

START

ENGINEERING CHANGE NOTICE

0014193

Page 1 of 10

1. ECN ~~131460~~
 Proj. ECN B-714-81

2. ECN Category (mark one) Supplemental <input checked="" type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Supersedeure <input type="checkbox"/> Discovery <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. H. J. Steffens, KEH, E6-32, 6-6355		4. Date 03-14-91
	5. Project Title/No./Work Order No. See Block 12	6. Bldg./Sys./Fac. No. 218-E-16	7. Impact Level 3
	8. Document Number Affected (include rev. and sheet no.) See Block 12	9. Related ECN No(s). None	10. Related PO No. N/A

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input type="checkbox"/> No (NA Blks. 11b, 11c, 11d) UNKNOWN	11b. Work Package Doc. No. UNKNOWN	11c. Complete Installation Work _____ Cog. Engineer Signature & Date	11d. Complete Restoration (Temp. ECN only) _____ Cog. Engineer Signature & Date
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12. Description of Change

Block 5: B-714, Grout Vault Pair (218-E-16-102 & 103)(218-E-16-104 & 105)/ER8007

Block 8: Drawings - H-2-77619, Sh 1, Rev 1 H-2-78491, Sh 1, Rev 1
 H-2-77622, Sh 1, Rev 1 H-2-78493, Sh 1, Rev 1
 H-2-77622, Sh 5, Rev 1 H-2-78493, Sh 5, Rev 1
 Specification B-714-C2, Rev 1 (V-B714C2-003, Rev 1)

*** SEE SUCCEEDING PAGES FOR DESCRIPTION OF CHANGES ***



Continued from 13b.

(DI): Smoothing & deburring of the pipe is necessary to prevent ultra sonic pulse of the level sensor from reflecting off the burrs on the edges of the pipe which would cause a false depth reading. (Item 1 & 4)

(FC): Spliced weld does not affect the integrity of waterstop function and provides construction flexibility. (Item 7C)

(FC): The substituted alternate has a better bonding performance and all applications will be pre-approved before applying. (Item 7A & 7B)

ALL ABOVE CHANGES DO NOT IMPACT THE INTEGRITY OF THE STRUCTURE.

13a. Justification (mark one) Criteria Change <input type="checkbox"/> Design Improvement <input checked="" type="checkbox"/> Environmental <input type="checkbox"/> As-Found <input type="checkbox"/> Facilitate Const. <input checked="" type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/>	13b. Justification Details (FC) & (DI): "C" type conduit outlet bodies requested by electrical subcontractor as a cable pulling point. This will allow all T/C leadwires to be pulled in one pull instead of one conduit section at a time causing possible cable damage due to sharp edges. (Item 2, 3, 5, and 6) **SEE BLOCK 12 FOR CONTINUATION OF JUSTIFICATION DETAILS**
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14. Distribution (include name, MSIN, and no. of copies) KEH DISTRIBUTION Const Doc Cntl E2-50 Engrg Doc Cntl E6-52 WHC DISTRIBUTION Project Files R1-28 S. R. Briggs(PE) R3-27 T. K. Cordray S1-54 Lope GARZA A3-80 STATION IO A3-87	J. K. Epperley S0-05 O. A. Halverson R3-09 J. S. Hill [2] H4-57 K. S. McCullough N1-83 D. B. Powell [4] R4-03 J. E. Vanbeek R3-27 DOE A. G. Lassila A5-18
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RELEASE STAMP

