A  
TSBL-2-01  
TSBL-2-04  
TSBL-2-05  
HCV-63-12  
TSBL-2-06  
TSBL-2-06A  
TSBL-2-06B  
TSBL-2-06C BUTT WELD  
3/4" TEST LINE  
TSBL-2-02A  
TSBL-2-02 (BUTT WELD)  
N10-2 (BUTT WELD)  
1 1/2" X 1" RED.  
1" INSTRUMENTATION LINE  
N10-1 (BUTT WELD)  
1 1/2" TEE  
SEE DETAIL A

TSBL-2-21  
TSBL-2-20  
TSBL-2-19  
TSBL-2-18  
TSBL-2-23  
TSBL-2-17  
TSBL-2-16  
TSBL-2-15  
TSBL-2-14  
TSBL-2-13  
TSBL-2-12D  
TSBL-2-12C  
TSBL-2-12B  
TSBL-2-12A  
TSBL-2-12  
TSBL-2-11  
TSBL-2-22  
TSBL-2-25A  
TSBL-2-25B  
PEN X-42  
TSBL-2-25  
TSBL-2-24  
TSBL-2-26  
TSBL-2-26A  
TSBL-2-29  
3/4" TEST LINE  
TSBL-2-30  
TSBL-2-30A  
TSBL-2-30B  
TSBL-2-31  
63-525  
CLASS 2  
EL. 624' AZ. 210°  
2°  
EL. 585' 7.5°  
AZ. 180°  
1 1/2"

NOTE: ALL WELDS ARE CLASS 2 EXCEPT AS NOTED

Information

# Information Only

001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT UNIT 2 STANDBY LIQUID CONTROL 1" TO 3" WELD LOCATIONS					
DRAWN:	PHB	DATE:	9-29-91	SCALE:	NTS CADAM/15ICMP
CHECKED:	JAA	APPROVED:	GLB	SHEET	01 OF 01
SUBMITTED:	JES			2-151-0380-C	001

ALL A/D HISTORY RESEARCHED AT R000

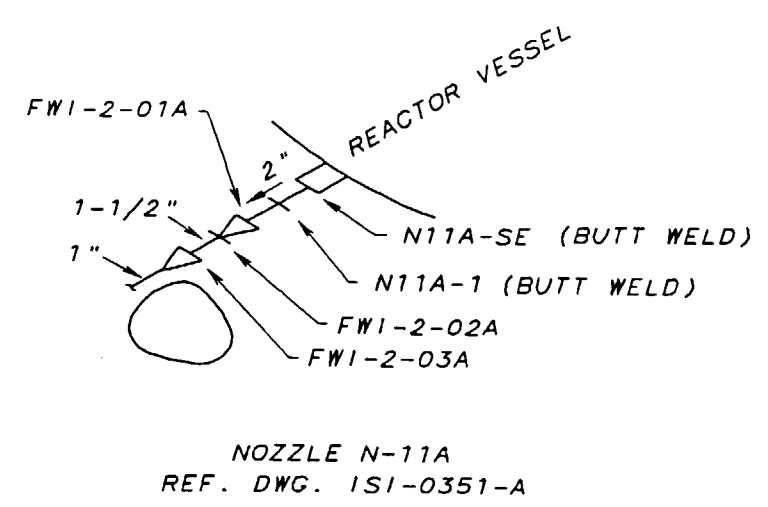
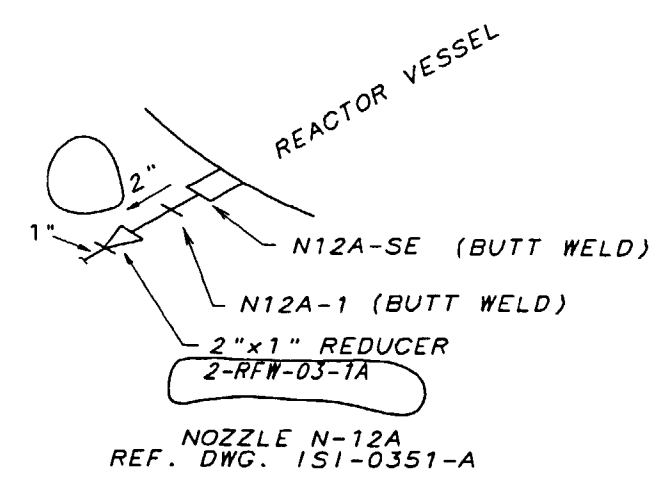
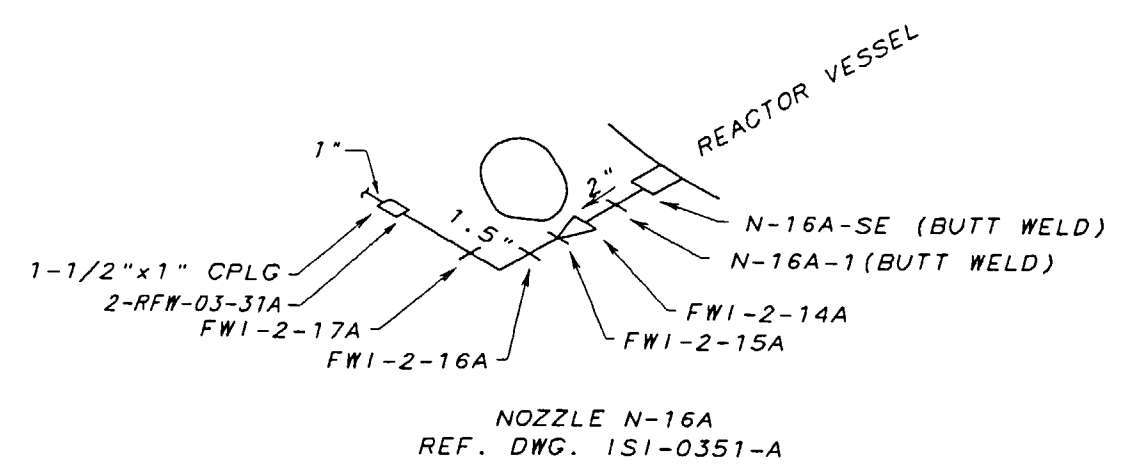
CAD MAINTAINED DRAWING

CCD

REFERENCE DRAWINGS:  
 2-47E803-5  
 2-47W2650-100  
 2-47E600-602  
 47BM600-SERIES  
 0-47W600-20

MATERIAL SPECIFICATIONS:  
 PIPING  
 A312 OR A376 GR. TP-304 OR TP-316  
 SCH. 80  
 FITTINGS  
 A182 GR. F-316

ASME CC-1 (EQUIVALENT)



Information Only

001	ADMIN	RDL	RDL	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
FEEDWATER INSTRUMENTATION					
WELD LOCATIONS					
DRAWN: PHB	SUBMITTED	APPROVED	SCALE NTS		
DATE: 9-11-91	DATE: 9-20-91	DATE: 9-29-91	SHEET 01 OF 02 SHEET(S)		
CHECKED: JH			DRAWING NO.	REV.	
DATE: 9-20-91	JES	GLB	2-151-0383-C	001	
CAD MAINTAINED DRAWING				CCD	

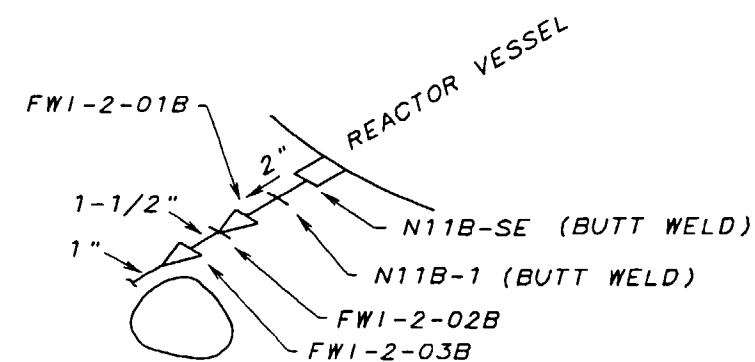
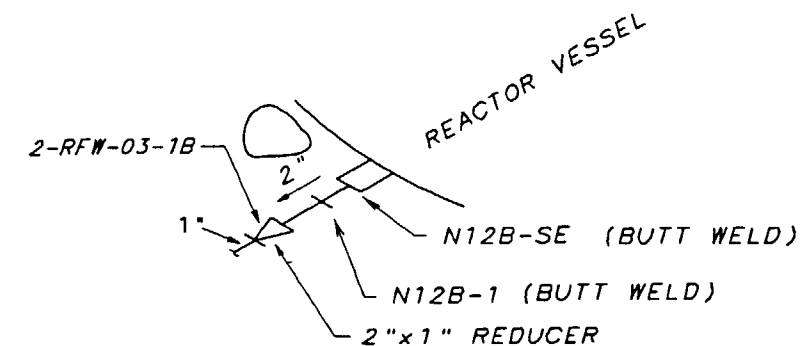
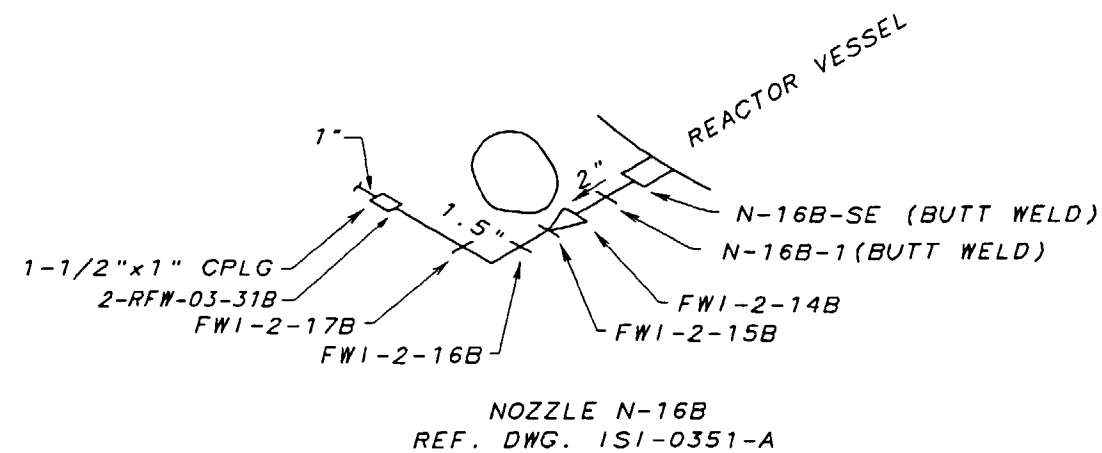
REFERENCE DRAWINGS:

2-47E803-5  
2-47W2650-100  
2-47E600-601  
47BM600-SERIES  
0-47W600-20

MATERIAL SPECIFICATIONS:

PIPING  
A312 OR A376 GR. TP-304 OR TP-316  
SCH. 80  
FITTINGS  
A182 GR. F-316

ASME CC-1 (EQUIVALENT)



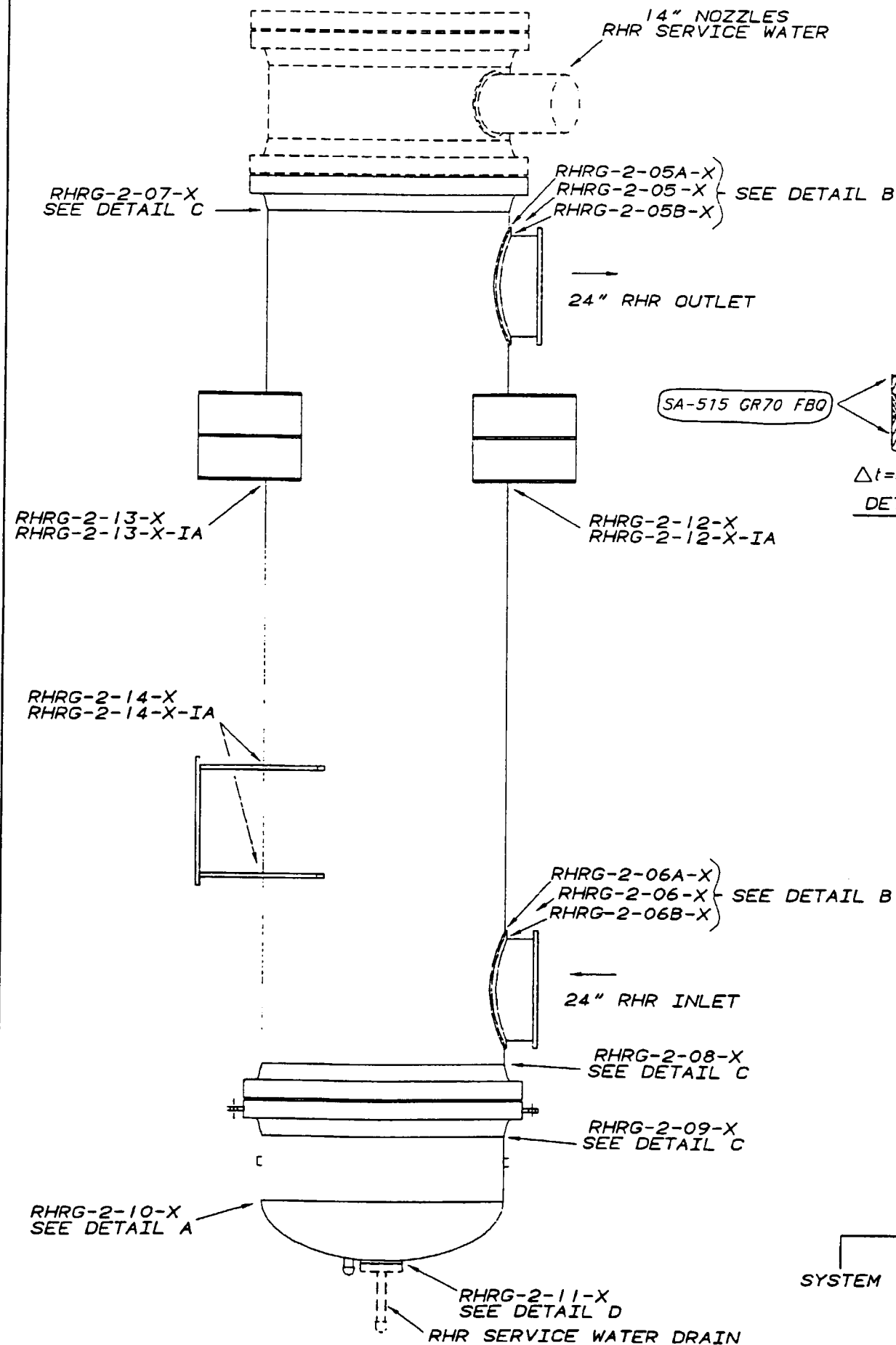
Information Only

001	ADMIN	RDL	RDL	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
FEEDWATER INSTRUMENTATION					
WELD LOCATIONS					
DRAWN: PHB	SUBMITTED	APPROVED	SCALE NTS		
DATE: 9-17-91	DATE: 9-20-91	DATE: 9-29-91	SHEET 02 OF 02 SHEET(S)		
CHECKED: JH			DRAWING NO.	REV.	
DATE: 9-20-91	JES	GLB	2-151-0383-C	001	
CAD MAINTAINED DRAWING				CCD	

REFERENCE DRAWINGS  
 69-BF-165 PERFEX CORP.  
 69-D-160-05 PERFEX CORP.  
 NOTE: THIS DRAWING SUPERSEDES  
 ISI-0314-B

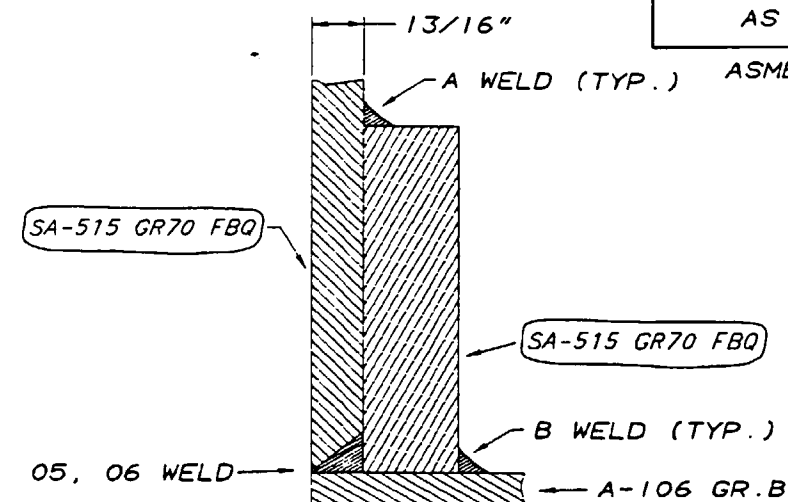
MATERIAL SPECIFICATIONS  
 AS NOTED

ASME CC-2 (EQUIVALENT)

