

Mr. John Grantham
 State of Washington
 Department of Ecology
 Nuclear & Mixed Waste Program
 P. O. Box 47600
 Olympia, WA 98504-7600

FLUOR DANIEL, INC.

Date: June 18, 1992

Reference: Hanford Waste Vitrification Plant
 DOE Contract DE-AC06-86RL10838
 Fluor Contract 8457

Transmittal No.: WDOE-155

Dear Mr. Grantham:

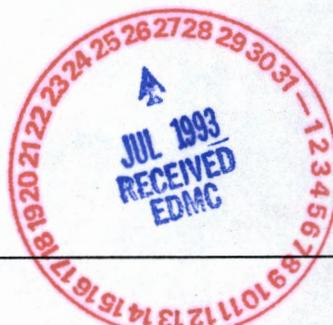
TRANSMITTAL

We enclose * copy of the items listed below. These are issued per US-DOE request.
 *5 FULLSIZE BLUELINES ROLLED & 5 SPECIFICATIONS, & 1 REDUCED

Response due to Fluor: N/A

Responds to: B200 PACKAGE

NUMBER	Rev.	Date	TITLE
<u>SEE TRANSMITTAL ATTACHMENT</u>			B200 PACKAGE CIVIL MASS EXCAVATIONS



Distribution:

REFERENCE: FRP-451, FUP-164

R. L. Long: DOE-RL w/0

VPO/AME Corresp Cntrl Cntr, MSIN A5-10
 (B200 PACKAGE), w/0

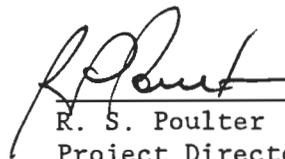
P. Felise, WHC-RL (MSIN G6-16), w/1F, 1 SPEC

Environmental Data Management Center

(MSIN H4-44), w/1F, 1 SPEC **H4-22**

D. Duncan, US EPA, Region X w/0

Very truly yours,


 R. S. Poulter
 Project Director


 RSP:RWK:ts



PACKAGE TRANSMITTAL ATTACHMENT

DRAWING NUMBER	SHT NO.	REV	DATE	DRAWING TITLE
H-2-117038	1	0	06/15/92	CIVIL MASS EXCAVATION TITLE SHEET
H-2-117039	1	0	06/15/92	CIVIL DRAWING INDEX AND OVERALL SITE PLAN
H-2-117040	1	0	06/15/92	CIVIL MASS EXCAVATION INFORMATION SHEET
H-2-117042	1	0	06/15/92	CIVIL MASS EXCAVATION PLAN
H-2-117043	1	0	06/15/92	CIVIL MASS EXCAVATION PLAN AND DETAILS
H-2-117044	1	0	06/15/92	CIVIL ROUGH GRADING PLAN
H-2-117045	1	0	06/15/92	CIVIL MASS EXCAVATION SECTIONS
H-2-117046	1	0	06/15/92	CIVIL MASS EXCAVATION SECTIONS

TRANSMITTAL ATTACHMENT FOR PACKAGE SPECIFICATIONS

SPEC NUMBER	PKG REV	SECT REV	PACKAGE TITLE	SECT	SECTION TITLE
B-595-C-B200	0		EXCAVATION AND BACKFALL		
		0		02220	MASS EXCAVATION

SPECIFICATIONS

CIVIL MASS EXCAVATION

B-595-C-B200

HANFORD WASTE VITRIFICATION PLANT

**U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE**



**FLUOR DANIEL
ADVANCED TECHNOLOGY DIVISION
CONTRACT 8457**

**DOE CONTRACT NO.
DE-AC06-86RL10838**

MASS EXCAVATION
(B-595-C-B200)
EXCAVATION AND BACKFILL

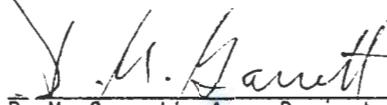
SECTION 02220

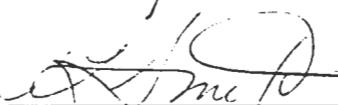
"APPROVED FOR CONSTRUCTION"

REVISION NO. 0
ISSUE DATE 6-15-92

SAFETY CLASS 4

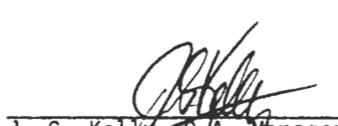
APPROVED BY:


D. M. Garrett, Area Project Manager 6/16/92 (Date)


J. L. Smets, Systems Manager 6/16/92 (Date)


J. L. Smets, Systems Engineering Manager 6/16/92 (Date)


A. K. Yee, Independent Safety Manager 6/15/92 (Date)


J. G. Kelly, Q.A. Manager 6/15/92 (Date)


R. S. Poulter, Project Director 15 JUN 92 (Date)

SECTION 02220
MASS EXCAVATION

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SECTION 02220 MASS EXCAVATION