OFFICIAL RELEASE BY WHC
 DATE MAR 15 1991

Steffens

ENGINEERING CHANGE NOTICE

Page 2 of 10

1. ECN (use no. from pg. 1)

B-714-81

15. Design Verification Required

Yes
 No

16. Cost Impact

ENGINEERING

Additional \$ 1500
Savings \$ _____

CONSTRUCTION

Additional \$ 750
Savings \$ _____

17. Schedule Impact (days)

Improvement NA
Delay _____

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD <input type="checkbox"/> Functional Design Criteria <input type="checkbox"/> Operating Specification <input type="checkbox"/> Criticality Specification <input type="checkbox"/> Conceptual Design Report <input type="checkbox"/> Equipment Spec. <input type="checkbox"/> Const. Spec. <input type="checkbox"/> Procurement Spec. <input type="checkbox"/> Vendor Information <input type="checkbox"/> OM Manual <input type="checkbox"/> FSAR/SAR <input type="checkbox"/> Safety Equipment List <input type="checkbox"/> Radiation Work Permit <input type="checkbox"/> Environmental Impact Statement <input type="checkbox"/> Environmental Report <input type="checkbox"/> Environmental Permit <input type="checkbox"/>	Seismic/Stress Analysis <input type="checkbox"/> Stress/Design Report <input type="checkbox"/> Interface Control Drawing <input type="checkbox"/> Calibration Procedure <input type="checkbox"/> Installation Procedure <input type="checkbox"/> Maintenance Procedure <input type="checkbox"/> Engineering Procedure <input type="checkbox"/> Operating Instruction <input type="checkbox"/> Operating Procedure <input type="checkbox"/> Operational Safety Requirement <input type="checkbox"/> IEFD Drawing <input type="checkbox"/> Cell Arrangement Drawing <input type="checkbox"/> Essential Material Specification <input type="checkbox"/> Fac. Proc. Samp. Schedule <input type="checkbox"/> Inspection Plan <input type="checkbox"/> Inventory Adjustment Request <input type="checkbox"/>	Tank Calibration Manual <input type="checkbox"/> Health Physics Procedure <input type="checkbox"/> Spares Multiple Unit Listing <input type="checkbox"/> Test Procedures/Specification <input type="checkbox"/> Component Index <input type="checkbox"/> ASME Coded Item <input type="checkbox"/> Human Factor Consideration <input type="checkbox"/> Computer Software <input type="checkbox"/> Electric Circuit Schedule <input type="checkbox"/> ICRS Procedure <input type="checkbox"/> Process Control Manual/Plan <input type="checkbox"/> Process Flow Chart <input type="checkbox"/> Purchase Requisition <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>
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19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
_____	_____	_____
_____	_____	_____
_____	_____	_____

20. Approvals

	Signature	Date		Signature	Date
<u>OPERATIONS AND ENGINEERING</u>			<u>ARCHITECT-ENGINEER</u>		
Cog./Project Engineer	<u>LR Bunn</u>	<u>3/15/91</u>	PE	<u>KC Bergand</u>	<u>3/15/91</u>
Cog./Project Engr. Mgr.	<u>LRB / J. E. Venter</u>	<u>3/15/91</u>	QA	<u>TD Day</u>	<u>3-15-91</u>
QA	<u>J. H. Cooney</u>	<u>3/15/91</u>	Safety	<u>TD Lundgren</u>	<u>3-15-91</u>
Safety	<u>NA</u>		Design C/S:	<u>[Signature]</u>	<u>3/15/91</u>
Security	_____		Other INSTM:	<u>[Signature]</u>	<u>3/15/91</u>
Proj. Prog./Dept. Mgr.	_____		SPECS:	<u>Per telecon w/GL Koci</u>	<u>3/15/91</u>
Def. React. Div.	_____		ENVIR:	<u>R. H. [Signature]</u>	<u>3-15-91</u>
Chem. Proc. Div.	_____				
Def. Wst. Mgmt. Div.	_____		<u>DEPARTMENT OF ENERGY</u>		
Adv. React. Dev. Div.	_____				
Proj. Dept.	_____				
Environ. Div.	_____		<u>ADDITIONAL</u>		
IRM Dept.	_____				
Facility Rep. (Ops)	_____				
Other	_____				
_____	_____				
_____	_____				

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DESCRIPTION OF CHANGE CONTINUED FROM BLOCK 12

1) H-2-77619, Sh 1, Rev 1

- A) Detail 2 (Z D6): Add note callout as shown on page 5 of this ECN.
- B) Note 4: Change "NOT USED" to read "REAM PIPE END TO NOMINAL INSIDE DIAMETER AFTER CUTTING. REMOVE SHARP EDGES & BURRS."

2) H-2-77622, Sh 1, Rev 1

- A) Arrangement Plan 1 (Z E7, F6): Add PN 22 & 23 as shown on page 6 of this ECN.
- B) Arrangement Plan 2 (Z C4, B6): Add PN 22 & 23 as shown on page 7 of this ECN.
- C) Add note 19 as follows (Z F4):
19. TYPE C CONDULET CONDUIT BODIES MAY BE USED WHERE SHOWN AND AT ANY OTHER LOCATIONS NOT SHOWN THAT WILL AID CONSTRUCTION.
- D) Parts Lists (Z D1-2): Add PN 22 & 23 as follows

AR	AR	22	CONDULET CONDUIT BODY, TYPE C, 1-1/4 INCH	SPEC C2, SECTION 16400, PARAGRAPH 2.1.2.3
AR	AR	23	CONDULET CONDUIT BODY, TYPE C, 1-1/2 INCH	SPEC C2, SECTION 16400, PARAGRAPH 2.1.2.3

3) H-2-77622, Sh 5, Rev 1

Detail 4 (Z B7): Add condulet conduit as shown on page 8 of this ECN.

