

START

ENGINEERING CHANGE NOTICE

1. ECN ~~187760~~Page 1 of 6Proj.
ECN B-714-157

2. ECN Category (mark one)		Supplemental <input checked="" type="checkbox"/>	Change ECN <input type="checkbox"/>	Supersedure <input type="checkbox"/>
Cancel/Void <input type="checkbox"/>	Direct Revision <input type="checkbox"/>	Temporary <input type="checkbox"/>	Discovery <input type="checkbox"/>	
3. Originator's Name, Organization, MSIN, and Telephone No. M. A. McLean, KEH, E6-42, 6-5529			4. Date 10-19-92	
5. Project Title/No./Work Order No. GROUTED WASTE DISPOSAL FACILITIES B-714/ER8007		6. Bldg./Sys./Fac. No. 218-E-16		7. Impact Level 3 Q /SC-2
8. Document Number Affected (include rev. and sheet no.) SEE BLOCK 12		9. Related ECN No(s). SEE BLOCK 12		10. Related PO No. N/A
11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package Doc. No. N/A	11c. Complete Installation Work N/A		11d. Complete Restoration (Temp. ECN only) N/A
Cog. Engineer Signature & Date			Cog. Engineer Signature & Date	
12. Description of Change Block 8: Drawings				SC-3: Items 3 & 9
H-2-77596, Sh 1, Rev 1				SC-2: All Other Items
H-2-77596, Sh 2, Rev 1				
H-2-77601, Sh 1, Rev 2				
H-2-77602, Sh 1, Rev 1				
H-2-77602, Sh 2, Rev 2				
H-2-77612, Sh 1, Rev 2				SC-3: Item 13
Specification B-714-C2, Rev 1 (V-B714C2-003)				
Block 9: ECN No(s). B-714-96, 132, 143 & 146				
***** DESCRIPTION OF CHANGES ON SUCCEEDING PAGES *****				
13a. Justification (mark one)		Criteria Change <input type="checkbox"/>	Environmental <input type="checkbox"/>	Facilitate Const. <input checked="" type="checkbox"/>
Design Error/Omission <input checked="" type="checkbox"/>	Design Improvement <input checked="" type="checkbox"/>	As-Found <input checked="" type="checkbox"/>	Const. Error/Omission <input checked="" type="checkbox"/>	
13b. Justification Details (CE-Items 1A,1B,2B,7A,7B & 8B): Due to alignment/fit-up/welding during fabrication of the 4" encasement, the contractor is having difficulty meeting elevation and minimum slope requirements. These changes in elevation tolerances will facilitate the contractor to meet minimum slope without impacting structural integrity.				
***** JUSTIFICATION DETAILS CONTINUED ON PAGE 2 *****				
14. Distribution (include name, MSIN, and no. of copies)			RELEASE STAMP	
<u>KEH DISTRIBUTION</u>			OFFICIAL RELEASE (L3)	
Const Doc Cntl E2-50	J. K. Epperley	R1-29	BY WHC	
	K. S. McCullough	N1-83	DATE	
	R. K. Sanan [4]	R4-05	OCT 23 1992	
<u>WHC DISTRIBUTION</u>	T. W. Staehr (PE)	R3-27		
Project Files R1-28	J. E. Vanbeek	R3-27		
R. E. Clayton S1-54	G. H. Weissberg	R3-10		
M. W. Cling H4-57	DOE/A. G. Lassila	A5-10		
Sta 10 A3-87	H. Garza	L6-76		

ENGINEERING CHANGE NOTICE

15. Design Verification Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	16. Cost Impact <table style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">ENGINEERING</td> <td style="width: 50%; text-align: center;">CONSTRUCTION</td> </tr> <tr> <td>Additional <input checked="" type="checkbox"/> \$ 1460⁰⁰</td> <td>Additional <input checked="" type="checkbox"/> \$ 500⁰⁰</td> </tr> <tr> <td>Savings <input type="checkbox"/> \$</td> <td>Savings <input type="checkbox"/> \$</td> </tr> </table>	ENGINEERING	CONSTRUCTION	Additional <input checked="" type="checkbox"/> \$ 1460 ⁰⁰	Additional <input checked="" type="checkbox"/> \$ 500 ⁰⁰	Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$	17. Schedule Impact (days) Improvement <input type="checkbox"/> Delay <input type="checkbox"/> N/A
ENGINEERING	CONSTRUCTION							
Additional <input checked="" type="checkbox"/> \$ 1460 ⁰⁰	Additional <input checked="" type="checkbox"/> \$ 500 ⁰⁰							
Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$							

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"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OM Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input type="checkbox"/>	IEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>		<input type="checkbox"/>