PART 1 GENERAL

1.1 SUMMARY

This section covers the technical requirements for mass excavation and recompaction needed to remove unsuitable foundation soil materials and to establish rough slab and foundation subgrade for the Canister Storage, Vitrification, Manipulator Repair, Operations Control/Regulated Entrance, Frit Storage/Cold Chem, Contact Maintenance Room (CMR), Shipping and Receiving, and Mechanical/Electrical Services buildings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D1556	1990 Standard Test Method for Density of Soil in Place by the Sand-Cone Method
ASTM D1557	1978-E1 Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 Pound (4.54 kg) Rammer and 18 Inch (457 mm) Drop
ASTM D2167	1984 Standard Test Method for Density and Unit Weight of Soil In-Place by the Rubber Balloon Method (R 1990)
ASTM D2922	1981 (R 1990) Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D4718	1987 Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles

DAMES AND MOORE - SOILS AND GEOTECHNICAL REPORT

Reports of Geotechnical Investigation Proposed Hanford Waste Vitrification Plant Hanford, Washington for Kaiser Engineers, Job No. 10805-383-016, November 15, 1989, along with supplemental reports dated July 28, 1990 and July 24, 1991.

HANFORD WASTE VITRIFICATION PLANT

CWBS A130 Specification B-595-C-A130 "Roads and Site
Preparation" (Current Rev.)

WASHINGTON ADMINISTRATIVE CODE (WAC)

WAC 1990 Chapter 296-155, Section 650-664,
Excavation, Trenching and Shoring

1.3 RELATED DOCUMENTS

(Not Used)

1.4 DEFINITIONS

The following terms used in the Specifications or Contract
Drawings are defined as follows:

1.4.1 Stabilization Material

Crushed rock surfacing as specified in "Roads and Site
Preparation" Specification B-595-C-A130, Section 02231 "Aggregate
for Roads and Surfacing", Revision 0, Paragraph 2.1.2 "Crushed
Rock Surfacing".

1.5 SUBMITTALS

Submittals by the Seller are not required for this specification
section. The Buyer shall ensure the following information is
provided:

1.5.1 Documentation providing the moisture density relationships, as
specified in Paragraph 3.2.4.1, for each type of soil used for
backfill.

1.5.2 Documentation of field density tests, as specified in Paragraph
3.3, including the location and depth of each sample taken.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 Fill Materials

Fill materials shall be the originally excavated onsite material
unless such material is determined to be unsuitable due to
presence of vegetation, excessive moisture, refuse or other

deleterious substances. Rocks which would be retained on a six inch (6") screen shall not be used in the fill material.

PART 3 EXECUTION

3.1 PREPARATION

- 3.1.1 Prior to start of work the Seller shall inspect the site and shall verify existing site conditions depicted on the Contract Drawings including: underground and overhead utilities, grading, pavement, drainage structures and construction tie-in interface locations and elevations.
- 3.1.2 The site has been rough graded and overlaid with 4 inches of stabilization material. Seller shall remove the stabilization material from the work area and stockpile it at a location designated by the Buyer.
- 3.1.3 Seller shall supply and set survey stakes to provide for strict and accurate vertical and horizontal control of the work from monuments and benchmarks provided by the Buyer. Provisions shall be taken to protect the monuments and benchmarks from damage.

3.2 INSTALLATION, APPLICATION AND ERECTION

- 3.2.1 Excavation
 - 3.2.1.1 Prior to start of excavation, obtain permission to excavate from the Buyer.
 - 3.2.1.2 All excavations shall be in accordance with Washington Administrative Code (WAC), Chapter 296-155, Section 650-664, "Excavation Trenching and Shoring."
 - 3.2.1.3 Excavations shall be by the open-cut method.
 - 3.2.1.4 Keep all excavations free of water, ice, and debris.
 - 3.2.1.5 The side slopes at all excavations below elevation 698.0 shall be 1.5 horizontal to 1 vertical. The side slopes at excavations and fills above elevation 698.0 shall be 2 horizontal to 1 vertical.
 - 3.2.1.6 Excavation shall be performed to the lines and grades indicated on the Contract Drawings.
 - 3.2.1.7 Material removed below the depths noted on the Contract Drawings shall be replaced to the required elevation using material meeting the requirements of Paragraph 2.1.1 placed and compacted as specified in Paragraph 3.2.4 herein.