4) H-2-78491, Sh 1, Rev 1

- A) Detail 2 (Z D6): Add note call out as shown on page 5 of this ECN.
- B) Note 4: Change "NOTE USED" to read "REAM PIPE END TO NOMINAL INSIDE DIAMETER AFTER CUTTING. REMOVE SHARP EDGES & BURRS."

5) H-2-78493, Sh 1, Rev 1

- A) Arrange Plan 1 (Z F6, E4): Add PN 22 & 23 as shown on page 9 of this ECN.
- B) Arrangement Plan 2 (Z C4, B6): Add PN 22 & 23 as shown on page 10 of this ECN.
- C) Add note 19 as follows (Z F4):
19. TYPE C CONDULET CONDUIT BODIES MAY BE USED WHERE SHOWN AND AT ANY OTHER LOCATIONS NOT SHOWN THAT WILL AID CONSTRUCTION.
- D) Parts Lists (Z D1-2): Add PN 22 & 23 as follows

AR	AR	22	Condulet conduit body, Type C, 1-1/4 inch	Spec C2, Section 16400, paragraph 2.1.2.3
AR	AR	23	Condulet Conduit Body, Type C, 1-1/2 inch	Spec C2, Section 16400, paragraph 2.1.2.3

6) H-2-78493, Sh 5, Rev 1

Detail 4 (Z B7): Add condulet conduit as shown on page 8 of this ECN.

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7) SPECIFICATION B-714-C2, REV 1A) Section 01300, Paragraph 1.3, Schedule of Submittals Pg 01300-10

Add under Vault and Basin Cast-in-Place Concrete

03301/1.2.20	Manufacturer's Data	15	Before delivery	---
03301/1.2.21	Application Locations	15	Before application	---

B) Section 03301

1. Paragraph 1.1.1.1: Add reference as follows:

ACI 503.2-79 (Revised 1986)	Standard Specification for Bonding Plastic Concrete to Hardened Concrete With a Multi-Component Epoxy Adhesive.
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2. Paragraph 1.1.1.2: Add reference as follows:

C 881-90	Standard Specification for Epoxy-Resin- Base Bonding Systems for Concrete
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3. Add Paragraph 1.2.20, 1.2.21, 2.1.5.3, and 3.2.12.7 as follows:

1.2.20 Multi-Component Epoxy Adhesive: Submit manufacturer's data providing type, grade, class, color, material properties, and requirements for surface preparation and application.

1.2.21 Application Location: Submit contractor's proposed locations for application of multi-component epoxy adhesive.

2.1.5.3 Multi-Component Epoxy Adhesive: Two component, meeting the requirements of ASTM C 881, Type I or II, Grade 2, Class B or C, concrete grey color.

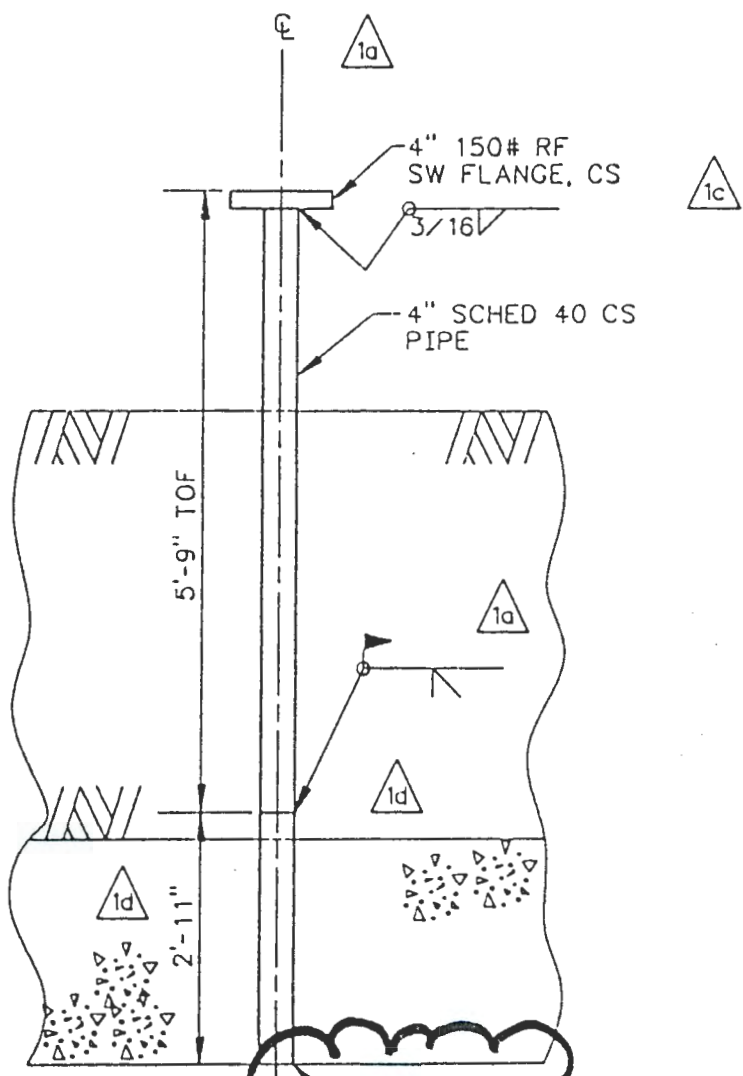
3.2.12.7 Use multi-component epoxy adhesive for bonding plastic concrete to hardened concrete in accordance with ACI 503.2, except testing in subparagraph 2.3.2.2 and coring in article 2.3.7 will not be performed unless directed by KEH.