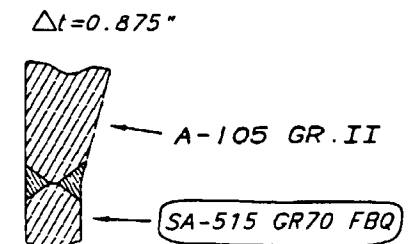


SA-515 GR70 FBQ

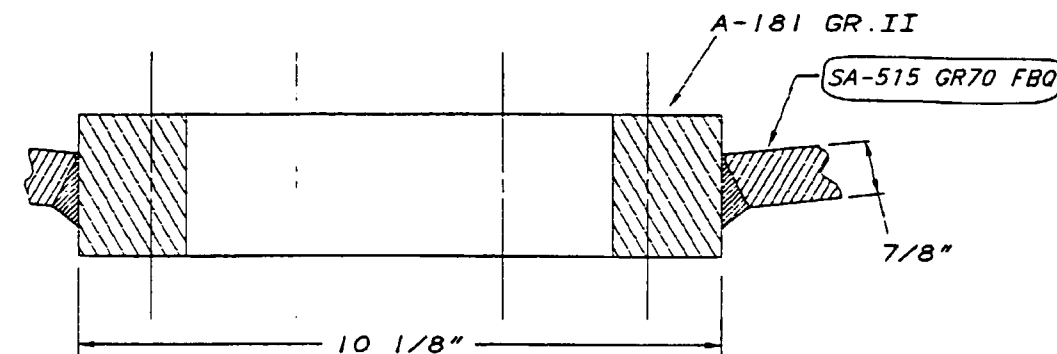
$\Delta t = 0.875"$   
 DETAIL A



DETAIL B

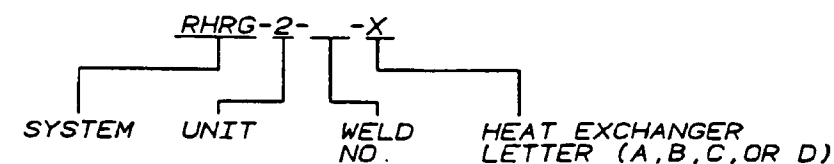


DETAIL C



DETAIL D

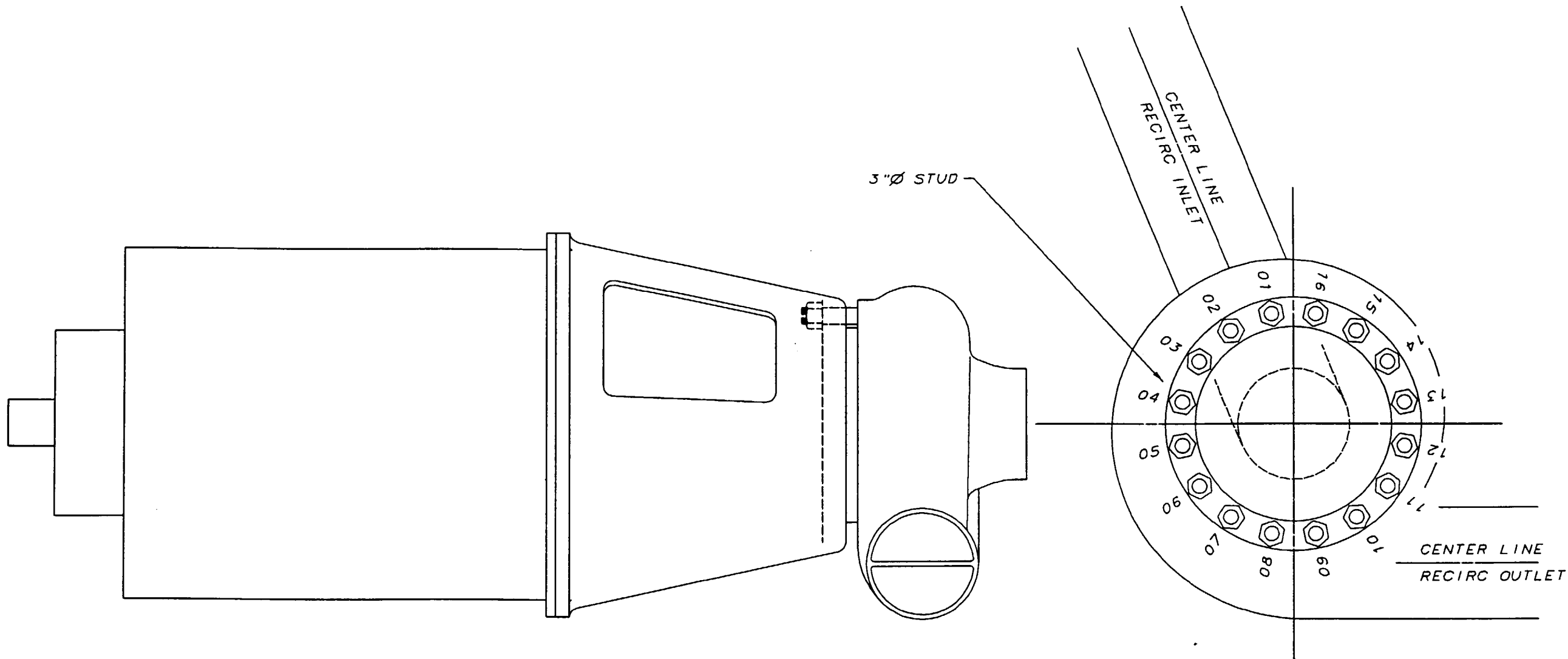
Information Only



001	ADMIN	RGP	JT	RLD/H	
REVISED FOR RIMS MEMO R21 990604 007, REMOVED DRAWING CLASSIFICATION (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL HEAT EXCHANGER					
WELD LOCATIONS					
DRAWN: PHE		DATE: 3-13-92		SCALE: NTS	CADAM/ISICMP
CHECKED: RPG		APPROVED: GLB		SHEET 01 OF 01	REV
SUBMITTED: JES		2-151-0406-C			001
				CCD	

REFERENCE DRAWINGS  
2F-1177 BYRON JACKSON DIV. BORG-WARNER  
1E-3429 BYRON JACKSON DIV. BORG-WARNER  
153F754 GENERAL ELECTRIC

ASME CC-1 (EQUIVALENT)



NOTE:  
1. MATERIAL ASTM A540 GR B25.

PUMP A  
NUMBERS (01-16) ARE PREFIXED BY:  
PUMP A.....PMP-A-STUD-2-  
PUMP A.....PMP-A-NUT-2-  
PUMP A.....PMP-A-WASH-2-  
PUMP A.....PMP-A-FLG-2-

PUMP B  
NUMBERS (01-16) ARE PREFIXED BY:  
PUMP B.....PMP-B-STUD-2-  
PUMP B.....PMP-B-NUT-2-  
PUMP B.....PMP-B-WASH-2-  
PUMP B.....PMP-B-FLG-2-

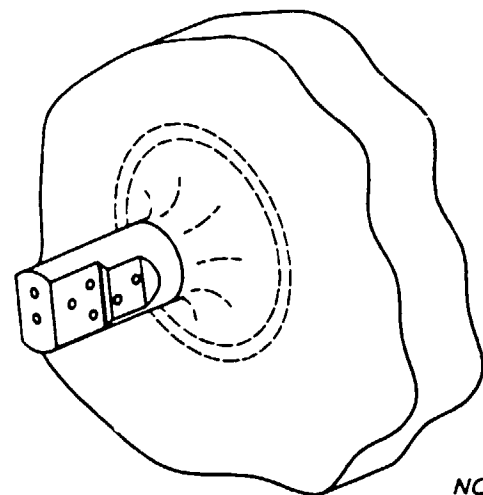
PUMP A  
PUMP INTERIOR IDENTIFIERS:  
PUMP A.....PMP-2A-INTERIOR

PUMP B  
PUMP INTERIOR IDENTIFIERS:  
PUMP B.....PMP-2B-INTERIOR

# Information Only

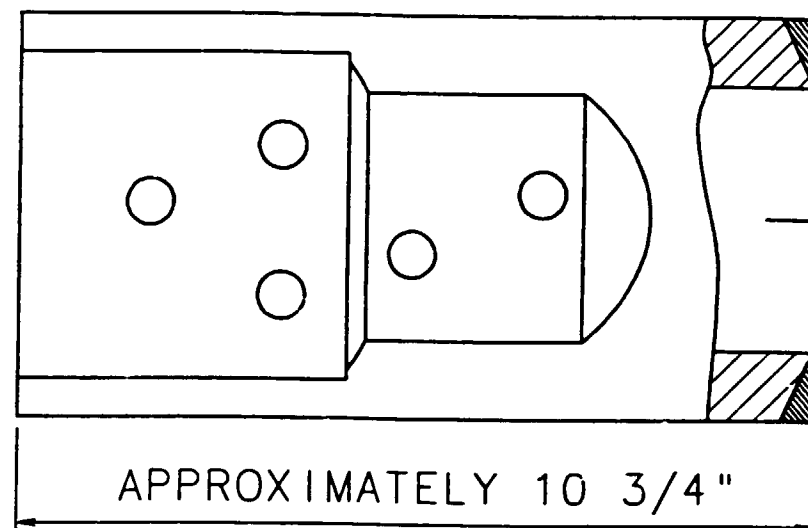
CCD	ADMIN	RRL	N/A	N/A	N/A		
000	ISSUED TO CREATE CCD SUPERSEDES AS-DESIGNED 131-0407-C-1 R1 AND TO DEPICT AS CONSTRUCTED STATUS PER RIMS MEMO R14 970505 307; A/D R6						
REV	NO	CHANGE REF	DATE	DTN	CHKR	DSGN	RVWR
S							
TENNESSEE VALLEY AUTHORITY							
BROWNS FERRY NUCLEAR PLANT							
UNIT 2							
RECIRCULATION PUMP							
BOLTING LOCATIONS & PUMP INTERIORS							
DRAWN:	PHB	SUBMITTED		APPROVED		SCALE	NTS
DATE:	3-13-92	DATE:		DATE:		SHEET	01 OF 01 SHEET(S)
CHECKED:	BPG					DRAWING NO.	
DATE:		JES		GPB		2-131-0407-C	000
							CCD





NOZZLE A OR B

JP-2-1X



APPROXIMATELY 10 3/4"

EL. 589'6"

\*N8A - AZIMUTH 105°  
\*N8B - AZIMUTH 285°

N8A OR N8B  
NOZZLE TO VESSEL WELD

\*N8A-IR  
\*N8B-IR

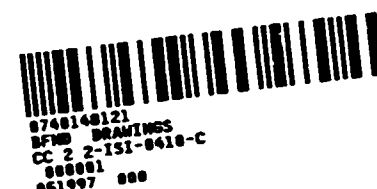
\*N8A-IR  
\*N8B-IR

REFERENCE DRAWINGS  
0-112D3838 GE (84P64-B835271)  
769E957 GE (84P64-B835271)  
CHM-2046-C (NOZZLE LOCATIONS)

NOTE:  
THIS DRAWING SUPERSEDES  
ISI-0156-A

MATERIAL SPECIFICATIONS  
DISSIMILAR METAL WELD

ASME CC-1 (EQUIVALENT)



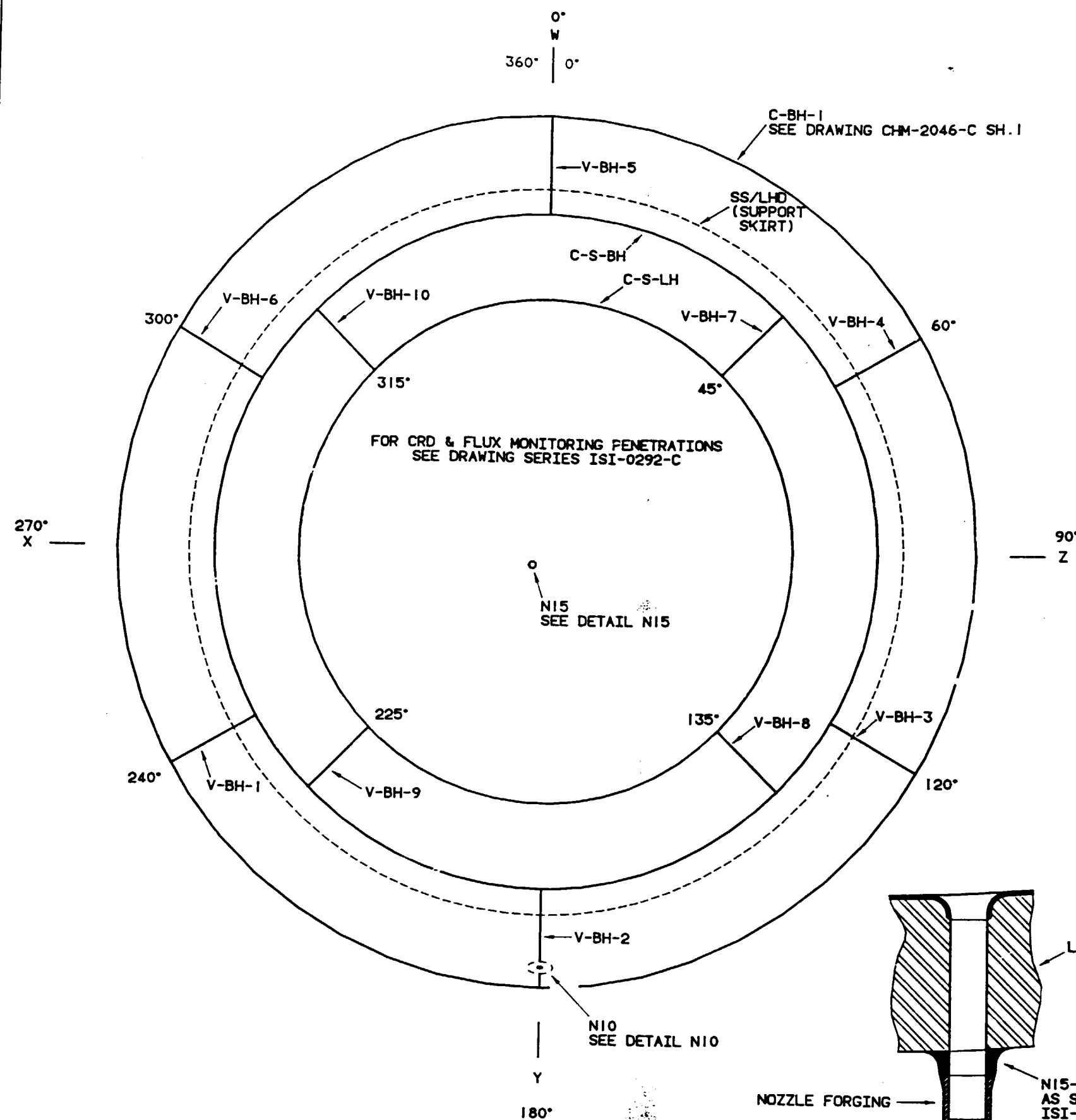
Information Only

DESIGN	5/19/97	REL	JF	N/A	PLD	N/A	N/A	PLD	N/A
ISSUED TO CREATE CCD SUPERSEDES AS-DESIGNED ISI-0410-C-1 B3 AND TO DEPICT AS CONSTRUCTED STATUS FOR RING HEAD B14 070000 200; A/D B3-01									
REV	CHANGE	BY	DATE	BY	CHK	CHK	CHK	CHK	CHK
1									
TENNESSEE VALLEY AUTHORITY									
BROWNS FERRY NUCLEAR PLANT									
UNIT 2									
JET PUMP INSTRUMENTATION NOZZLE									
WELD LOCATIONS									
DRAWN:	PHB	DATE:	3-13-93	SCALE:	NTS	CADAM/ISICMP			
CHECKED:	RPG	APPROVED:	GLB	SHEET	01 OF 01	REV			
SUBMITTED:	JES					2-151-0410-C-000			
						CCD			

"ORIGINAL"

ALL A/D HISTORY RESEARCHED AT R000





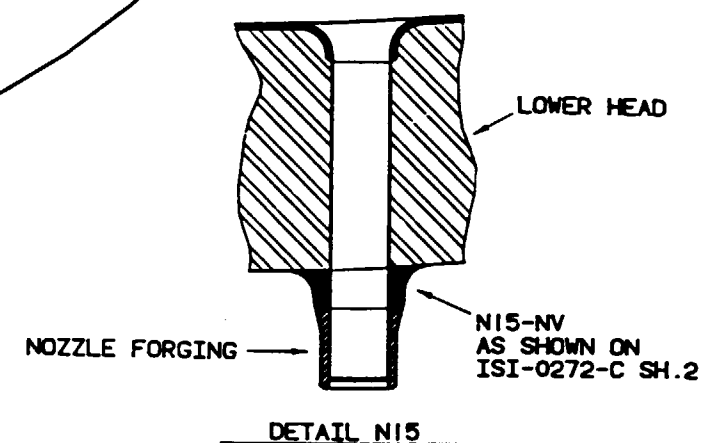
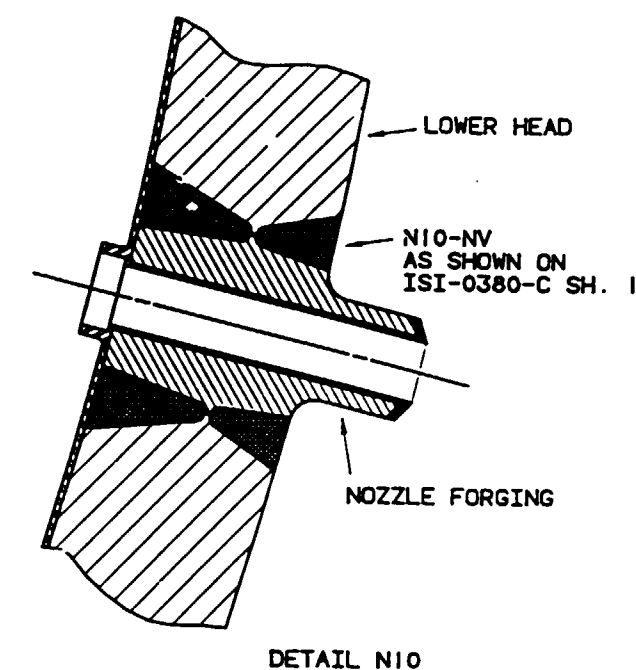
REFERENCE DRAWINGS  
 GE SKETCH SK-B2008  
 B&W 122856E-11  
 B&W 122859E-10  
 GE SKETCH SK-B2022  
 GE SKETCH SK-B2023