- 3.2.1.8 Excess excavated material meeting the requirements of Paragraph 2.1.1 shall be stockpiled at a location designated by the Buyer for later use as fill or backfill material. Material determined to be unsuitable for fill or backfill shall be disposed of in an area designated by the Buyer. Suitable and unsuitable materials shall be stockpiled or disposed of at separate locations.
- 3.2.1.9 Stockpiles of fill or backfill material shall be kept in a neat and well drained condition, giving due consideration to drainage at all times and protected from contamination which may destroy its quality and fitness as a suitable fill or backfill material.
- Any stockpiled material which has become unsuitable for backfill shall be disposed of as directed by the Buyer.
- 3.2.2 Dewatering
- The groundwater table is in excess of 100 feet below the lowest excavation indicated on the Contract Drawings. The Seller shall, however, be responsible for any dewatering of rain water accumulated within the work area until completion and acceptance of his work.
- 3.2.3 Fill
- 3.2.3.1 Prior to start of fill, obtain permission to backfill from Buyer.
- 3.2.3.2 Before placing fill material, the existing grade shall be scarified to depth of not less than 6 inches, moisture conditioned and compacted to requirements specified in Paragraph 3.2.4.
- 3.2.3.3 Fill materials shall meet the requirements specified in Paragraph 2.1.1 herein.
- 3.2.3.4 In general, fill material shall be placed in maximum loose lifts of 8 inches and be compacted per Paragraph 3.2.4. Each lift shall be completed, compacted and tested before the next lift is placed.
- 3.2.3.5 Fill material shall be moisture conditioned to within plus or minus 2 percent of its optimum moisture content as determined in Paragraph 3.2.4.1. Disking may be required to obtain the required moisture content since water applied to the surface may not penetrate the full depth of the lift.
- 3.2.3.6 Fill and embankments shall be constructed to the lines and grades indicated on the Contract Drawings.

3.2.4 Compaction

3.2.4.1 The moisture density relationship shall be determined by the Buyer for each type of fill material used in accordance with ASTM D1557. The optimum moisture content for the onsite soil is estimated to be 10 percent. Corrections to adjust the laboratory maximum dry density and optimum moisture content for soil with oversize particles shall be made in accordance with ASTM D4718.

3.2.4.2 The excavated surface and each lift of fill shall be compacted to 95 percent of the maximum dry density as determined by ASTM D1557.

3.2.5 Tolerances

All excavation and backfill shall be made to the dimensions and elevations on the Contract Drawings plus or minus 0.1 foot.

3.2.6 Existing Environmental Boreholes

Existing environmental boreholes, 299-E29-1 and 299-E29 PVC, have been abandoned in place by removal of their casings. Borehole 299-E29-1 has been backfilled with bentonite crumbles. 12 inch diameter by 6 inch thick cement pads with brass survey markers, located at each borehole location, are required to be removed as part of the contract.

3.3 **FIELD QUALITY CONTROL**

3.3.1 The Buyer shall be responsible for field tests to determine that the work is performed in accordance with this specification and drawings. The Seller shall support and coordinate the work with the Buyer's testing activities.

3.3.2 Field density tests shall be performed in accordance with ASTM D1556, ASTM D2167 or ASTM D2922. When tests are performed by the Nuclear Method per ASTM D2922, at least 20 percent of the tests shall be performed in accordance with ASTM D1556 or ASTM D2167.

3.3.3 Field density tests are required for each method of compaction utilized and for each type of fill material used.

3.3.4 A field density test shall be performed for each 3000 square feet of compacted fill per lift, with a minimum of one test per lift per day for each type of fill compacted.

3.3.5 Any areas failing to meet compaction requirements shall be recompacted and retested. If required compaction cannot be obtained, the material shall be removed, replaced, recompacted and tested.

3.4 **ADJUSTMENTS**

(Not Used)

3.5 **CLEANING**

(Not Used)

3.6 **PROTECTION**

Measures shall be taken to protect existing facilities such as monuments, benchmarks, overhead electrical and below ground utilities, and other items identified on the Contract Drawings and by the Buyer.

3.7 **DEMONSTRATION**

(Not Used)

3.8 **SCHEDULES**

(Not Used)

END OF SECTION

PROJECT TITLE:

B-595 HWVP-HANFORD WASTE VITRIFICATION PLANT

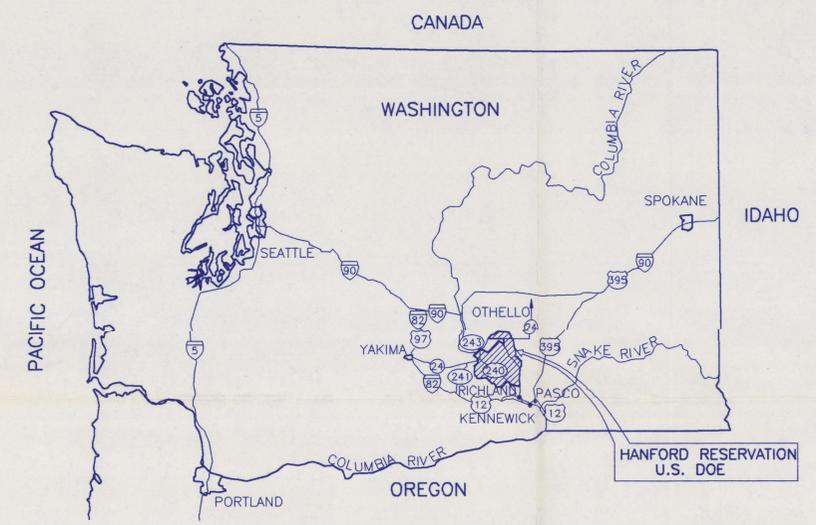
CWBS B200 MASS EXCAVATION

FOR:

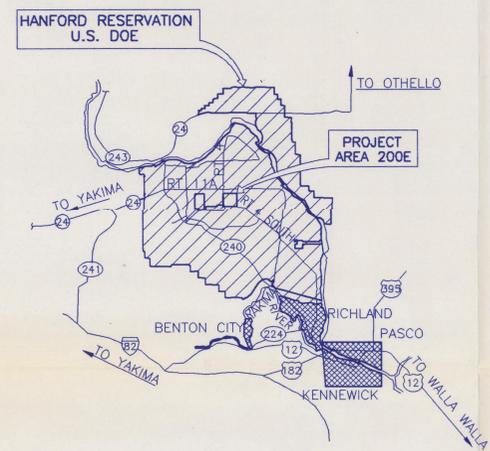
U.S. DEPARTMENT OF ENERGY RICHLAND OPERATIONS OFFICE

BY:

FLUOR DANIEL, INC



REGIONAL MAP
0 20 40 60 80 100
GRAPHIC SCALE
1" = 40 MILES



VICINITY MAP
0 5 10 15 20 25
GRAPHIC SCALE
1" = 10 MILES

LEGEND
 DENOTES HANFORD RESERVATION U.S. DOE
 DENOTES CITY LIMITS

JUN 18 1992

0	6/15/92	APPROVED FOR CONSTRUCTION	JD	RK	JD	GAK
REV. NO.	DATE	REVISION DESCRIPTION	APPROVAL INITIALS			
CADFILE: B117038A		CADCODE: 2B:IBM:ACD2:10.C2:SS				
ENGINEERING RELEASE			U.S. DEPARTMENT OF ENERGY			
REV. DATE			Richland Operations Office			
ERO.			DE - ACOS-88RL10838			
SIGNATURE		DATE	FLUOR DANIEL, INC.			
PROJ. ENGR.		6/15/92	ADVANCED TECHNOLOGY DIVISION			
PQA. ENGR.		6/14/92	CIVIL MASS EXCAVATION TITLE SHEET			
SUPERVISOR		6/14/92	PROJECT TITLE			
PROJECT ENG. IN CHARGE		6/14/92	HANFORD WASTE VITRIFICATION PLANT			
ENGINEERING MGR.		6/14/92	PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. B200			
SUPERVISOR		6/15/92	SCALE NONE BLDG. NO. INDEX NO.			
SIGN. ENGINEER		6/15/92	DRAWING NUMBER SHEET OF REV.			
S. SAM		04-01-92	NONE NOT REQ'D H-2-117038 1 1 0			
CLASSIFICATION		DRAWING NUMBER SHEET OF REV.				

DWG. NO.	DRAWING TITLE
REFERENCE DRAWINGS	
NEXT USED ON	

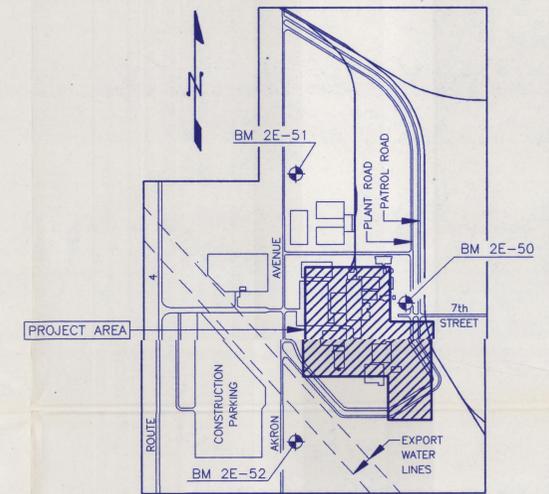
DRAWING INDEX

DRAWING NO.	CODE NO.	TITLE	REV.
GENERAL			
H-2-117038	T1	CIVIL MASS EXCAVATION TITLE SHEET	0
H-2-117039	T2	CIVIL DRAWING INDEX AND OVERALL SITE PLAN	0
CIVIL			
H-2-117040	C1	CIVIL MASS EXCAVATION INFORMATION SHEET	0
H-2-117042	C2	CIVIL MASS EXCAVATION PLAN	0
H-2-117043	C3	CIVIL MASS EXCAVATION PLAN AND DETAILS	0
H-2-117044	C4	CIVIL ROUGH GRADING PLAN	0
H-2-117045	C5	CIVIL MASS EXCAVATION SECTIONS	0
H-2-117046	C6	CIVIL MASS EXCAVATION SECTIONS	0