C) Section 05500, Paragraph 2.2.2.1: Change to read

2.2.2.1 Make splices by butt welding ends of plates together or weld lap splicing as shown on the Drawings.

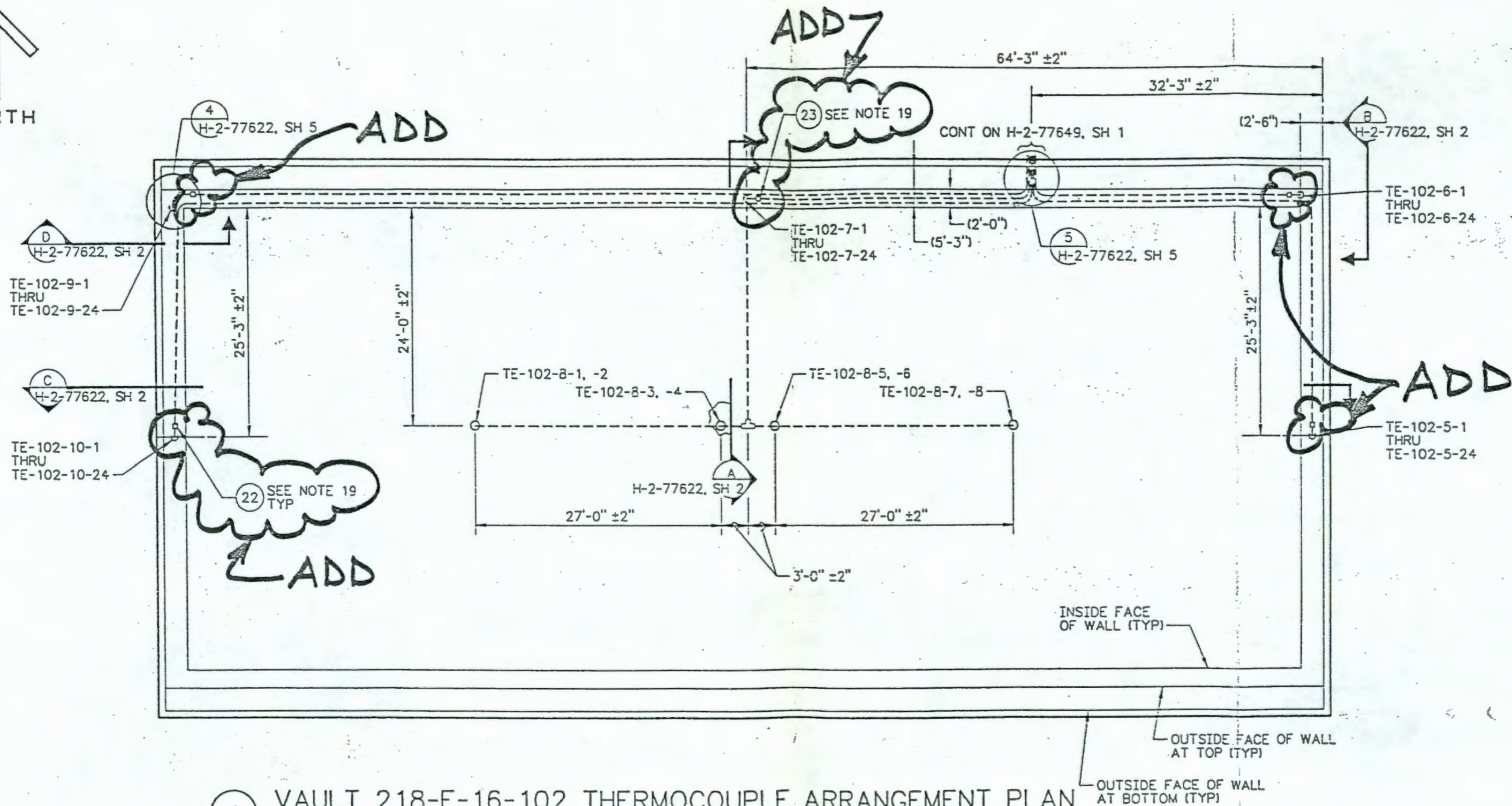
Ref. Dwg. H-2-77619	Sh. 1	Rev. 1	Prepared By GF MCKEE	Checked By PC Bauwoks	ECN No. B-714-81	Page 5/10
H-2-78491	1	1				