# MATERIAL SPECIFICATIONS

BOTTOM HEAD  
 CS MN/MO

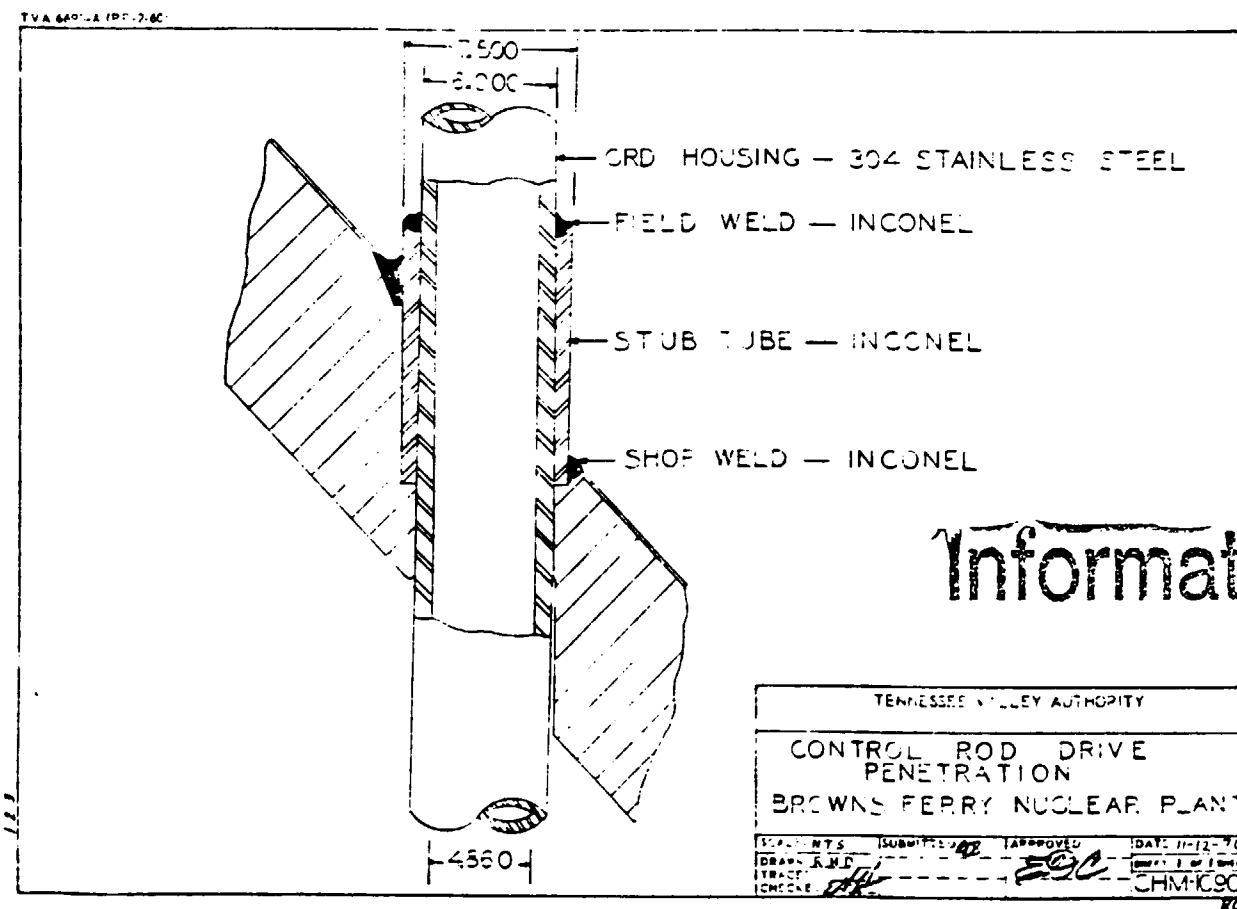
N10  
 NOZZLE - A508 CL.2 (MN-MO)  
 N15  
 NOZZLE - SA-105

ASME CC-1 (EQUIVALENT)

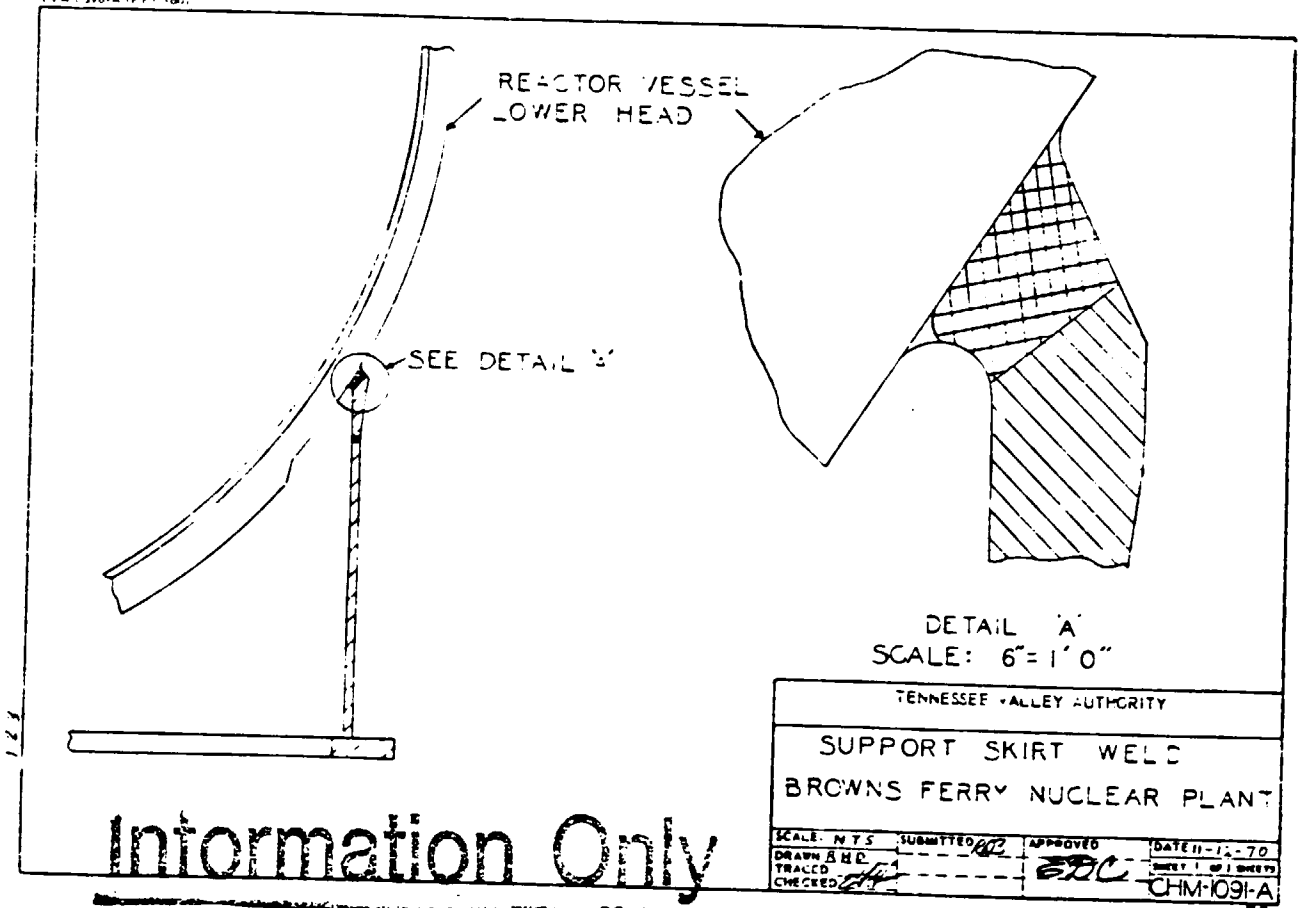


# Information Only

REV.	BY	CHECKED	SUBMITTED	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
BOTTOM HEAD ASSEMBLY					
WELD LOCATIONS					
DRAWN:	PNB	DATE:	01/20/94	SCALE:	NTS
CHECKED:	NTS	APPROVED:	BME	SHEET	01 OF 01
SUBMITTED:	NTS	ISI-0444-C00		REV	

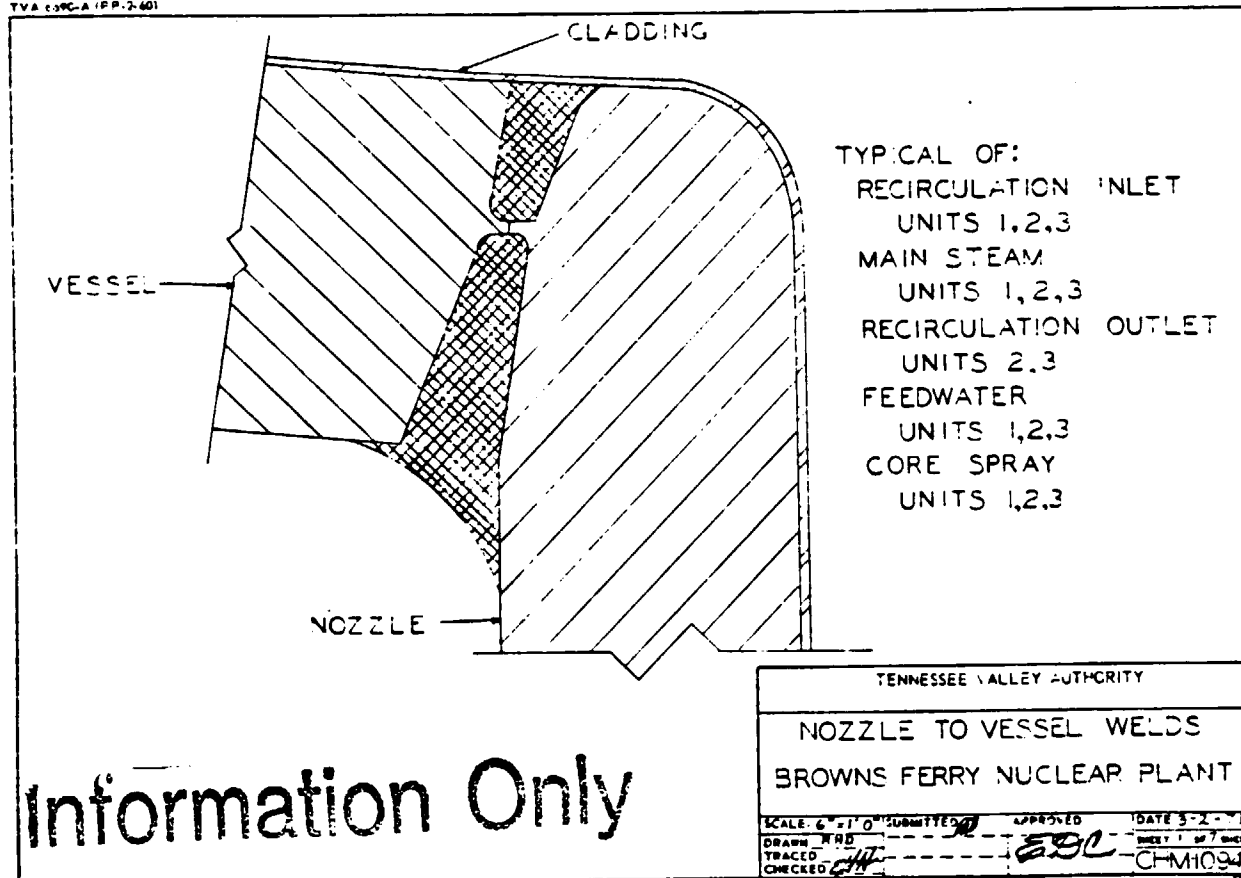


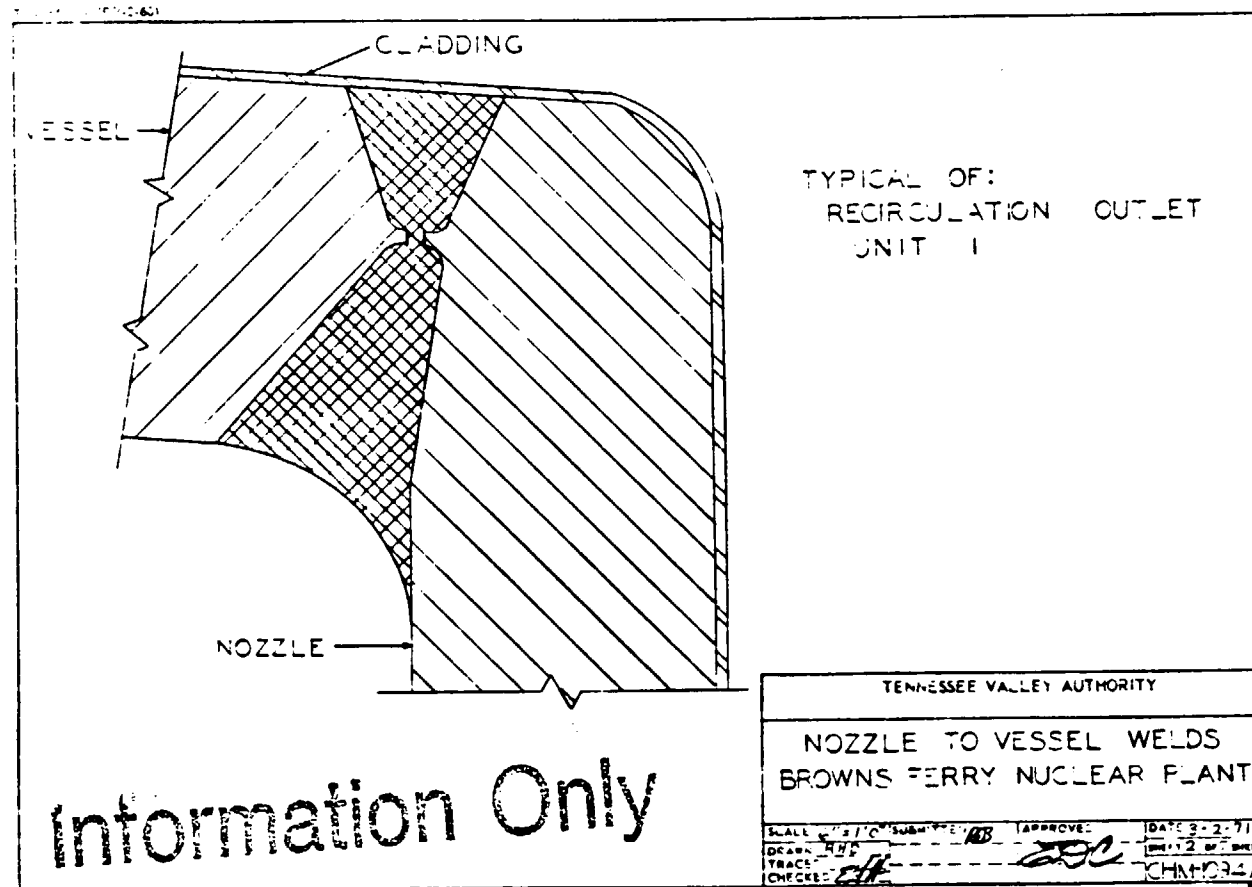
TVA 1590-A (PP-7-67)



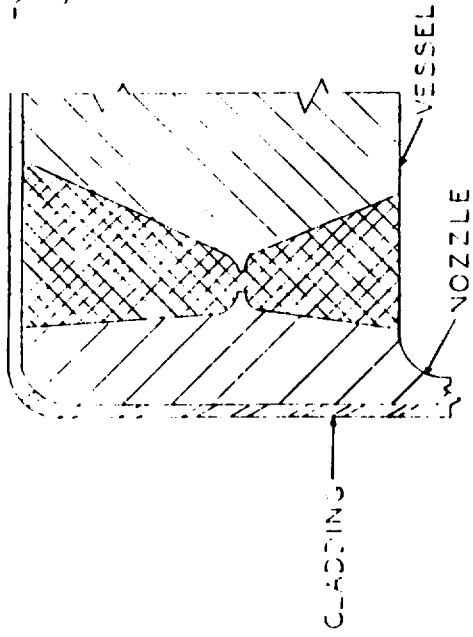
Information Only

TVA C-590-A (PP-2-60)





TYPICAL OF:  
DET. FUEL INSTRUMENTATION  
UNIT 1



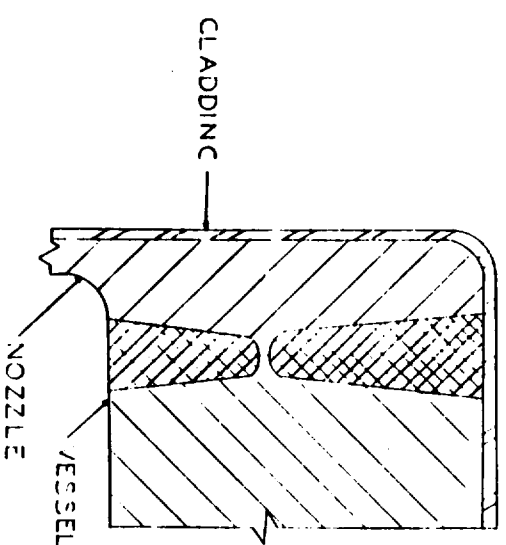
DESIGNED BY: J. L. HODGSON

NOZZLE TO VESSEL WELDS  
BROWNS FERRY NUCLEAR PLANT

SCALE: 2" = 1' 0" (SUBMITTER'S) APPROVED: DATE: 3-22-71  
DRAWN: J. L. HODGSON  
CHECKED: J. L. HODGSON  
DESIGNED: J. L. HODGSON