OVERALL SITE PLAN LEGEND

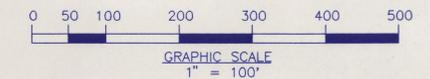
- APPROXIMATE CWBS-B200 CONTRACT WORK LIMITS BY DRAWING NUMBER
- BUILDINGS NOT A PART OF CWBS-B200
- AREA LIGHTING AND DIRECT BURIAL (DB) ELECTRICAL CWBS-A170
- TRANSFORMER SWITCH/BOARD
- NEW RAILROAD (CWBS-A180)
- NEW UNDERGROUND LINES (CWBS-A160)
- FIRE HYDRANT
- VALVE

NOTE: SEE SHEET H-2-117040 FOR ADDITIONAL LEGEND



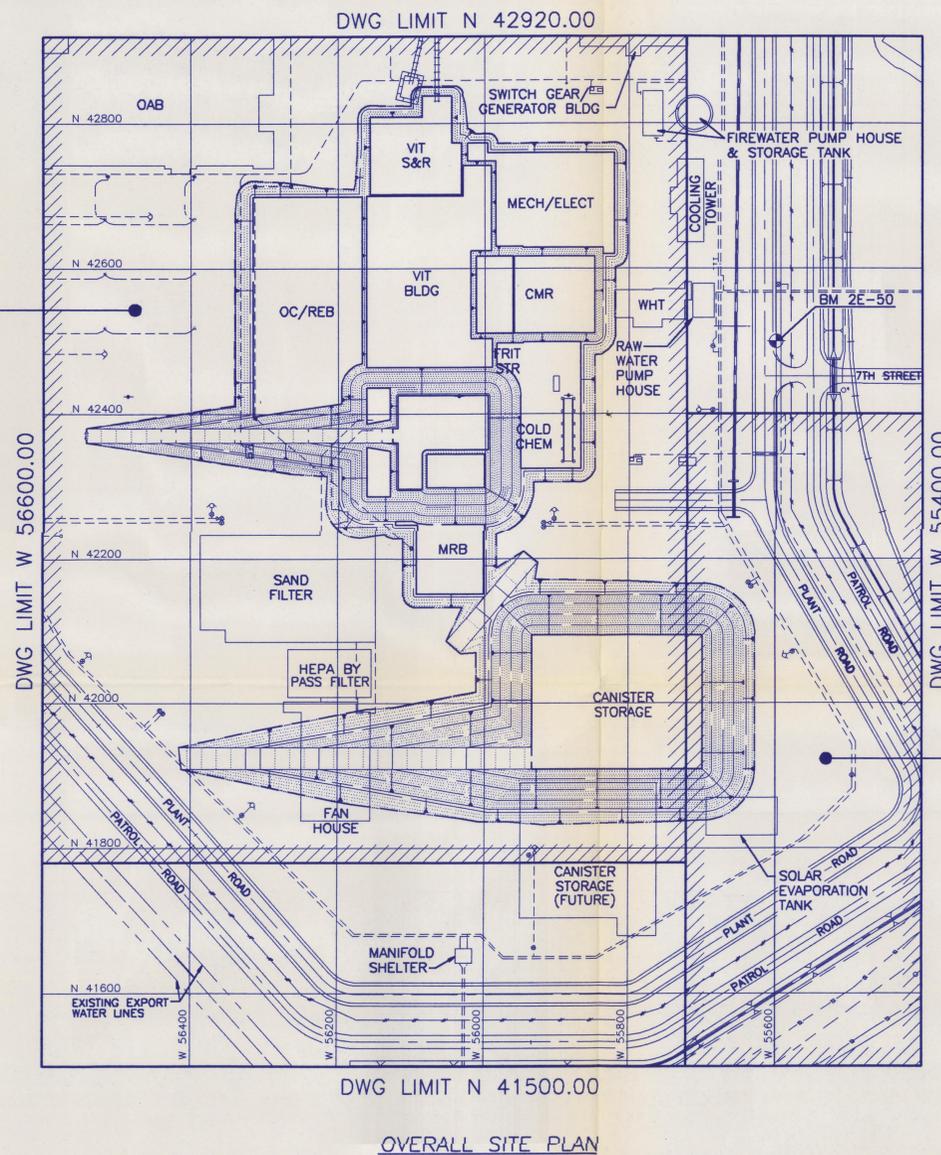
KEY PLAN
SCALE: NONE

- NOTES:
- SEE DRAWING NUMBER H-2-117040 FOR ABBREVIATIONS, LEGEND AND GENERAL NOTES.