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
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20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog./Project Engineer <u>M. Steinhilber</u>	10/22/92	PE <u>C. B.</u>	10/22/92
Cog./Project Engr. Mgr <u>John B. ...</u>	10/22/92	QA <u>B. L. ...</u>	10-22-92
QA <u>...</u>	10/22/92	Safety <u>D. Lundgren</u>	10-22-92
Safety		Design-PIPING: <u>M. R. McLean</u>	10-21-92
Security		Other-ENVIR: <u>...</u>	10/22/92
Proj. Prog./Dept. Mgr.		PLE: <u>...</u>	10-22-92
Def. React. Div.		CQA: <u>...</u>	10-22-92
Chem. Proc. Div.			
Def. Wst. Mgmt. Div.			
Adv. React. Dev. Div.			
Proj. Dept.			
Environ. Div.			
IRM Dept.			
Facility Rep. (Ops.)			
Other			

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Justification Details (Continued)

(DE-Items 2A & 8A): Changes made to Grout Line elevations in ECN B-714-126, Item 1A, were omitted on the Grout Line Profile drawing.

(CE-Items 1C,D,E,& F): (Reference NCR B-714-114) As-built pipe line locations.

(FC-Items 3 & 9): Clarification of required washer size will facilitate purchasing materials.

(CE/FC-Items 4,5,6,10,11 & 12): Opening up tolerances on locating nozzles in the excess water and leachate pits will facilitate construction without significantly impacting the installation of the Leachate Recycle Jumper Assembly and the jumper on the Short Term Leachate Pump Assembly. The current designs of the flex hose in these jumpers allow fit-up with the pit nozzles using these new tolerances, while maintaining minimum bend radius requirements and slope for drainage.

(DI-Items 1G & 7C): The function of these reference elevations is to help establish required nozzle locations and pipe slopes. Once nozzle location requirements are met, the nozzles have been grouted, pipe slope requirements are met, and final tie-ins made, these elevations no longer impact the facility design.

(DI-Item 13): Eliminating the welding of these 4" pipe caps will facilitate current and "future" tie-in installation of the leak sensing cable.

CHANGES MADE TO SAFETY CLASS 2 ITEMS DO NOT IMPACT THE INTEGRITY OF THE ORIGINAL FACILITY DESIGN.

DESCRIPTION OF CHANGES1) H-2-77596, Sh 1, Rev 1

- A) Plan (Z C4): For the Grout and Excess Water line elevations EL 655.78' and EL 655.77', located near the pipe bend at approximately N40448.92 and W45554.75, add a callout that reads: "SEE NOTE 13".
- B) Add new Note 13 that reads: THE TOLERANCES FOR THESE PIPE LINE ELEVATIONS ARE CHANGED FROM $\pm 1/4"$ TO $+1"$ AND $-1/4"$.
- C) Plan (Z D5): For West coordinate W45599.00, extend the leader and add the callout "SEE NOTE 14".
- D) Add new Note 14 that reads: THE AS-BUILT WEST COORDINATE ALONG THIS PORTION OF LINE EW-103G VARIES FROM W45598.82 TO W45598.78. FOR LINE EW-102F, THE WEST COORDINATE VARIES FROM W45598.81 TO W45599.05. REFERENCE NCR B-714-114.
- E) Plan (Z D6): (Affects ECN B-714-143, Item 1A, pg 3 & 4) Delete coordinate "N40503.04" which was the as-built coordinate added in ECN B-714-143. For North coordinate N40503.25, extend the leader and add the callout "SEE NOTE 15".
- F) Add new Note 15 that reads: FOR LINE EW-102F, THE AS-CONSTRUCTED NORTH COORDINATE VARIES FROM N40502.99 TO N40503.17. REFERENCE NCR B-714-114.

DESCRIPTION OF CHANGES (Continued)

G) Add new Note 16 that reads: THE GROUT AND EXCESS WATER CENTER LINE ELEVATIONS AT THE OUTSIDE WALLS OF THE VAULT PIT ARE REFERENCE ELEVATIONS TO HELP ESTABLISH REQUIRED NOZZLE LOCATIONS INSIDE THE PIT AND PIPE SLOPE OUTSIDE THE PIT, BEFORE GROUTING NOZZLES IN PLACE. WHEN THE NOZZLES HAVE BEEN GROUTED WITHIN THE TOLERANCES GIVEN, THESE REFERENCE ELEVATIONS ARE NOT REQUIRED FOR FINAL ACCEPTANCE.

2) H-2-77596, Sh 2, Rev 1

A) Profile (Z D4): Change " (EL 655.29') " to " (EL 655.41') " and Delete " (EL 655.34') ".

B) Profile (Z D6): (Affects ECN B-714-132, Item 2A) Change "SLOPE 0.0115'/FT" to "SLOPE".