Information Only

1/4 602-A MP-2-86

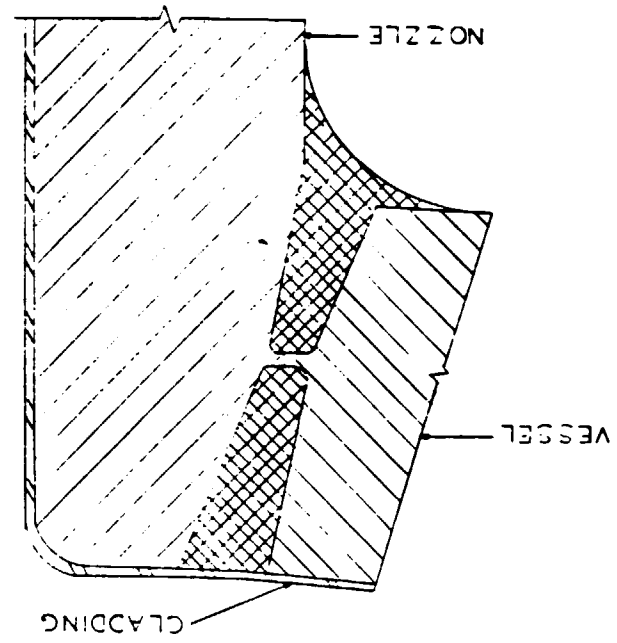


TYPICAL OF:  
JET PUMP INSTRUMENTATION  
UNITS 2,3

Information Only

TENNESSEE VALLEY AUTHORITY	
NOZZLE TO VESSEL WELDS BROWNS FERRY NUCLEAR PLANT	
SCALE: 1/4" = 1'-0"	DATE: 3-2-77
DESIGN: MJD	REVIEW: JTB
CHECKED: JTB	DATE: 10-2-77
NO	

Information



TYPICAL OF:  
CONTROL ROD DRIVE HYDRAULIC  
RETURN, UNITS 1,2,3

TEMPERATURE, ALTITUDE, AUTHORITY

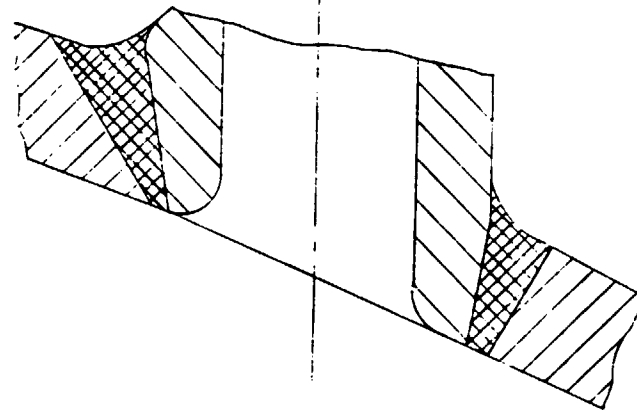
NOZZLE TO VESSEL WELDS  
BROWNS FERRY NUCLEAR PLANT

[illegible]



TVA 6030A-PP-000

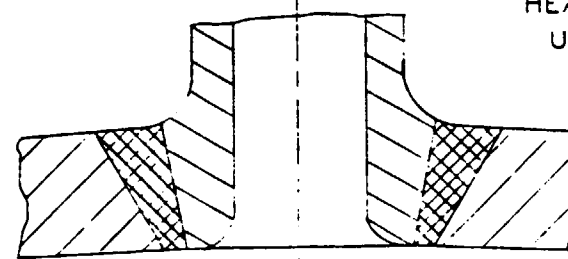
TYPICAL OF:  
HEAD SPRAY  
UNITS 1, 2, 3  
HEAD INSTRUMENTATION  
UNITS 1, 2, 3



Information Only

TENNESSEE VALLEY AUTHORITY			
NOZZLE TO VESSEL WELDS BROWNS FERRY NUCLEAR PLANT			
SCALE: 3" = 1'	SUBMITTED	APPROVED	DATE 3-2-67
DRAWN: KLD	TRACED	CHECKED	SHEET 6 OF 7 SHEETS
			CHV-10941

TVA 6690-A (2P-7-60)



TYPICAL OF:  
HEAD VENT  
UNITS 1,2,3

Information Only

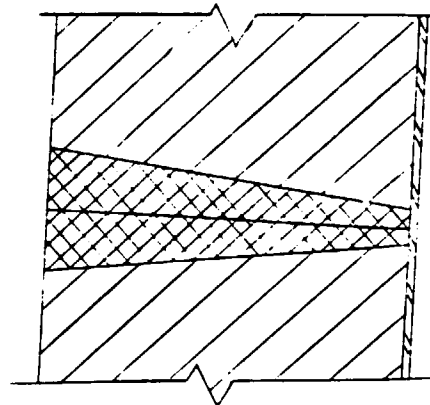
TENNESSEE VALLEY AUTHORITY

NOZZLE TO VESSEL WELDS  
BROWNS FERRY NUCLEAR PLANT

SCALE: 3/4" = 1'-0"	SUBMITTED: 10	APPROVED: 200	DATE: 7-2-71
DRAWN: R.M.D.	TRACED: 5/11	CHECKED: 5/11	CHN-094A

RD

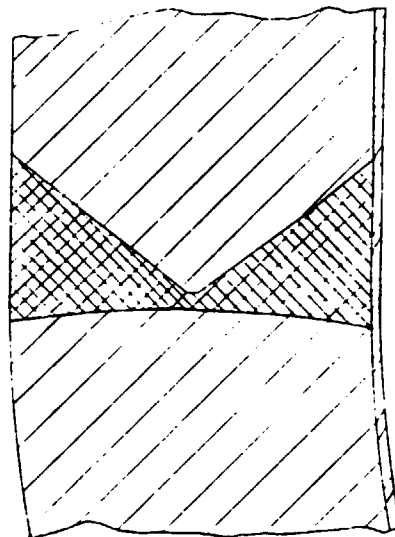
TVA 6690-A (DP-7-60)



TYPICAL OF:  
VESSEL LONGITUDINAL AND  
CIRCUMFERENTIAL WELDS  
UNITS 1,2,3

Information Only

TENNESSEE VALLEY AUTHORITY			
VESSEL AND HEAD WELDS BROWNS FERRY NUCLEAR PLANT			
SCALE: 2"=1'-0"	SUBMITTED: RD	APPROVED: EDC	DATE: 3-5-71
DRAWN: RND	TRACED: LA	CHECKED: LA	CHN: HCE
			RD

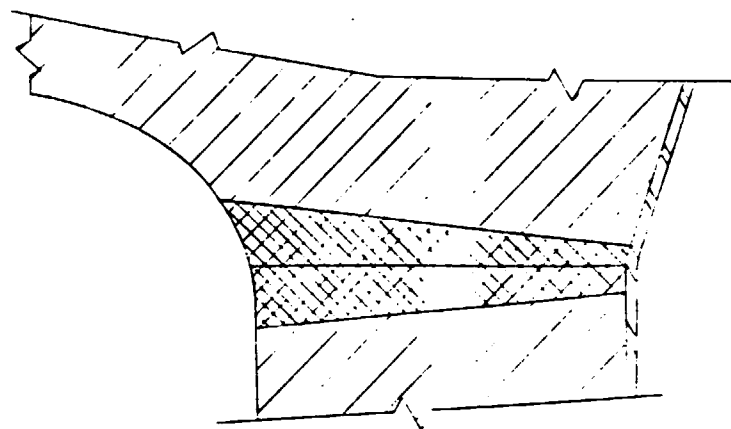


COURSE 1 TO LOWER HEAD  
UNIT 1

Information Only

TENNESSEE VALLEY AUTHORITY			
VESSEL AND HEAD WELDS BROWNS FERRY NUCLEAR PLANT			
SCALE 1"=1'-0"	SUBMITTER RB	APPROVED EDC	DATE 3-5-71
DRAWN EDD			DESIGNER M504173
TRACE			CHIEF OF 3
CHK BY			RO

TVA 6590-A PP-1-601



TYPICAL OF:  
VESSEL TO FLANGE  
UNITS 1,2,3

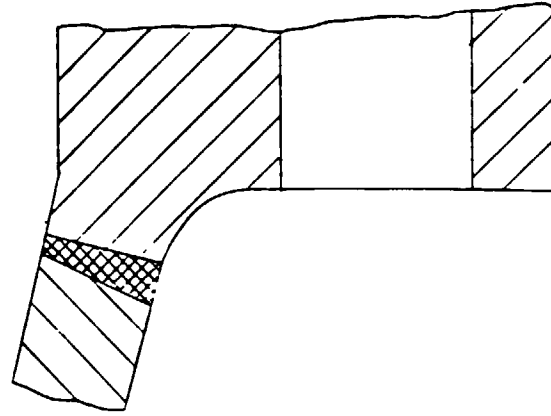
Information Only

TENNESSEE VALLEY AUTHORITY			
VESSEL AND HEAD WELDS BROWN'S FERRY NUCLEAR PLANT			
SCALE 1/4" = 1'-0"	DATE 3-5-77	APPROVED	
DRAWN R.M.	BY EDC	DATE 3-5-77	
TRACED	BY EDC	DATE 3-5-77	
CHECKED	BY EDC	DATE 3-5-77	
CHAKOSA		NO	

Information Only

VESSEL AND HEAD WELDS  
BROWNS FERRY NUCLEAR PLANT

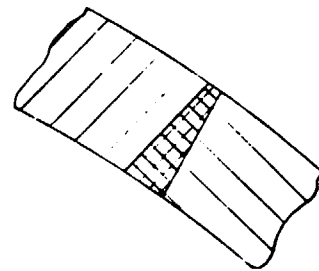
**TENNESSEE VALLEY AUTHORITY**



TYPICAL OF:  
HEAD TO FLANGE  
UNITS 1,2,3

SCALE 3" = 1.0 SUBMITTED *W* APPROVED *282* DATE 3-5-71 CHECKED *W* TACED *W* DRAWN *W* CH-1065A

TVA 6057-A (PD-2-60)



TYPICAL OF:  
HEAD DOME WELDS  
UNITS 1,2,3

Information Only

TENNESSEE VALLEY AUTHORITY

VESSEL AND HEAD WELDS  
BROWNS FERRY NUCLEAR PLANT

SCALE 3"=1'-0"	SUBMITTED <i>20</i>	APPROVED <i>ERC</i>	DATE 3-5-77
DRAWN <i>JUL</i>			SHEET 5 OF 5 SHEETS
TRACED <i>ERK</i>			C 17-1095A
CHECKED <i>ERK</i>			NO

# NOZZLE GROUP | DISTANCE TO MATING SURFACE

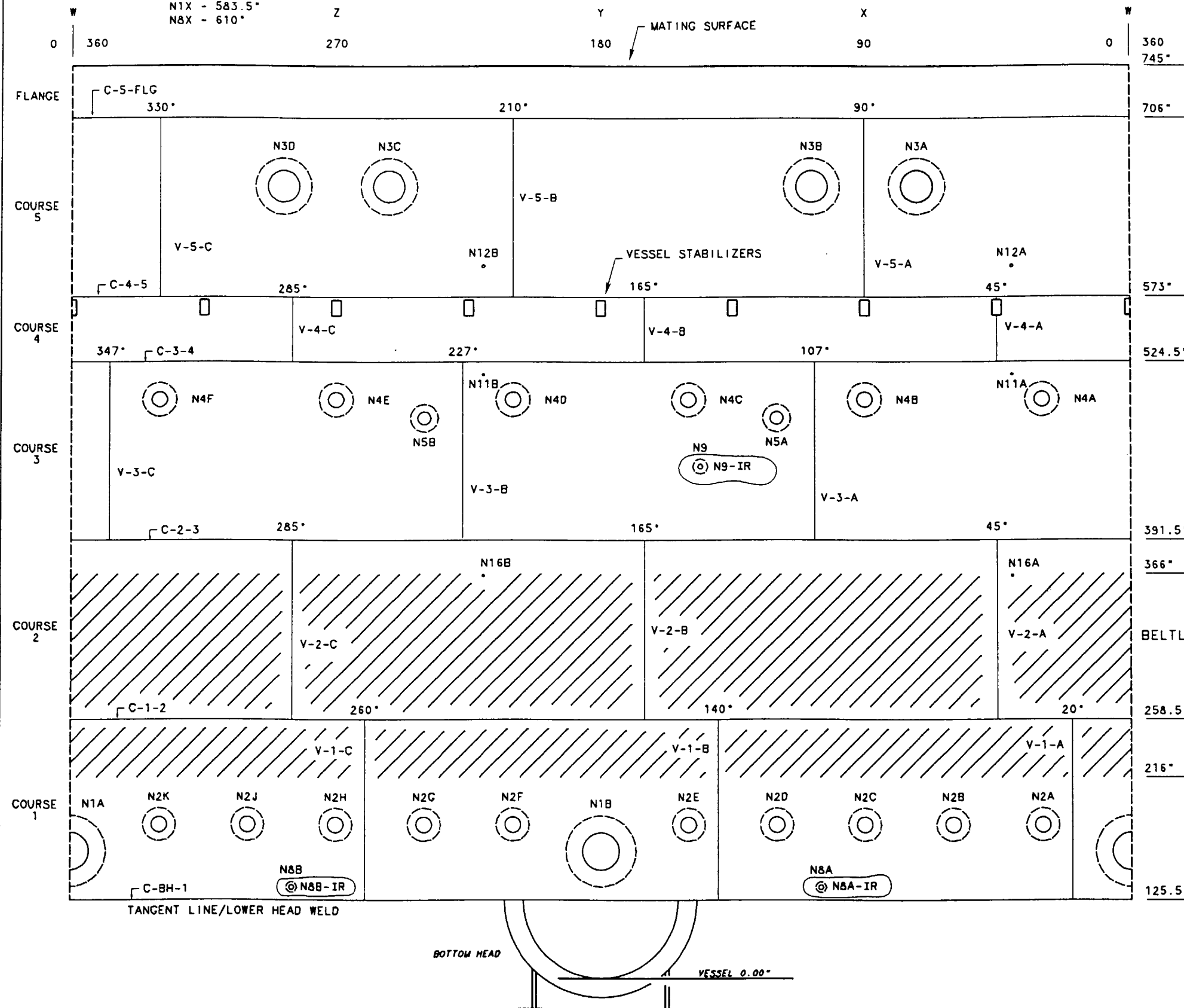
N3X - 86.5"  
N12X - 146"  
N11X - 228"  
N4X - 246.5"  
N5X - 259.5"  
N9 - 296.5"  
N16X - 379"  
N2X - 564"  
N1X - 583.5"  
N8X - 610"

REFERENCE DRAWINGS (GE)  
SKETCHES - RPV EXAMINATION PLAN (GE)  
SK-B2001 SK-B2005 SK-B2010  
SK-B2003 SK-B2007  
SK-B2004 SK-B2006

## LEGEND

○ VESSEL NOZZLE  
● FULL PENETRATION NOZZLE WELD

ASME CC-1 (EQUIVALENT)



NOTES:  
1. REFER TO RPV MANUAL FOR MATERIAL SPECIFICATION AND MATERIAL THICKNESS.  
2. NOZZLES N-11A, N-11B, N-12A, N-12B, N-16A, AND N-16B ARE CATEGORY B-E.

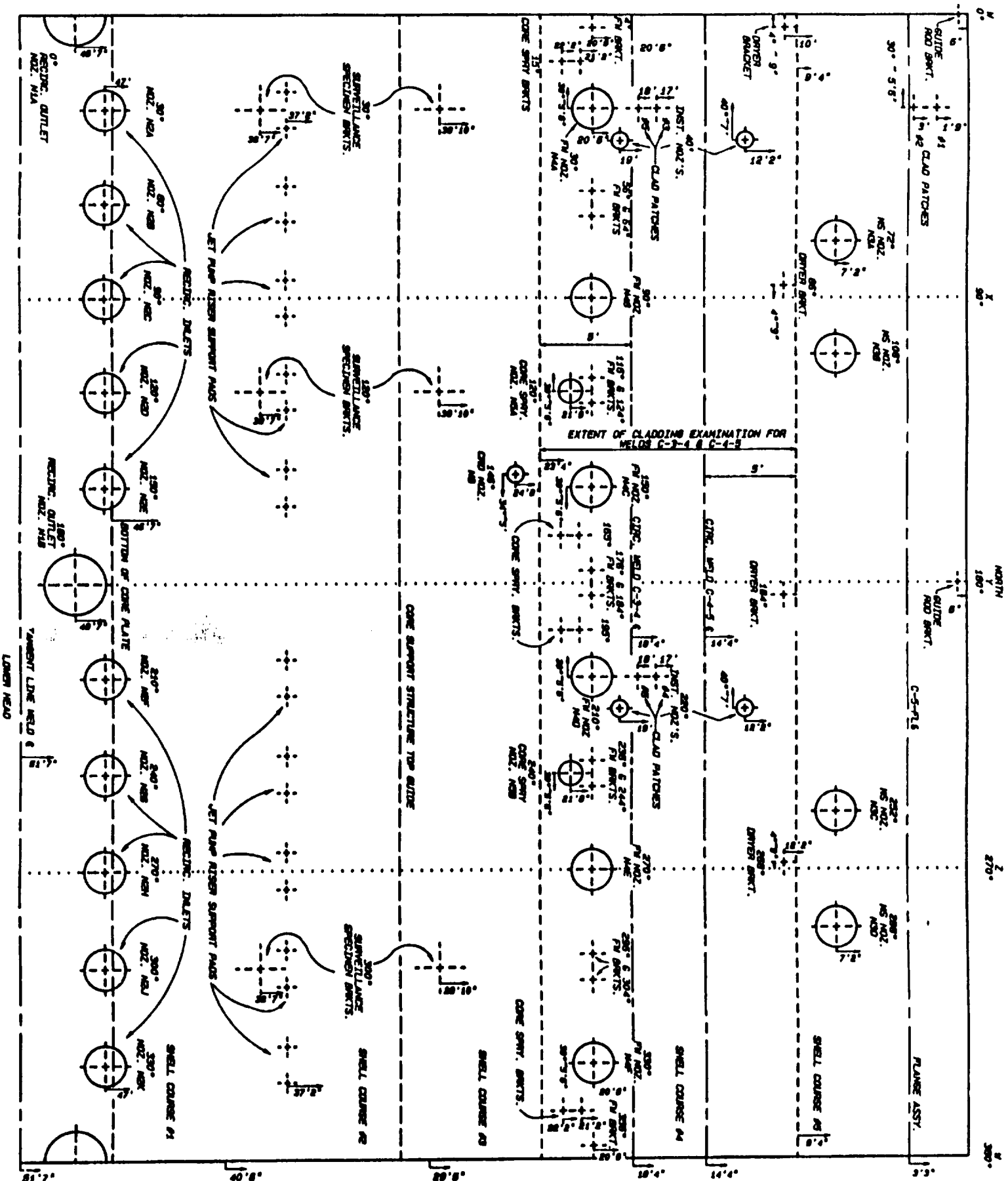
Information Only

002	ADMIN		RDL		N/A		N/A	N/A	
	REVISED PER RIMS MEMO R14 970505 302								
REV	CHANGE REF	DATE	DFTR	CHKR	DSGN	RVWR	APPD	APPD	ISSD
TENNESSEE VALLEY AUTHORITY									
S	BROWNS FERRY NUCLEAR PLANT								
	UNIT 2								
	REACTOR PRESSURE VESSEL (RPV)								
	SHELL COURSE WELD/NOZZLE LOCATIONS (OUTSIDE VIEW)								
DRAWN: N/A			DATE: N/A			SCALE: NTS		CADAM/ISICM	
CHECKED: N/A			APPROVED:			SHEET 01 OF 02		REV	
SUBMITTED: N/A			GLB			2-CHM-2046-C		002	
					CCD				