SEE SHEETS
H-2-117042
H-2-117044

SEE SHEET
H-2-117043



OVERALL SITE PLAN

JUN 18 1992

SAFETY CLASS 4

0	6/15/92	APPROVED FOR CONSTRUCTION	<i>[Signature]</i>
REV. NO.	DATE	REVISION DESCRIPTION	APPROVAL INITIALS
CADFILE: B117039A		CODE: 2B:IBM:ACD2:10.C2:SS	
ENGINEERING RELEASE		U.S. DEPARTMENT OF ENERGY	
REV. _____ DATE _____		Richard Operations Office	
SIGNATURE		OE - AC08-66RL10836	
PROJECT ENG: <i>[Signature]</i> 1/25/92 C.A. BGR: <i>[Signature]</i> 6/15/92 INDEPENDENT SAFETY: <i>[Signature]</i> 8/15/92 PROJECT ENG: <i>[Signature]</i> 4/15/92 ENGINEERING WORK: <i>[Signature]</i> 6/15/92 SUPERVISOR: <i>[Signature]</i> 4/16/92		FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION	
PROJECT TITLE		CIVIL DRAWING INDEX AND OVERALL SITE PLAN	
PROJECT: HANFORD WASTE VITRIFICATION PLANT		PROJECT: B-595	
FLUOR CONTRACT NO. 8457		CWBS NO. B200	
SCALE: 1" = 100'		INDEX NO.	
DRAWING NUMBER: H-2-117039		SHEET 1 OF 1	
CLASSIFICATION: NONE		BY: NOT REQ'D	

DWG. NO.	DRAWING TITLE	NEXT USED ON

ABBREVIATIONS

&	AND	AP OR Δ	APPROXIMATE	AP OR Δ	APPROXIMATE
AP OR Δ	APPROXIMATE	AT	AT	AT	AT
BM	BENCH MARK	CL	CLEAR	CL	CLEAR
BOT	BOTTOM	CMR	CONTACT MAINTENANCE ROOM	CMR	CONTACT MAINTENANCE ROOM
BLDG	BUILDING	CWB	CONTRACT WORK BREAKDOWN STRUCTURE	CWB	CONTRACT WORK BREAKDOWN STRUCTURE
CL OR C	CLEAR	DET	DETAIL	DET	DETAIL
CLR	CLEAR	DB	DIRECT BURIAL (ELECTRICAL)	DB	DIRECT BURIAL (ELECTRICAL)
COLD CHEM	COLD CHEMICAL BUILDING	DWG	DRAWING	DWG	DRAWING
CONST	CONSTRUCTION OR CONSTRUCT	D.O.E.	DEPARTMENT OF ENERGY	D.O.E.	DEPARTMENT OF ENERGY
CMR	CONTACT MAINTENANCE ROOM	E	EAST	E	EAST
CWB	CONTRACT WORK BREAKDOWN STRUCTURE	ELECT	ELECTRICAL	ELECT	ELECTRICAL
		EL	ELEVATION	EL	ELEVATION
		EXIST	EXISTING	EXIST	EXISTING
		FT	FEET	FT	FEET
		FG	FINISHED GRADE	FG	FINISHED GRADE
		FF	FINISHED FLOOR	FF	FINISHED FLOOR
		FH	FIRE HYDRANT	FH	FIRE HYDRANT
		FWX	FIRE WATER LINE	FWX	FIRE WATER LINE
		FLR	FLOOR	FLR	FLOOR
		FL	FLOW LINE	FL	FLOW LINE
		FRIT ST	FRIT STORAGE	FRIT ST	FRIT STORAGE
		GB	GRADE BREAK	GB	GRADE BREAK
		HWVP	HANFORD WASTE VITRIFICATION PLANT	HWVP	HANFORD WASTE VITRIFICATION PLANT
		HP	HIGH POINT	HP	HIGH POINT
		HORIZ	HORIZONTAL	HORIZ	HORIZONTAL
		INFO	INFORMATION	INFO	INFORMATION
		L =	LENGTH	L =	LENGTH
		LF	LINEAR FEET	LF	LINEAR FEET
		MH	MANHOLE	MH	MANHOLE
		MAX	MAXIMUM	MAX	MAXIMUM
		MECH/ELEC	MECHANICAL/ELECTRICAL	MECH/ELEC	MECHANICAL/ELECTRICAL
		MIN	MINIMUM	MIN	MINIMUM
		MRB	MANIPULATOR REPAIR BUILDING	MRB	MANIPULATOR REPAIR BUILDING
		N	NORTH	N	NORTH
		NE	NORTHEAST	NE	NORTHEAST
		NW	NORTHWEST	NW	NORTHWEST
		NTS	NOT TO SCALE	NTS	NOT TO SCALE
		NO. OR #	NUMBER	NO. OR #	NUMBER
		OAB	OPERATIONS ANNEX BUILDING	OAB	OPERATIONS ANNEX BUILDING
		OC/REB	OPERATIONS CONTROL/REGULATED ENTRANCE BUILDING	OC/REB	OPERATIONS CONTROL/REGULATED ENTRANCE BUILDING
		OC	ON CENTER	OC	ON CENTER
		%	PERCENT	%	PERCENT
		PREP	PREPARATION	PREP	PREPARATION
		PT	POINT	PT	POINT
		PP	POWER POLE	PP	POWER POLE
		QTY	QUANTITY	QTY	QUANTITY
		R OR RAD	RADIUS	R OR RAD	RADIUS
		RR	RAILROAD	RR	RAILROAD
		REF	REFERENCE	REF	REFERENCE
		REQD	REQUIRED	REQD	REQUIRED
		REV	REVISION	REV	REVISION
		R/W	RIGHT OF WAY	R/W	RIGHT OF WAY
		S & R	SHIPPING & RECEIVING	S & R	SHIPPING & RECEIVING
		SWX	SANITARY (POTABLE) WATER LINE	SWX	SANITARY (POTABLE) WATER LINE
		SS	SANITARY SEWER	SS	SANITARY SEWER
		SCH	SCHEDULE	SCH	SCHEDULE
		SECT	SECTION	SECT	SECTION
		SHT	SHEET	SHT	SHEET
		S =	SLOPE	S =	SLOPE
		S	SOUTH	S	SOUTH
		SE	SOUTHEAST	SE	SOUTHEAST
		SW	SOUTHWEST	SW	SOUTHWEST
		SPEC(S)	SPECIFICATIONS OR SPECIFICATIONS	SPEC(S)	SPECIFICATIONS OR SPECIFICATIONS
		SO	SQUARE	SO	SQUARE
		STA	STATION	STA	STATION
		SD	STORM DRAIN	SD	STORM DRAIN
		STR	STREET	STR	STREET
		STRUCT	STRUCTURAL/STRUCTURE	STRUCT	STRUCTURAL/STRUCTURE
		THK	THICK(NESS)	THK	THICK(NESS)
		TYP	TYPICAL	TYP	TYPICAL
		U.S.	UNITED STATES	U.S.	UNITED STATES
		VCP	VITRIFIED CLAY PIPE	VCP	VITRIFIED CLAY PIPE
		VIT BLDG	VITRIFICATION BUILDING	VIT BLDG	VITRIFICATION BUILDING
		WHT	WASTE HOLDING TANK	WHT	WASTE HOLDING TANK
		WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
		W	WEST	W	WEST
		W/	WITH	W/	WITH
		YD	YARD	YD	YARD