ZONE 1, 6



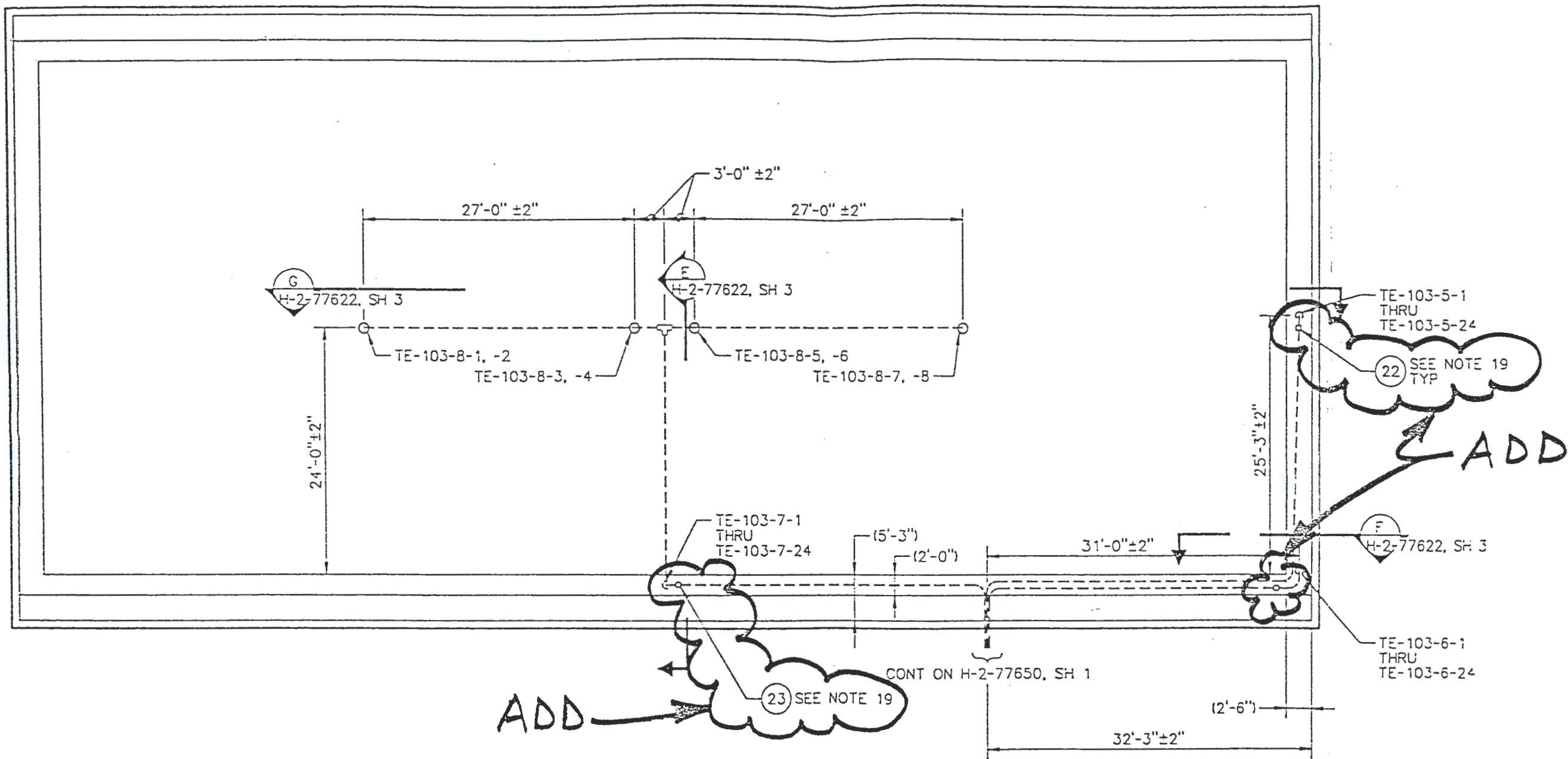
ADD → SEE NOTE 4

DETAIL 2
 SCALE: 3/4" = 1'-0"
 LEVEL PROBE
 PENETRATION RISER



1 VAULT 218-E-16-102 THERMOCOUPLE ARRANGEMENT PLAN
 CONCRETE TOPPING NOT SHOWN FOR CLARITY

ECN No. B-714-81	Page 6/10
Ref. Eng. H-2-77622	Sh. 1 Rev. 1
Des. By GF MCKEE	Chk. By PE Barrows