REFERENCE DRAWINGS  
500733-001C (MIRROR INSULATION)  
24187-F (B&M)  
122856E

- NOTES:
1. FOUR (4) STEAM DRYER HOLD DOWN BRACKETS (NOT SHOWN) ARE LOCATED IN THE VESSEL CLOSURE HEAD 10" UP FROM THE FLANGE. THESE ARE AT AZIMUTH LOCATIONS 41°, 139°, 221°, AND 319°.
  2. CODE CATEGORY B-N-1  
RPV INTERIOR  
CODE CATEGORY B-N-2  
RPV-INT ATT BLR ①  
RPV-INT ATT NBLR ②  
RPV-CORE SUPPORT  
① INTEGRAL ATTACHMENT BELT LINE REGION  
② INTEGRAL ATTACHMENT NON BELT LINE REGION

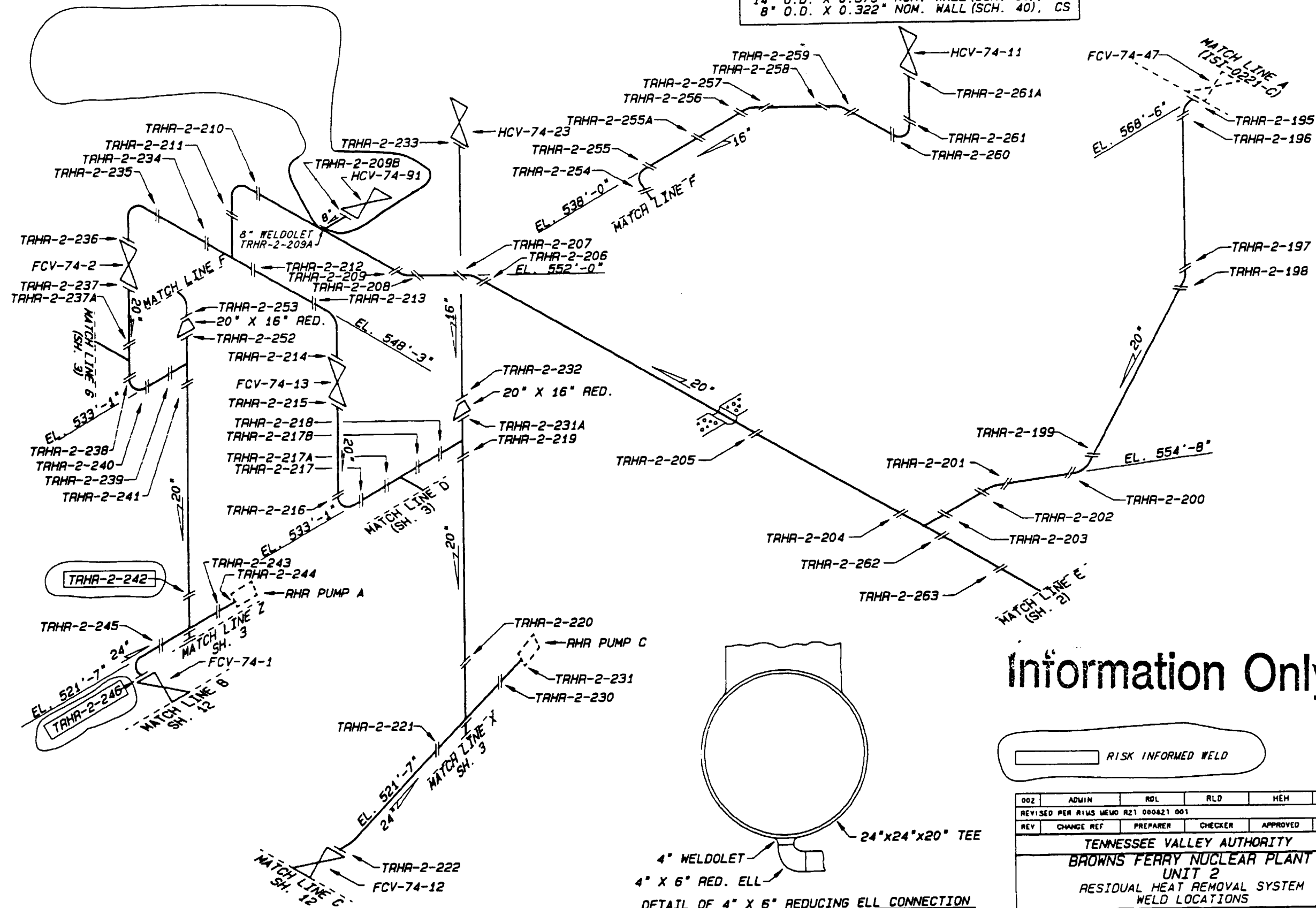


# Information On

[illegible]

MATERIAL SPECIFICATIONS			
ASME CC-2 (EQUIVALENT)			
24" O.D. X 0.375" NOM. WALL (SCH. 20),	CS		
20" O.D. X 0.375" NOM. WALL (SCH. 20),	CS		
16" O.D. X 0.375" NOM. WALL (SCH. 30),	CS		
14" O.D. X 0.375" NOM. WALL (SCH. 30),	CS		
8" O.D. X 0.322" NOM. WALL (SCH. 40),	CS		

REFERENCE DRAWINGS  
47W452 SERIES  
47W335-4



Information Only

RISK INFORMED WELD

002	ADMIN	ROL	RLD	HEH	
REVISED PER RIMS MEMO R21 000421 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: KEV	SUBMITTED	APPROVED	SCALE: NYS		
DATE: 3-31-81	DATE: --	DATE: --	SHEET 1 OF 12 SHEET(S)		
CHECKED: JYL		GLB	DRAWING NO.	REV	
DATE:			2-MSG-0018-C	002	

CCD

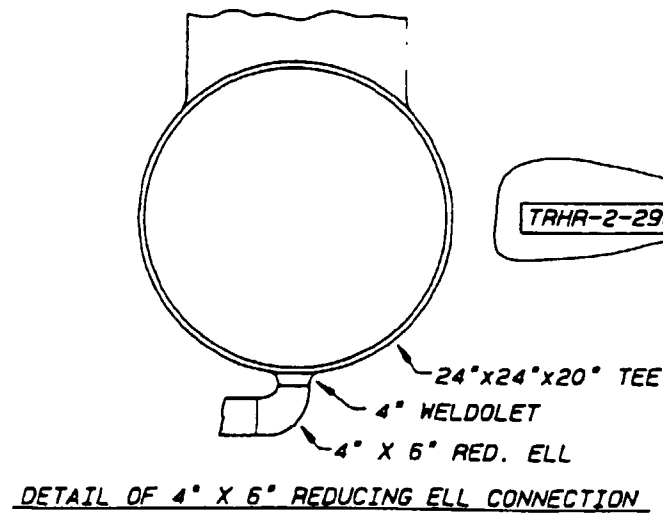
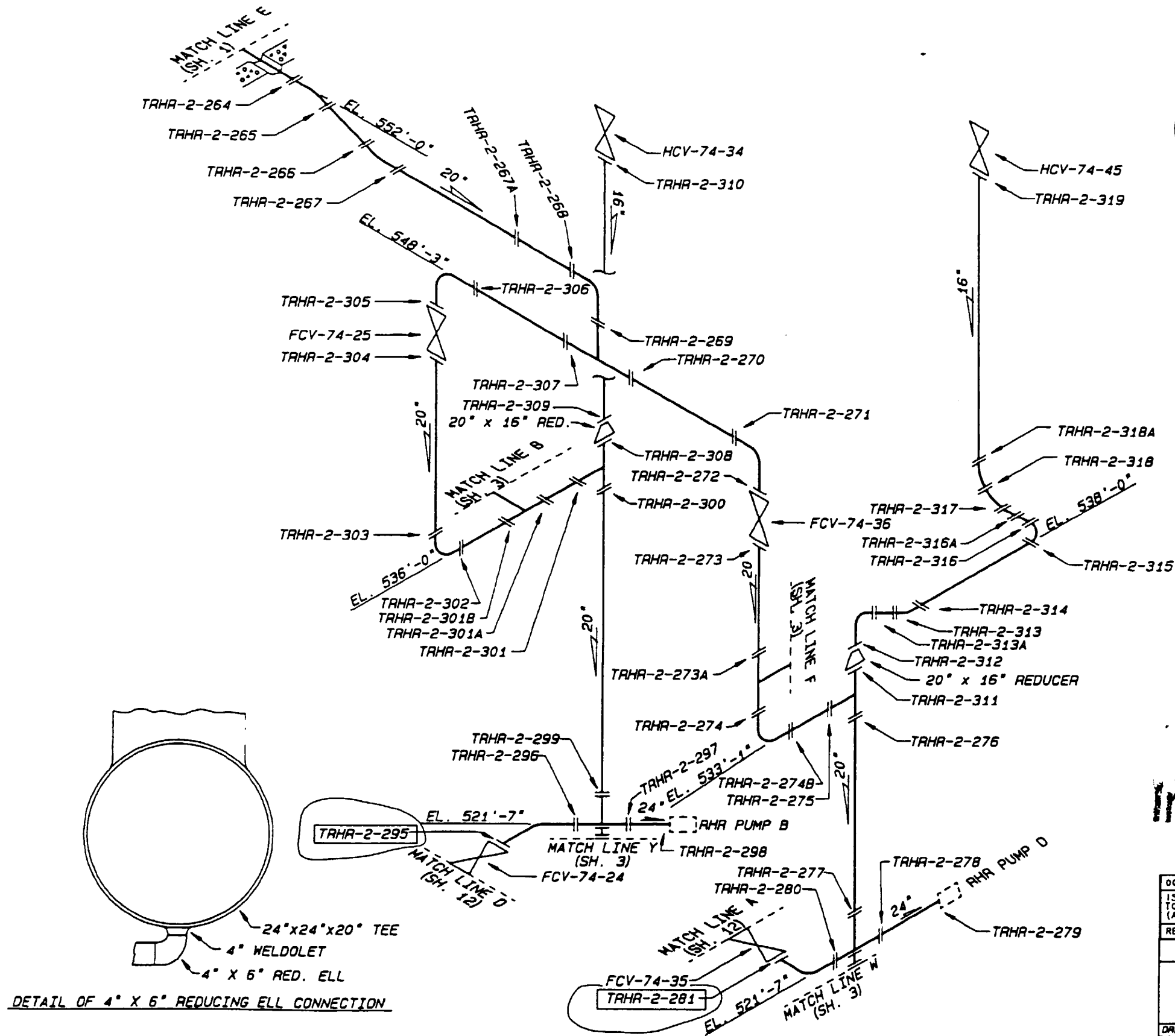
ALL A/D HISTORY RESEARCHED AT R000

CAD MAINTAINED DRAWING

REFERENCE DRAWINGS	
47W452 SERIES	
47W335-4	
MATERIAL SPECIFICATIONS	
ASME CC-2 (EQUIVALENT)	
24" X .375" NOM. WALL (SCH. 20).	CS
20" X .375" NOM. WALL (SCH. 20).	CS
16" X .375" NOM. WALL (SCH. 30).	CS
14" X .375" NOM. WALL (SCH. 30).	CS

SYMBOL:
 

- RISK INFORMED WELD



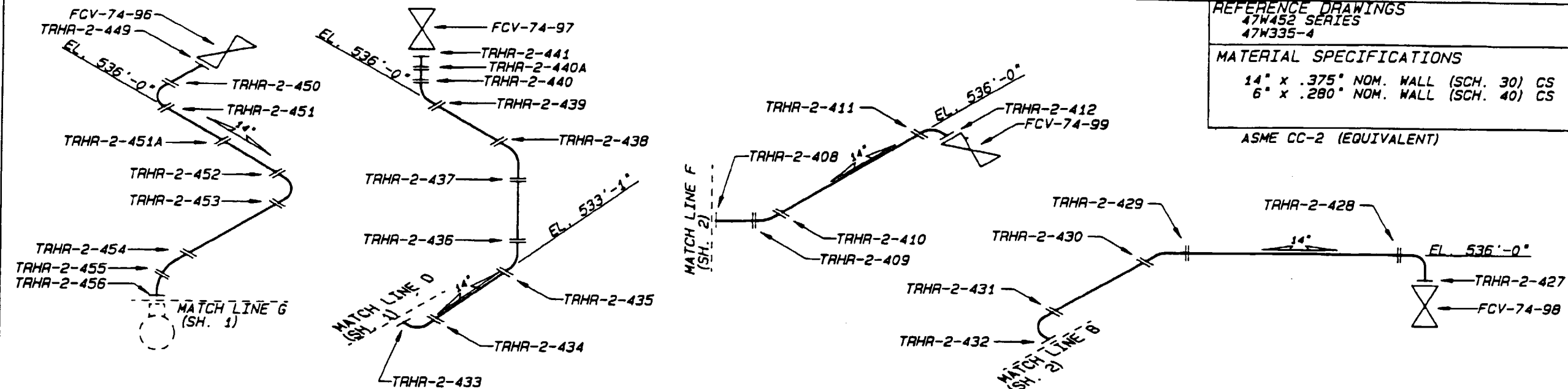
ALL A/O HISTORY RESEARCHED TO R000

Information Only

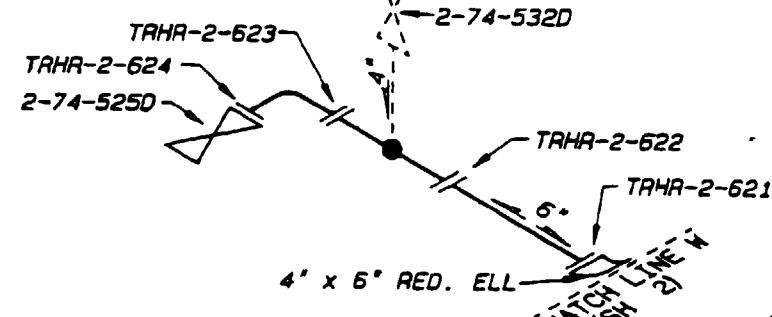
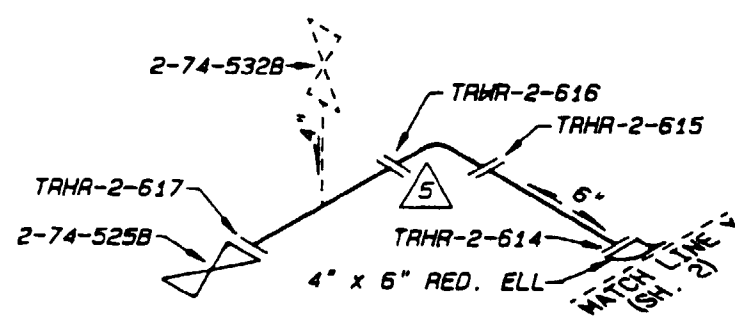
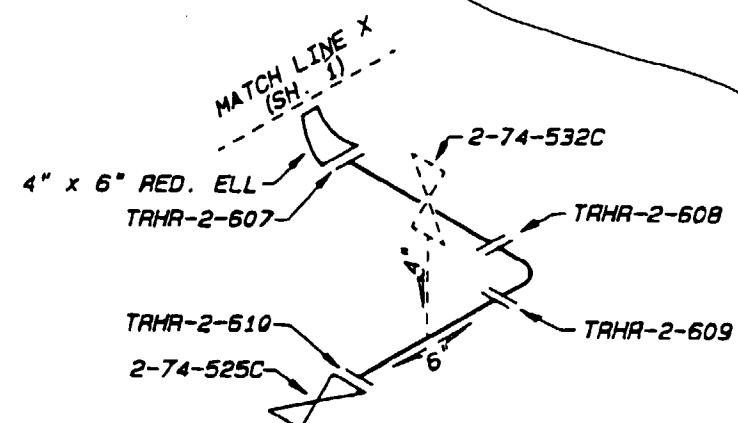
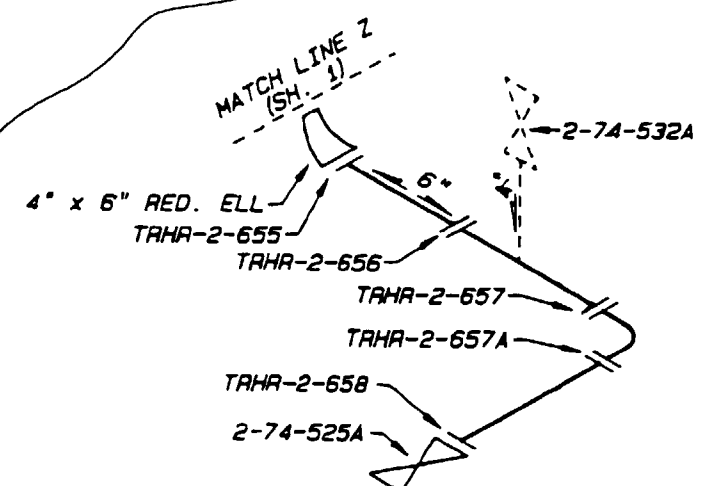
000	CCD/ADMIN	RGP	RLD	HEM	
ISSUED TO CREATE CCD. SUPERSEDES A/O MSG-0018-C-2 R004 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000621 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN	REV	SUBMITTED	APPROVED	SCALE	NTS
DATE	7-1-81	DATE		DATE	
CHECKED	EPC		GLB	DRAWING NO.	REV
DATE				2-MSG-0018-C	000