LEGEND

	EXISTING SECURITY FENCE
	NEW CHAIN LINK FENCE (BY OTHERS)
	POST SIGN BARRICADE (BY OTHERS)
	NEW RAILROAD (BY OTHERS)
	EXIST. UNIFORM SLOPE
	PROPOSED UNIFORM SLOPE
	PROPOSED GRADE
	EXISTING GRADE
	ENVIRONMENTAL BORE HOLE
	POWER POLES (EXISTING)
	GATE (BY OTHERS)
	NEW SPOT ELEVATION
	EXISTING SPOT ELEVATION
	BENCHMARK
	DENOTES CENTERLINE
	LIMITS OF EXCAVATION
	PROFILE OF EXISTING GRADING
	EXISTING CONTOURS
	NEW CONTOURS
	DIRECT BURIAL ELECTRICAL LINES (BY OTHERS)
	FIRE WATER LINE W/SIZE INDICATED (BY OTHERS)
	SANITARY SEWER LINE (BY OTHERS)
	SANITARY WATER LINE W/SIZE INDICATED (BY OTHERS)
	FLOW LINE
	DENOTES DETAIL CALLOUT "2" ON DRAWING NUMBER H-2-117042
	DENOTES SECTION CALLOUT "A" ON DRAWING NUMBER H-2-117042
	DENOTES REVISION AND NUMBER
	SANITARY SEWER MANHOLE (BY OTHERS)
	FIRE HYDRANT (BY OTHERS)
	BARRICADE POSTS (BY OTHERS)
	CAPPED PIPE (BY OTHERS)
	POST INDICATOR OR ENCLOSED EXTENDED VALVE (BY OTHERS)
	EXISTING UNKNOWN OBJECT (SEE GENERAL NOTE 9 THIS DRAWING)
	COMPACTED FILL MATERIAL

	BORING NO. DESIGNATION PER SOILS REPORT
	SOIL TEST BORE HOLE
	HORIZONTAL CONTROL POINT FOR REFERENCE ONLY (SEE CWBS B220 AND CWBS B350)

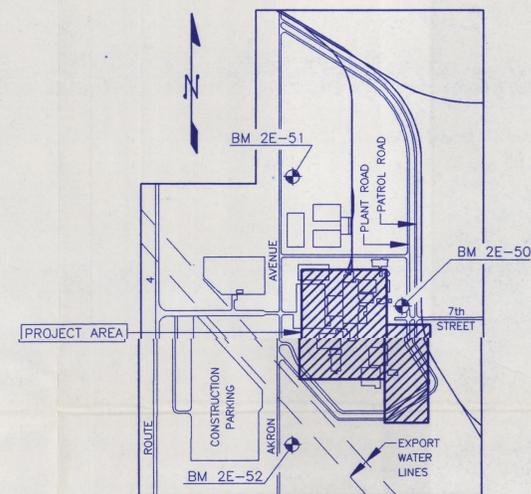
GENERAL DESIGN CRITERIA (REF)

- EXCAVATION, FILL, AND COMPACTION REQUIREMENTS ARE BASED ON RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY DAMES & MOORE FOR KAISER ENGINEERS, JOB NO. 10805-383-016 DATED NOVEMBER 15, 1989 AND SUPPLEMENTS THEREOF.
 - FACES OF SLOPES CUT BELOW ELEVATION 698.0 SHALL BE 1 1/2 HORIZONTAL TO 1 VERTICAL.
 - FACES OF SLOPES CUT OR FILLED ABOVE ELEVATION 698.0 SHALL BE 2 HORIZONTAL TO 1 VERTICAL.