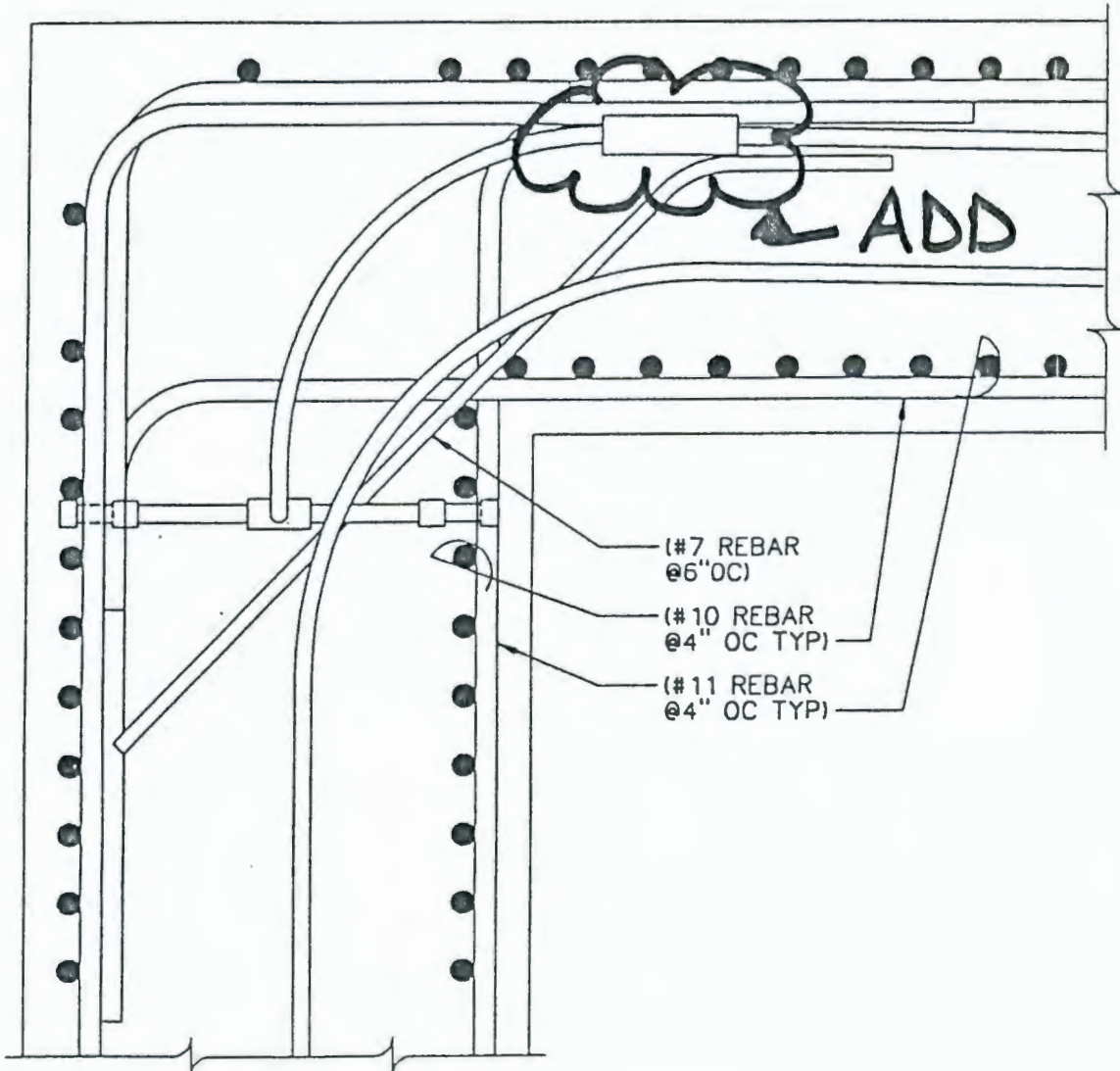


2 VAULT 218-E-16-103 THERMOCOUPLE ARRANGEMENT PLAN
 CONCRETE TOPPING NOT SHOWN FOR CLARITY

ECN No. B-714-81.	Page 7 / 10
Ref. Dwg. H-2-77622	Sh. Rev.
Prep. By GF MCKEE	Chk. By TC RAYNES

Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-77622	5	1	GF MCKEE	PC <i>Sanouk</i>	B-714-81	8/10
H-2-78493	5	1				

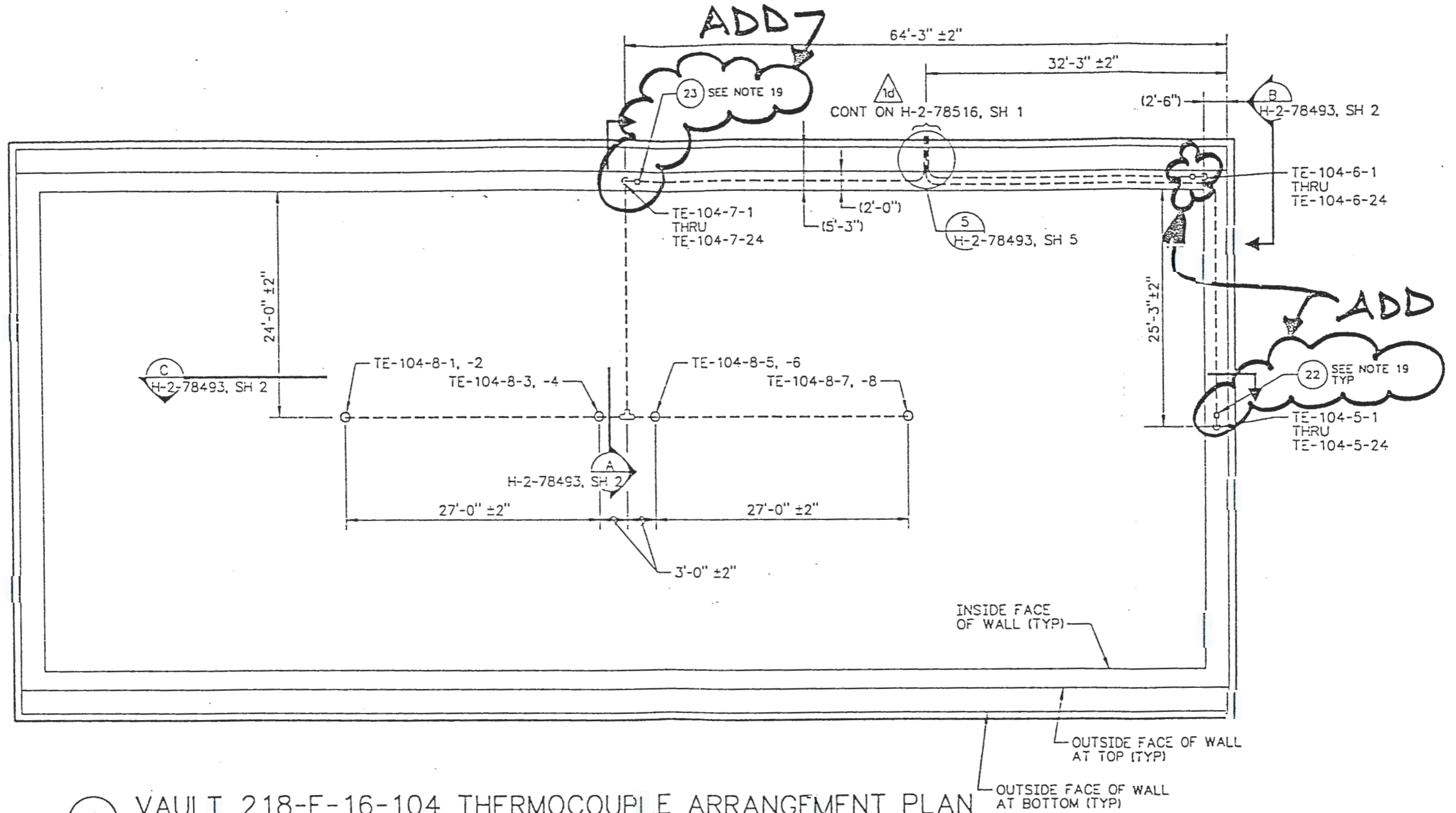
ZONE B7



DETAIL 4
SCALE: 1½" = 1'-0" H-2-78493, SH 1

DETAIL 4
SCALE: 1½" = 1'-0" H-2-77622, SH 1

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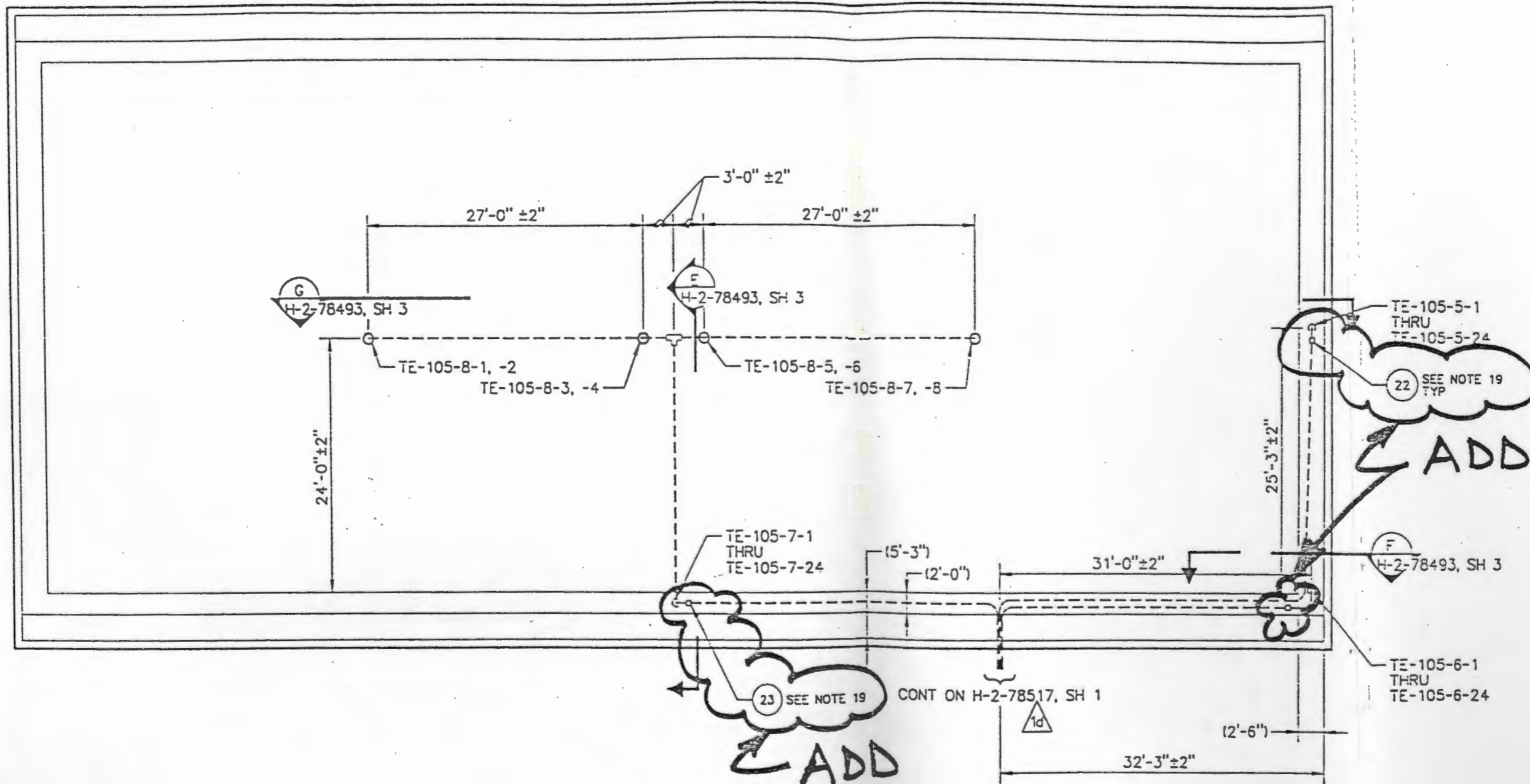
1

VAULT 218-E-16-104 THERMOCOUPLE ARRANGEMENT PLAN

CONCRETE TOPPING NOT SHOWN FOR CLARITY

ECN No. B-714-81	Page 9/10	
Ref. Dwg. H-2-78493	Sh. 1	Rev. 1
Prep. By GF MCKEE	Ckd. By PC Bawls	

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2 VAULT 218-E-16-105 THERMOCOUPLE ARRANGEMENT PLAN
 CONCRETE TOPPING NOT SHOWN FOR CLARITY

ECN No. B-714-81	Page 10/10
Ref. Dwg. H-2-78493	Sh. 1 Rev. 1
Prep. By GF MCKEE	Ckd. By <i>RC Barrow</i>