CAD MAINTAINED DRAWING

CCD



REFERENCE DRAWINGS	
47W452 SERIES	
47W335-4	
MATERIAL SPECIFICATIONS	
14" x .375" NOM. WALL (SCH. 30) CS	
6" x .280" NOM. WALL (SCH. 40) CS	
ASME CC-2 (EQUIVALENT)	



Information Only

000	CCD/ADMIN	RGP	RLD	HEH	
ISSUED TO CREATE CCD. SUPERSEDES A/D MSG-0018-C-3 R006 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000&21 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN BY	SUBMITTED	APPROVED	SCALE	NTS	
DATE: 7-1-81	DATE: ---	DATE: ---	SHEET 3 OF 12 SHEET(S)		
CHECKED: ---	DATE: ---	DATE: ---	DRAWING NO.	REV	
DATE: ---			2-MSG-0018-C	000	
CAD MAINTAINED DRAWING					CCD

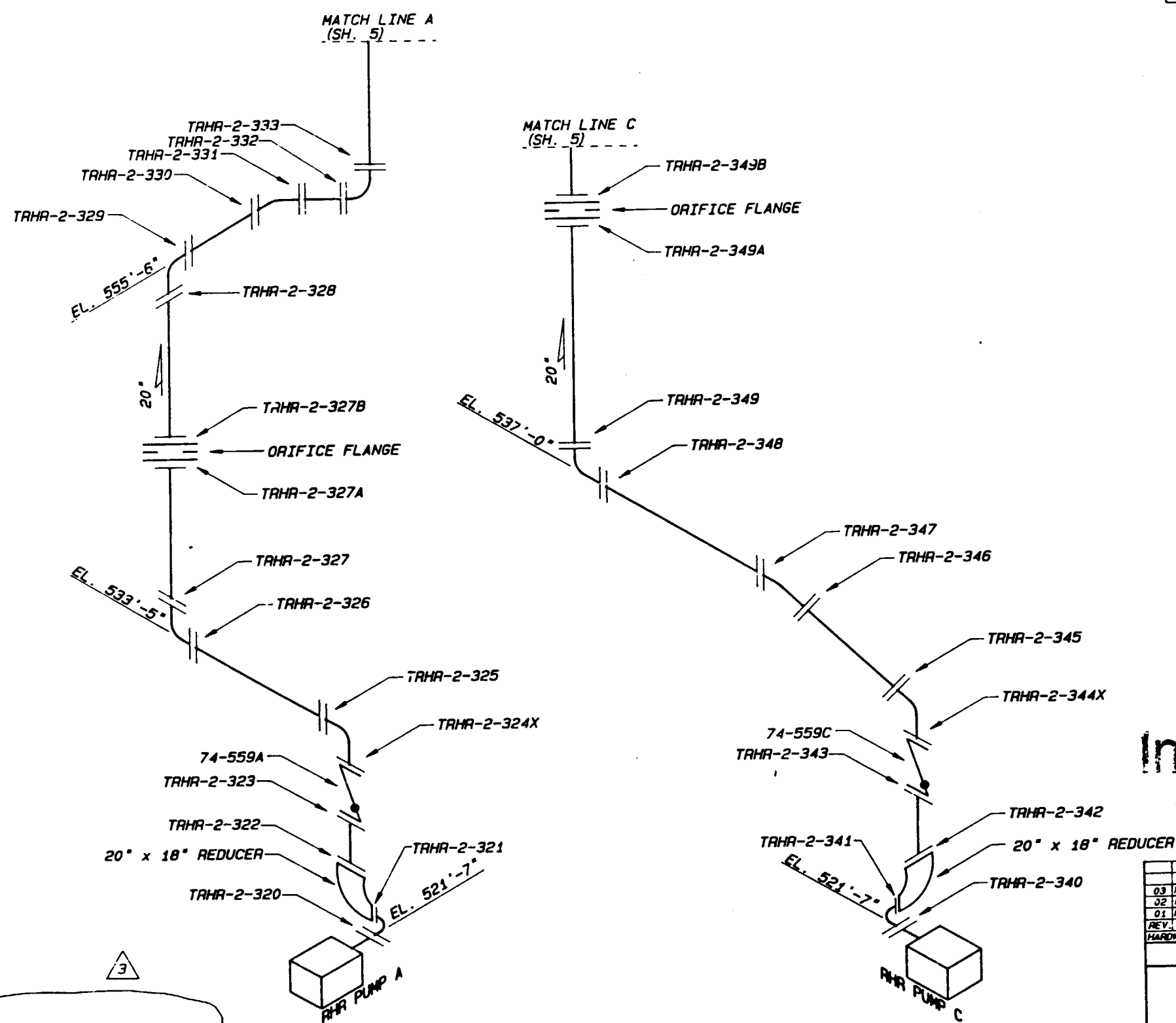
ALL A/D HISTORY RESEARCHED TO R000

REFERENCE DRAWINGS  
47W452 SERIES  
47W335-7

# MATERIAL SPECIFICATIONS

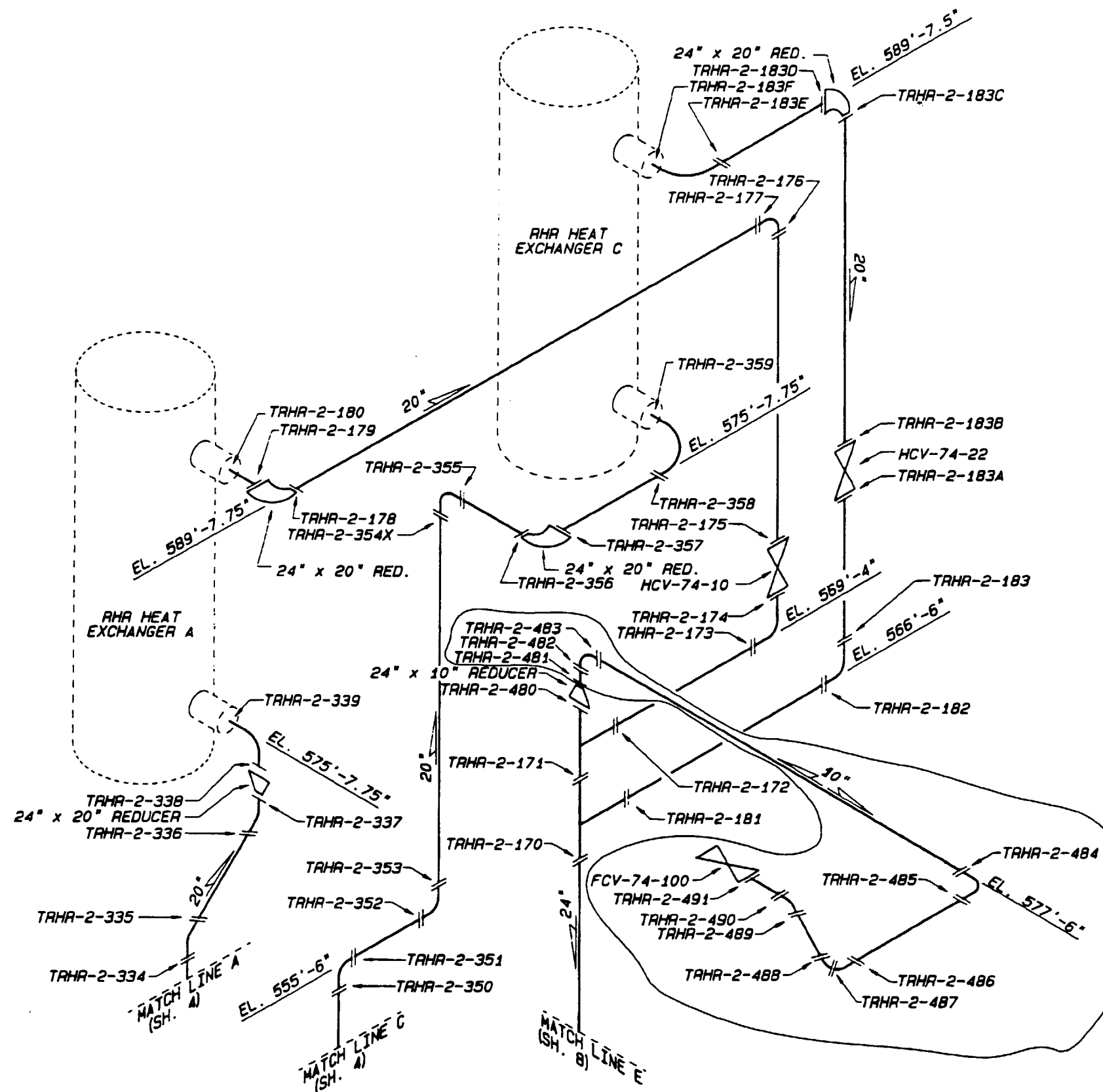
ASME CC-2 (EQUIVALENT)  
20" x .500" NOM. WALL (SCH. 30), CS  
(18" x .500" NOM. WALL (XS), CS

3



Information Only

03	PHB	4-26-91	DEL. CADBLK., REV. MATERIAL SPEC.	JES	EDC	GLB
02	PHB	10-19-88	REVISED MATERIAL SPEC.	JES	EDC	GLB
01	PHB	7-7-87	REVISED FOR PRISM	JES	EDC	GLB
REV. BY	DATE	DESCRIPTION	CK'D/SUB. APP.			
HARDWARE: TEK 4129	SOFTWARE: TEKNICAD	8" FLOPPY: BF-12				
TENNESSEE VALLEY AUTHORITY						
BROWNS FERRY NUCLEAR PLANT						
UNIT 2						
RESIDUAL HEAT REMOVAL SYSTEM						
WELD LOCATIONS						
DRAWN: KEY	SUBMITTED	APPROVED	SCALE: NYS			
DATE: 4-21-81	DATE: ---	DATE: ---	SHEET 4 OF 12 SHEET (S)			
CHECKED: EDC		GLB	DRAWING NO.			
DATE: ---			MSG-0018-C	03		



# REFERENCE DRAWINGS

47W452 SERIES  
47W335-7

# MATERIAL SPECIFICATIONS

ASME CC-2 (EQUIVALENT)  
24" x .500" NOM. WALL (XS), CS  
20" x .500" NOM. WALL (SCH. 30), CS  
10" x .365" NOM. WALL (SCH. 40), CS

# Information Only

000	CCD/ADMIN	RGP	RLD	HEH	
ISSUED TO CREATE CCD, SUPERSEDES A/D MSG-0018-C-5 R006 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000821 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: KEV	SUBMITTED	APPROVED	SCALE: NTS		
DATE: 4-2-81	DATE: --	DATE: --	SHEET 5 OF 12 SHEET(S)		
CHECKED: JES	EDC	GLB	DRAWING NO.	REV	
DATE: --			2-MSG-0018-C	000	