3) H-2-77601, Sh 1, Rev 2 (Affects ECN B-714-146, Item 3, pg 3)

Section C (Z E3): Change the anchor bolt callout to read as follows:
(4) 3/8" DIA HILTI KWIK BOLT II (1 5/8" MIN EMBED)
WITH 1" SQ x 3/16" MIN TO 2" SQ x 3/8" MAX STL WASHER
WITH 7/16" DIA HOLE IN CENTER

4) H-2-77602, Sh 1, Rev 1

Plan, Assy 3 (Z F3 & F4): For dimensions that locate Nozzle B, change the tolerance from $\pm 1/16"$ to $\pm 1/2"$.

5) H-2-77602, Sh 2, Rev 2

Elevation (Z D7): For the dimension that locates Nozzle B, change the tolerance from $\pm 1/16"$ to $\pm 1/4"$.

6) H-2-77612, Sh 1, Rev 2 (Affects ECN B-714-96, Item 8A, pg 3)

Plan (Z E5 & F6): For dimensions that locate Nozzle A, change the tolerance from $\pm 1/4"$ to $\pm 1/2"$.

7) H-2-78467, Sh 1, Rev 1

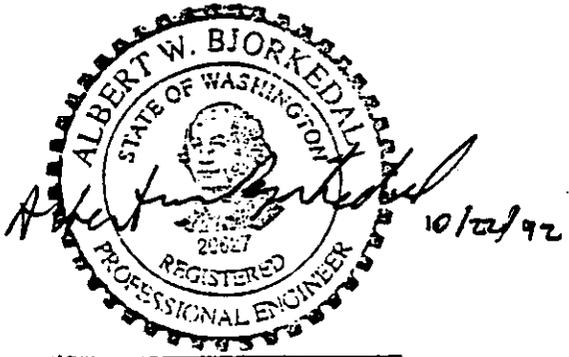
A) Plan (Z C4): For the Grout and Excess Water line elevations EL 655.78' and EL 655.77', located near the pipe bend at N40264.92 and W45554.75, add a callout that reads: "SEE NOTE 16".

B) Add new Note 16 that reads: THE TOLERANCES FOR THESE PIPE LINE ELEVATIONS ARE CHANGED FROM $\pm 1/4"$ TO $+1"$ AND $-1/4"$.

DESCRIPTION OF CHANGES (Continued)

- C) Add new Note 17 that reads: THE GROUT AND EXCESS WATER CENTER LINE ELEVATIONS AT THE OUTSIDE WALLS OF THE VAULT PIT ARE REFERENCE ELEVATIONS TO HELP ESTABLISH REQUIRED NOZZLE LOCATIONS INSIDE THE PIT AND PIPE SLOPE OUTSIDE THE PIT, BEFORE GROUTING NOZZLES IN PLACE. WHEN THE NOZZLES HAVE BEEN GROUTED WITHIN THE TOLERANCES GIVEN, THESE REFERENCE ELEVATIONS ARE NOT REQUIRED FOR FINAL ACCEPTANCE.
- 8) H-2-78467, Sh 2, Rev 0
- A) Profile (Z D3: Change " (EL 655.29') " to " (EL 655.42') " and Delete " (EL 655.34') ".
- B) Profile (Z D5): Change "SLOPE 0.0104'/FT" to "SLOPE".
- 9) H-2-78472, Sh 1, Rev 2 (Affects ECN B-714-146, Item 8 pg 3)
- Section C (Z E3): Change the anchor bolt callout to read as follows:
(4) 3/8" DIA HILTI KWIK BOLT II (1 5/8" MIN EMBED)
WITH 1" SQ x 3/16" MIN TO 2" SQ x 3/8" MAX STL WASHER
WITH 7/16" DIA HOLE IN CENTER
- 10) H-2-78473, Sh 1, Rev 1
- Plan, Assy 3 (Z F3 & F4): For dimensions that locate Nozzle B, change the tolerance from $\pm 1/16"$ to $\pm 1/2"$.
- 11) H-2-78473, Sh 2, Rev 2
- Elevation (Z D7): For the dimension that locates Nozzle B, change the tolerance from $\pm 1/16"$ to $\pm 1/4"$.
- 12) H-2-78482, Sh 1, Rev 2 (Affects ECN B-714-96, Item 14A, pg 4)
- Plan (Z E5 & F6): For dimensions that locate Nozzle A, change the tolerance from $\pm 1/4"$ to $\pm 1/2"$.
- 13) SPECIFICATION B-714-C2, REV 1, SECTION 01010
- Paragraph 1.2.3: Add new subparagraph as follows:
1.2.3.8 Welding 4" pipe caps onto pull points 11a, 12a, 18 & 34.

REGISTERED ENGINEER REVIEW - PIPING ONLY



EXPIRES 9/18/99

9 3 1 1 9 3 4 3 6 3 9