ALL A/D HISTORY RESEARCHED TO R000

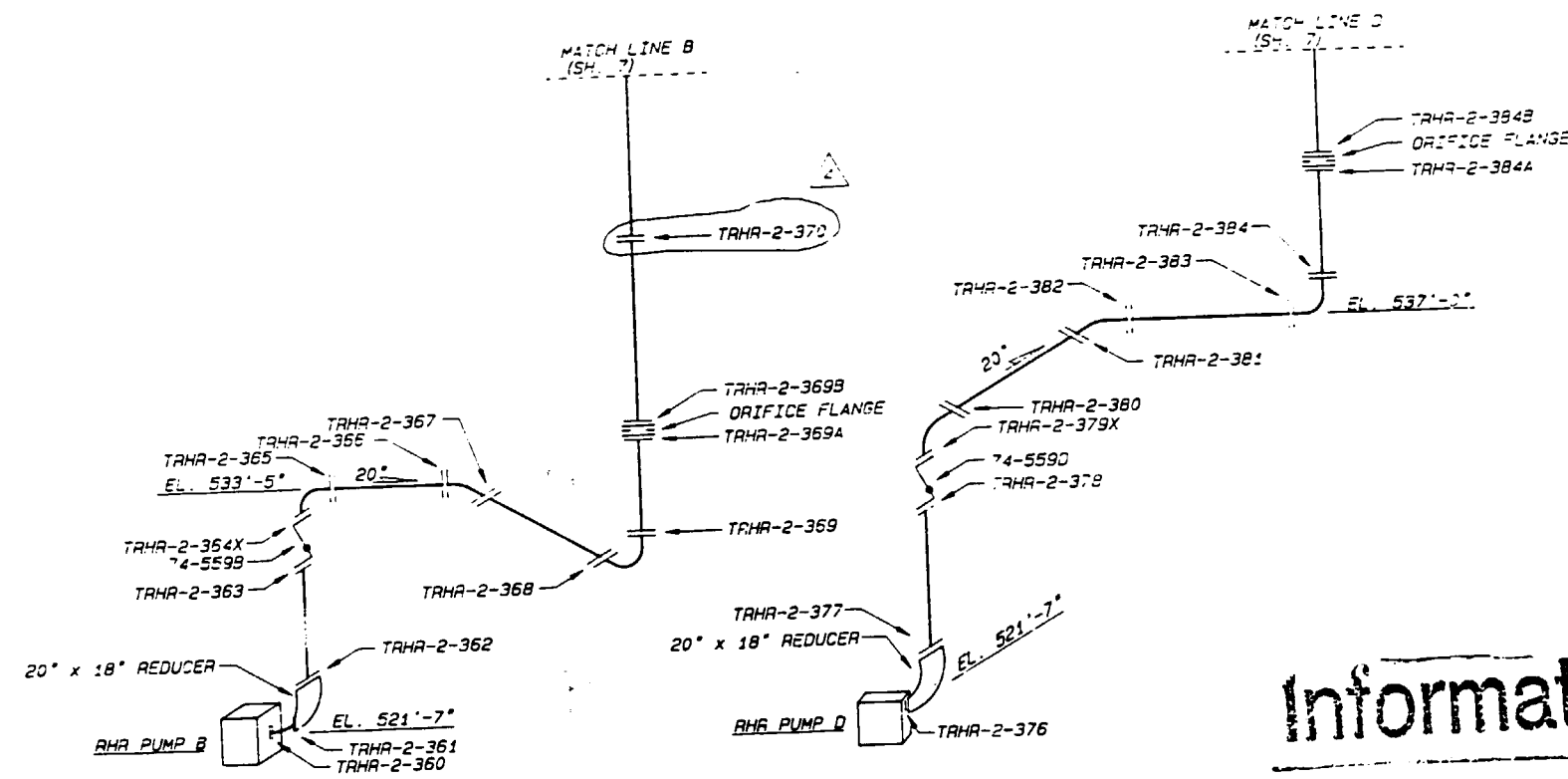
CAD MAINTAINED DRAWING

CCD

REFERENCE DRAWINGS  
 1. 4452-00-000  
 2. 4452-00-000

MATERIAL SPECIFICATIONS

ASME BTH-2 EQUIVALENT  
 15' x 150' NOM WALL THK 1/2" OF  
 15' x 150' NOM WALL THK 1/2" OF



Information Only

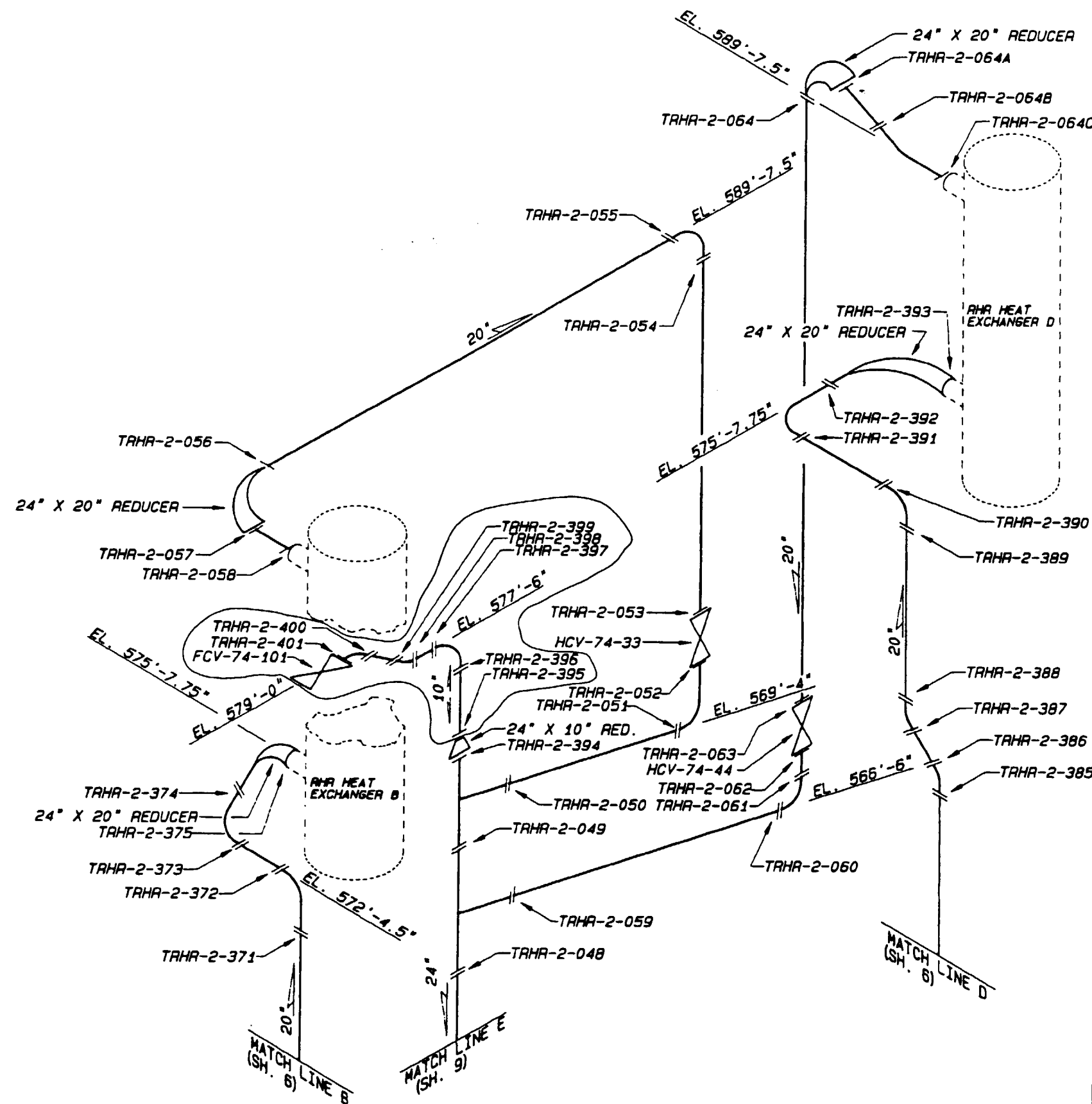
04	10-10-78	ADD PIPE TO PIPE WELD TAHR-2-370	04	10-10-78	ADD
03	10-10-78	REV. MATERIAL SPEC	03	10-10-78	ADD
02	10-10-78	REVISED MATERIAL SPECIFICATIONS	02	10-10-78	ADD
01	10-10-78	REVISED FOR DESIGN	01	10-10-78	ADD
00	10-10-78	DESCRIPTION	00	10-10-78	ADD
DRAWN BY: TEK 4120 SOFTWARE TECHNICIAN 8" FLOOR 10" 12"					
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN BY	DATE	APPROVED	SCALE	N/S	
DATE 1-2-81	DATE	DATE	SHEET 8 OF 12 SHEET(S)		
CHECKED	DATE	DATE	DATE	REV	
DATE	DATE	DATE	DATE	REV	

# REFERENCE DRAWINGS

47W452 SERIES  
47W335-7

## MATERIAL SPECIFICATIONS

ASME CC-2 (EQUIVALENT)  
24" x .500" NOM. WALL (XS), CS  
20" x .500" NOM. WALL (SCH. 30), CS  
10" x .365" NOM. WALL (SCH. 40), CS



# Information Only

000	CCD/ADMIN	RGP	RLD	HEH	
ISSUED TO CREATE CCD, SUPERSEDES A/D MSG-0018-C-7 R005 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIUS MEMO R21 000821 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: KEV	SUBMITTED	APPROVED	SCALE: NTS		
DATE: 4-3-81	DATE:	DATE:	SHEET 7 OF 12 SHEET(S)		
CHECKED: EDC		GLB	DRAWING NO.	REV	
DATE:			2-MSG-0018-C	000	
CAD MAINTAINED DRAWING				CCD	

ALL A/D HISTORY RESEARCHED TO R000

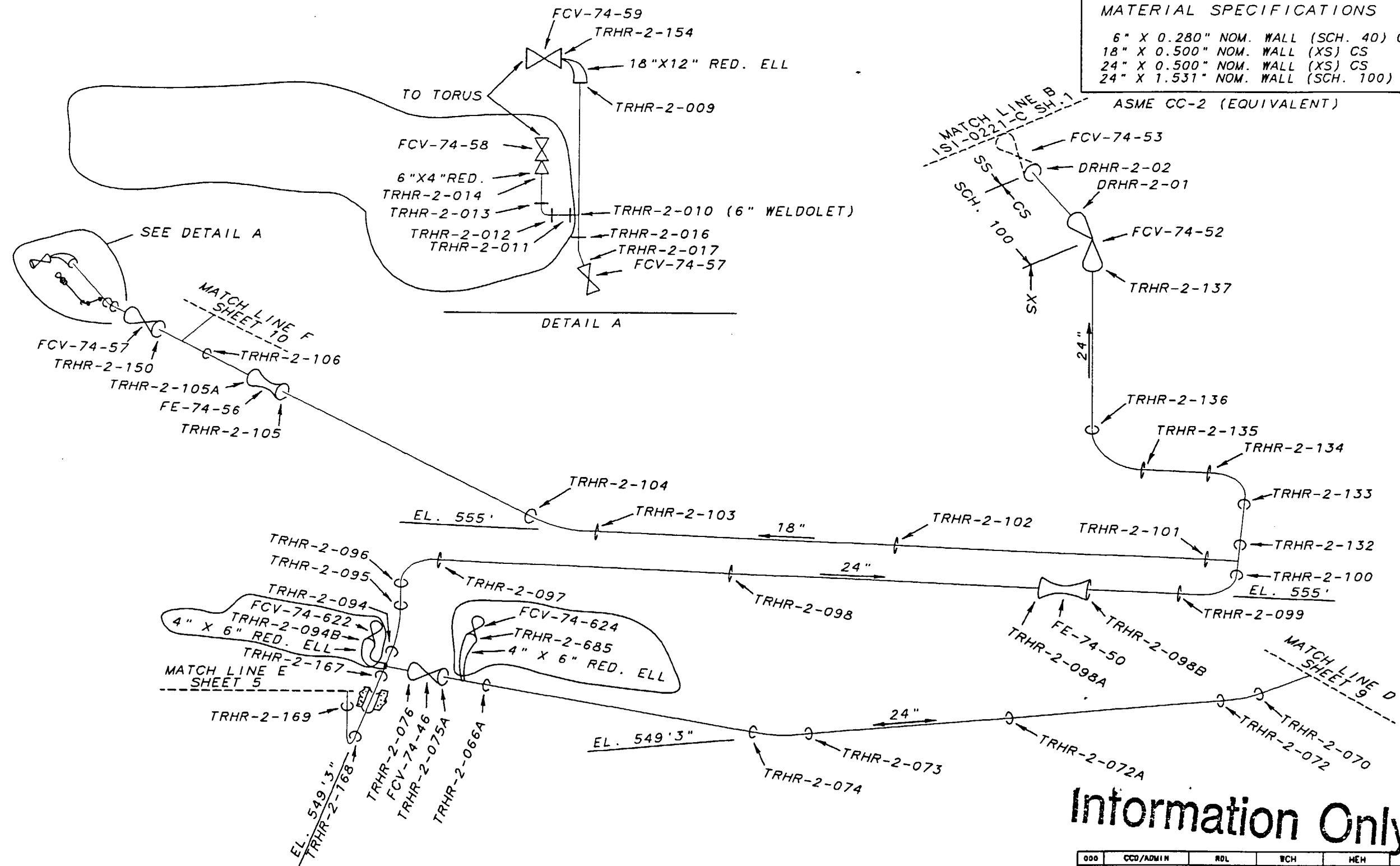


REFERENCE DRAWINGS  
47W452 SERIES  
47W335-6

# MATERIAL SPECIFICATIONS

6" X 0.280" NOM. WALL (SCH. 40) CS  
18" X 0.500" NOM. WALL (XS) CS  
24" X 0.500" NOM. WALL (XS) CS  
24" X 1.531" NOM. WALL (SCH. 100) CS

ASME CC-2 (EQUIVALENT)



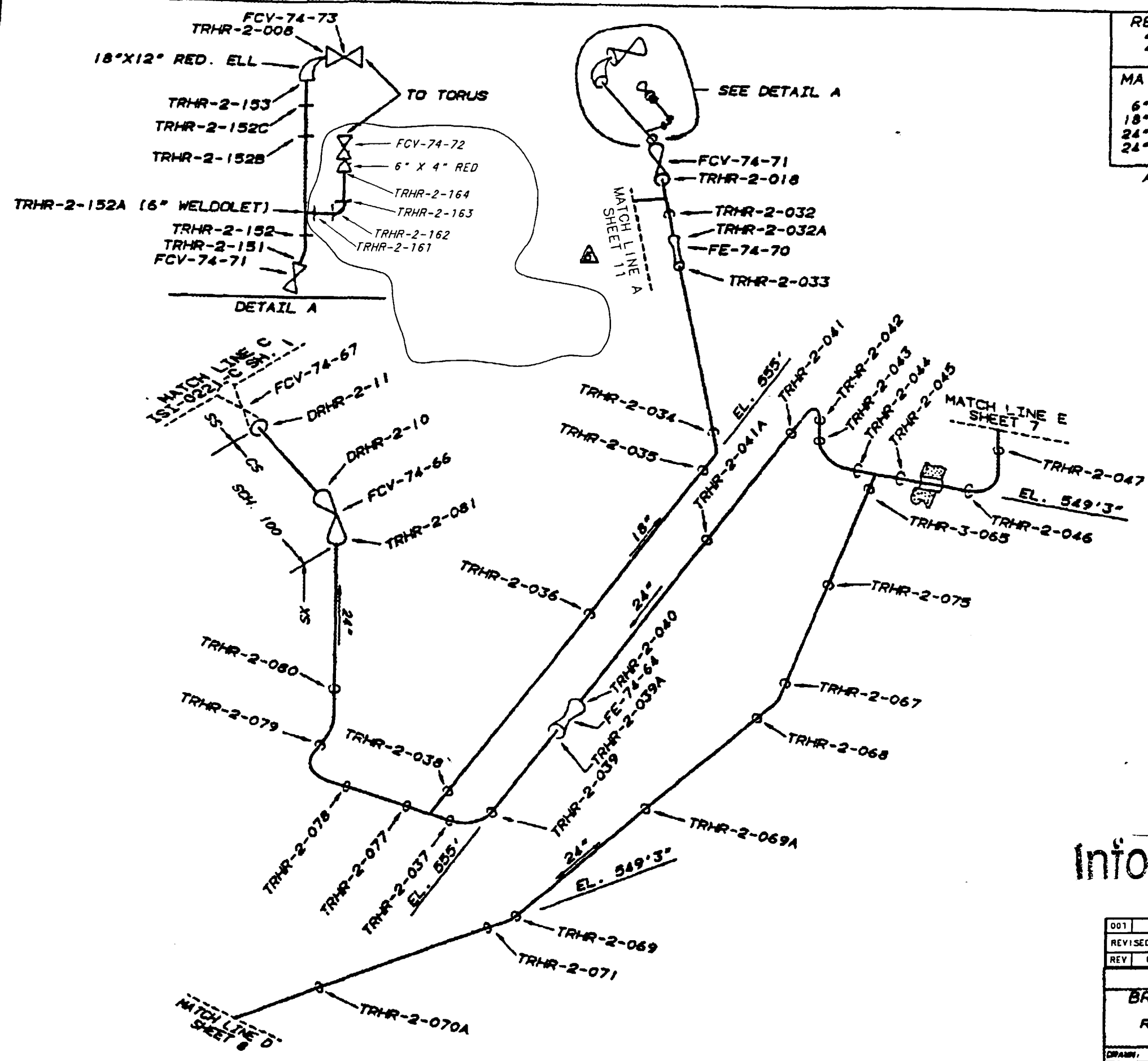
## Information Only

000	CCD/ADMIN	RDL	WCH	HEH	
ISSUED TO CREATE CCD SUPERSEDES MSG-0018-C-8 R9; REVISED PER NUS MEMO R21 000821 001					
REV	CHANGE REF	PREPARED	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: KEY	DATE: 4-15-81	SCALE: NTS	CADAM/151CLIP		
CHECKED: EDC	APPROVED:	SHEET 08 OF 12		REV	
SUBMITTED:	GLB	2-MSG-0018-C		000	

CCD

ALL A/D HISTORY RESEARCHED • R000

CAD MAINTAINED DRAWING



REFERENCE DRAWINGS  
 47W452 SERIES  
 47W335-6

MATERIAL SPECIFICATIONS

6" X 0.280" NOM. WALL (SCH. 40) CS  
 18" X 0.500" NOM. WALL (XS) CS  
 24" X 0.500" NOM. WALL (XS) CS  
 24" X 1.531" NOM. WALL (SCH. 100) CS

ASME CC-2 (EQUIVALENT)

Information Only

001	ADMIN	RDL	WCH	HEH	
REVISED PER RIMS MEMO R21 000821 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN	REV	DATE	4-18-81	SCALE	HTS
CHECKED	EDC	APPROVED		SHEET	09 OF 12
SUBMITTED				2-MSG-0018-C	001

ALL A/D HISTORY RESEARCHED AT R000

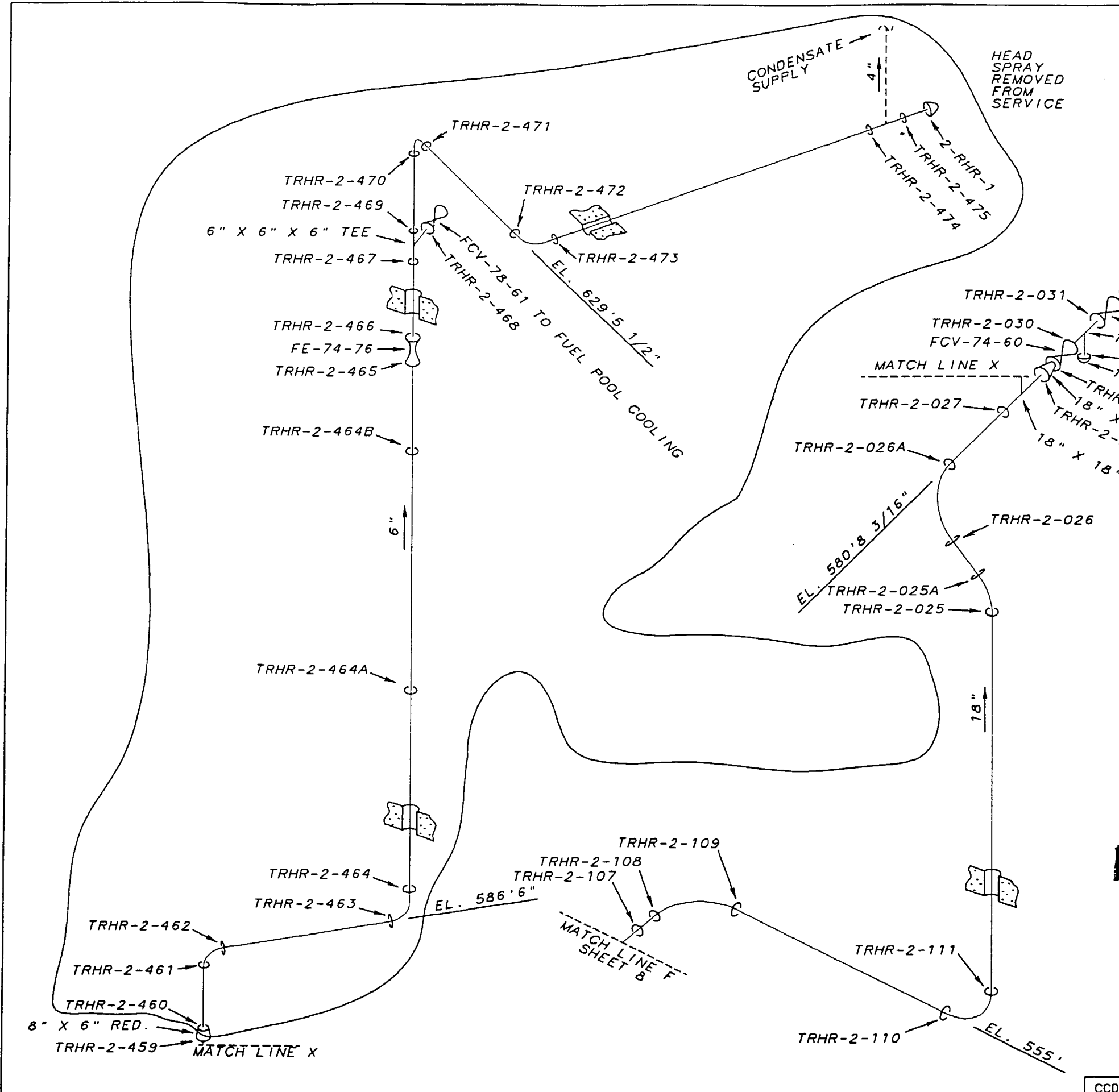
CAD MAINTAINED DRAWING

REFERENCE DRAWINGS  
47W452 SERIES  
47W335-8

MATERIAL SPECIFICATIONS

- 6" X .280" NOM. WALL (SCH. 40) CS
- 8" X .322" NOM. WALL (SCH. 40) CS
- 12" X 0.375" NOM. WALL (STD) CS
- 18" X 0.500" NOM. WALL (XS) CS

ASME CC-2 (EQUIVALENT)



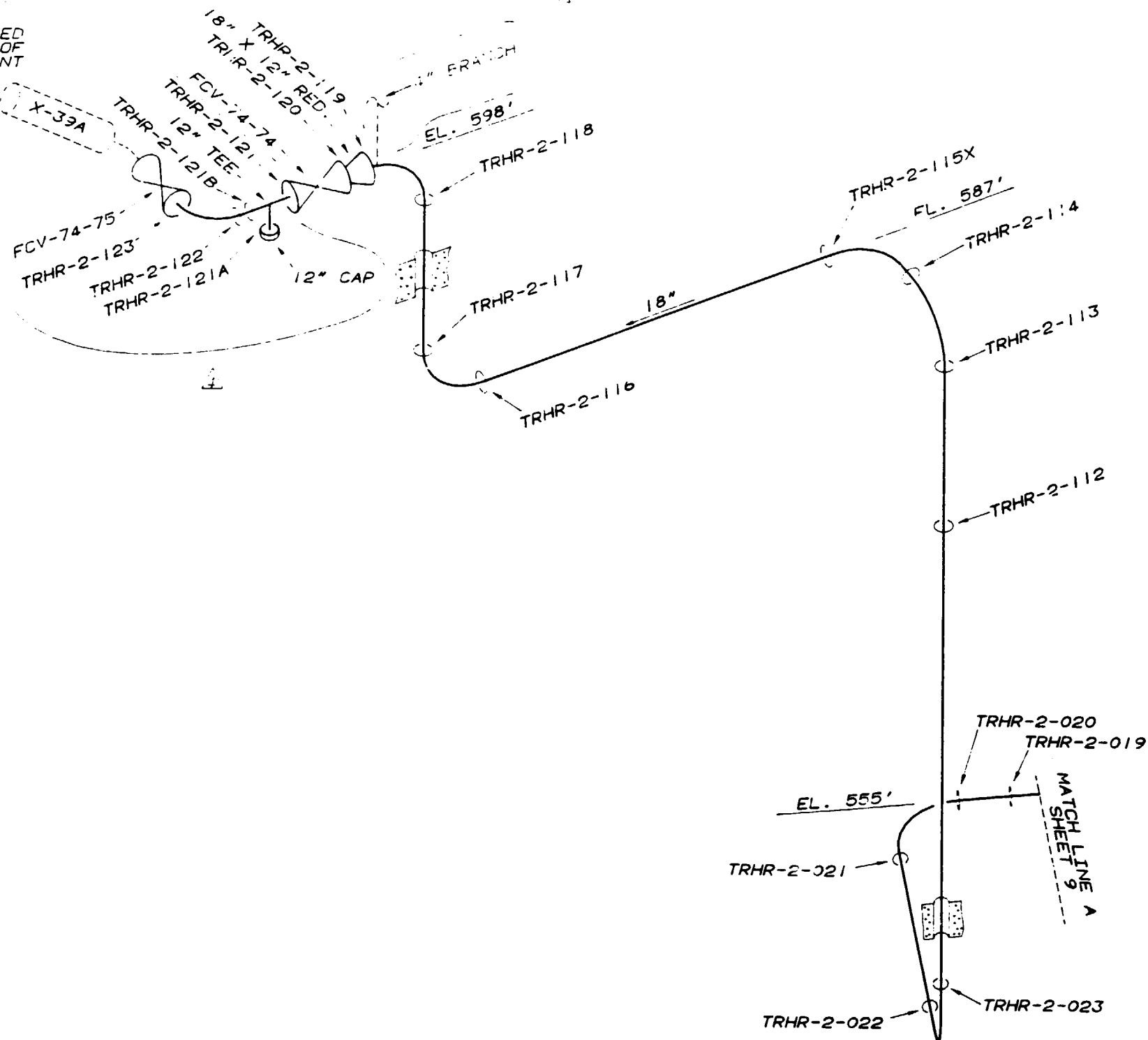
# Information Only

000	CCD/ADMIN	RDL	WCH	HEH	
ISSUED TO CREATE CCD SUPERSEDES A/D MSG-0018-C-10 R6; REVISED PER RIMS MEMO R21 000621 001					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT UNIT 2 RESIDUAL HEAT REMOVAL SYSTEM WELD LOCATIONS					
DRAWN: KEY	SUBMITTED	APPROVED	SCALE NTS		
DATE: 9-17-81	DATE:	DATE:	SHEET 10 OF 12 SHEET(S)		
CHECKED: JES	EDC	GLB	DRAWING NO.	REV.	
DATE:			2-MSG-0018-C-000		

CCD

CAD MAINTAINED DRAWING

TO  
OPEN ENDED  
PORTION OF  
CONTAINMENT  
SPRAY



# REFERENCE DRAWINGS

47W452 SERIES  
47W335-6,8  
47N1923-1

## MATERIAL SPECIFICATIONS

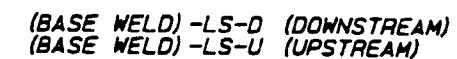
12" X 0.375" NOM. WALL (XS) CS  
18" X 0.500" NOM. WALL (STD) CS

ASME CC-2 (EQUIVALENT)

Information Only

4	PHB	JES	EDC	GLB	10-5-88
ADD WELDS TRHR-2-121, -121A, -121B, -122, -123 ADD VALVE FCV-74-75 AND PEN. X-39A, MADE CADAM, ADD 4" BRANCH LOCATION					
3	PHB	JES	EDC	GLB	10-5-88
ADD CONTAINMENT SPRAY NOTE					
2	PHB	JES	EDC	GLB	7-15-87
REDRAWN AND REVISED FOR PRISM					
1	JAA	JES	EDC	GLB	7-10-86
CORRECT WELD NO'S					
REV.	BY	CHECKED	SUBMITTED	APPROVED	DATE
HARDWARE: IBM 5085		SOFTWARE: CADAM		USER: ISICMP	
TENNESSEE VALLEY AUTHORITY					
BROWNS FERRY NUCLEAR PLANT					
UNIT 2					
RESIDUAL HEAT REMOVAL SYSTEM					
WELD LOCATIONS					
DRAWN: KEV	SUBMITTED	APPROVED	SCALE NTS	SHEET 11 OF 12 SHEET(S)	
DATE: 4-15-81	DATE	DATE		DRAWING NO	REV
CHECKED: JES	EDC	GLB		MSG-0018-C.04	
DATE:					

ASME CC-2 (EQUIVALENT)

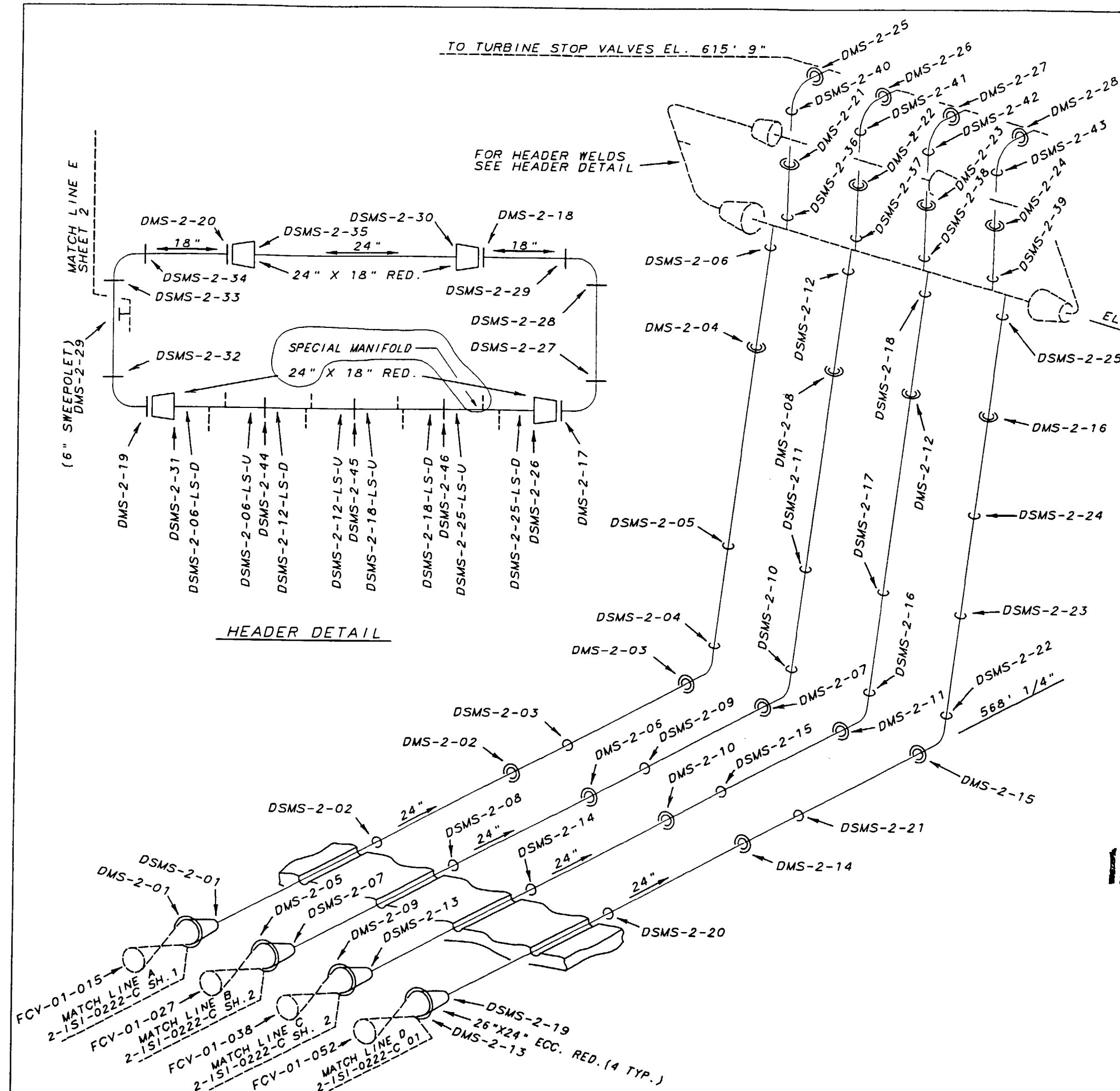


000	CCD/ADMIN	RCP	WCH	WEH	
ISSUED TO CREATE CCD, SUPERSEDES A/D MSG-0018-C-12 R6 AND TO DEPICT AS-CONSTRUCTED STATUS PER RIMS MEMO R21 000&21 001 (ADMINISTRATIVE REVISION)					
REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
<p align="center"><b>TENNESSEE VALLEY AUTHORITY</b>  <b>BROWNS FERRY NUCLEAR PLANT</b>  <b>UNIT #2</b>  <b>RESIDUAL HEAT REMOVAL SYSTEM</b>  <b>WELD LOCATIONS</b></p>					
DRAWING: RPS DATE: 6-14-68 CHECKED: JES DATE: 6-14-68	SUBMITTED DATE: 6-14-68 EDC	APPROVED DATE: 6-14-68 GLB	SCALE: NTS SHEET 12 OF 12 SHEET(S) DRAWING NO. REV 2-MSG-0018-C 000		
CAD MAINTAINED DRAWING			CCD		

ALL A/D HISTORY RESEARCHED TO R000

CAD MAINTAINED DRAWING

CCD



REFERENCE DRAWINGS  
 47W335-1  
 47W400 SERIES  
 3-47E801 SERIES  
 GE 945D695 (CONT. # 68-91062)  
 DRAVO E-2478 1C-1  
 DRAVO 950037-1  
 ISI-0079-C (SH. 1) SUPPORT MAP

MATERIAL SPECIFICATIONS:  
 A155KC70, A515-70 (SPECIAL MANIFOLD)  
 25.25" O.D. X 1.625" NOM WALL, CS

A-106-B  
 24" X 1.219" NOM. WALL THK. SCH. 80  
 24" X 2.5" NOM. WALL THK. CS  
 18" X 0.938" NOM WALL THK. SCH. 80

A-234 WPB  
 26" X 1.219" NOM. WALL THK. SCH. 80

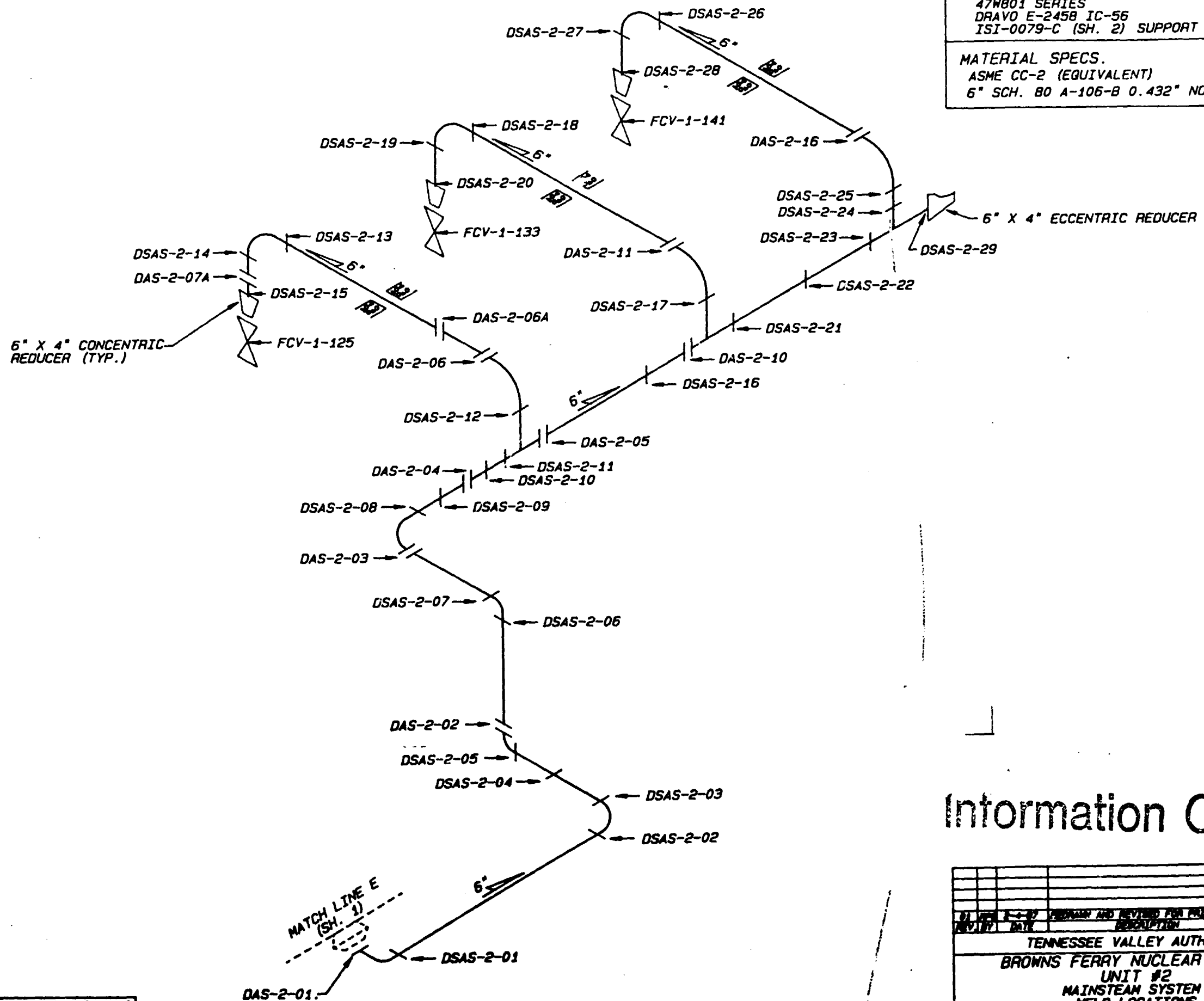
ASME CC-2 (EQUIVALENT)

Information Only

000	CCD ADMIN	RDL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ISSUED TO CREATE CCD SUPERSEDES MSG-0021-C-1 R5 AND TO DEPICT AS CONSTRUCTED STATUS PER RIMS MEMO R14 970324 302: A/D R0-R4										
REV NO	CHANGE REF	DATE	DFTR	CHKR	DSGN	RYMR	1 APPD	2 APPD	3 APPD	ISSD
S	TENNESSEE VALLEY AUTHORITY									
BROWNS FERRY NUCLEAR PLANT UNIT 2 MAIN STEAM SYSTEM WELD LOCATIONS										
DRAWN: KEY		SUBMITTED		APPROVED		SCALE NTS				
DATE: 6-30-81		DATE: _____		DATE: _____		SHEET 01 OF 02 SHEET(S)				
CHECKED: JTL				GLB		DRAWING NO.		REV.		
DATE: _____						2-MSG-0021-C 000				
CCD										

REFERENCE DRAWINGS  
 47W400 SH. 1 & 5  
 47W801 SERIES  
 DRAVO E-2458 IC-56  
 ISI-0079-C (SH. 2) SUPPORT MAP

MATERIAL SPECS.  
 ASME CC-2 (EQUIVALENT)  
 6" SCH. 80 A-106-B 0.432" NOM. WALL THK.



Information Only

FOR GENERAL INFORMATION AND PURPOSES REV. 001, SEE "GENERAL".			
REV.	01		
REVISION	REVISION 01		
DATE	REVISION 01		
BY	FLATTY 01-01		

REV.	DATE	DESCRIPTION	BY	CHKD.
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