GENERAL NOTES:

- THE SELLER SHALL VERIFY CONDITIONS AT THE JOB SITE PRIOR TO STARTING CONSTRUCTION AND THE ENGINEER SHALL BE NOTIFIED, IN WRITING, OF ANY DISCREPANCIES OR INCONSISTENCIES.
- HORIZONTAL AND VERTICAL CONTROL IS BASED ON THE EXISTING HANFORD PLANT 200E AREA SYSTEM. THE PROJECT BENCHMARKS TO BE USED IN THE CONSTRUCTION OF THE HANFORD WASTE VITRIFICATION PLANT ARE LISTED IN THE TABLE BELOW AND ARE INDICATED IN THE KEY PLAN ON THIS DRAWING.

BENCHMARK NAME	DESCRIPTION	HANFORD 200E AREA DATUM	
		COORDINATES(FT)	ELEVATION(FT)
2E-50	BRASS CAP SET IN CONCRETE	N 42499.94 W 55599.84	706.09
2E-51	BRASS CAP SET IN CONCRETE	N 43897.51 W 56725.52	698.61
2E-52	BRASS CAP SET IN CONCRETE	N 40950.18 W 56725.10	713.50
- THE COORDINATES AND ELEVATIONS SHOWN FOR THESE BENCHMARKS ARE BASED ON THE SURVEY DATA REPORT PREPARED BY KAISER ENGINEERS, TITLED "HANFORD WASTE VITRIFICATION PLANT", DATED 9-15-89 (FILE NUMBER 2ESW-039).
- THE EXISTING UTILITIES AND ITEMS LOCATED ON THE PLANS, WHICH ARE CONSTRUCTED BY OTHERS, ARE SHOWN IN AN APPROXIMATE MANNER ONLY. THE LOCATIONS OF EXISTING UTILITY LINES SHOWN HAVE BEEN PROVIDED BY THE OWNER BASED ON EXISTING AS-BUILT DRAWINGS. THE SELLER SHALL TAKE NECESSARY MEASURES TO HOLD SAFE AND PREVENT DAMAGING THE EXISTING UTILITY LINES AND ASSOCIATED APPURTENANCES.
- EXCAVATION AND BACKFILL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION B-595-C-B200 SECTION 02220.
- EXISTING CONTOURS SHOWN REFLECT THE SITE CONDITIONS AFTER SITE PREPARATION OPERATIONS UNDER CWBS NO. A130. THE WORK AREA IS OVERLAYS WITH APPROXIMATELY 4" OF STABILIZATION SURFACING MATERIAL. THE SELLER SHALL REMOVE AND STORE THIS MATERIAL FOR LATER REPLACEMENT IN AREAS DESIGNATED BY THE BUYER. STABILIZATION MATERIAL DISTURBED BY THE SELLER OUTSIDE THE GRADING LIMITS SHOWN ON THE PLANS MUST BE REPLACED IN ACCORDANCE WITH SPECIFICATION B-595-C-A130 SECTION 02231.
- FOR GENERAL SITE INFORMATION AND BUILDING LOCATIONS SEE DRAWING H-2-117039.
- FOR UNDERGROUND UTILITIES SEE CWBS NO. A120, A160, AND A170. THE UTILITIES SHOWN DO NOT REFLECT ALL THE PROJECT UTILITIES TO BE INSTALLED BY OTHERS. THE SELLER SHALL COORDINATE WITH THE BUYER ANY IMPACT TO, OR BY HIS WORK WITH RESPECT TO THE OTHER CONTRACTORS WORK.
- SELLER SHALL IDENTIFY UNKNOWN FIELD OBJECTS IN HIS WORK AREA AND NOTIFY BUYER IMMEDIATELY OF ANY CONFLICTS.
- SLOPES AND PADS SHALL BE CONSTRUCTED TO THE LINES AND GRADES INDICATED ON DRAWINGS.
- UNPAVED AREAS BEYOND THE LIMITS OF EXCAVATION DISTURBED DURING EXCAVATION AND BACKFILL ACTIVITIES SHALL BE OVERLAYS WITH 4" STABILIZATION SURFACING MATERIAL TO THE EXISTING GRADE ELEVATIONS ON DRAWINGS. STABILIZATION MATERIAL DISTURBED BY THE SELLER OUTSIDE THE GRADING LIMITS SHOWN ON THE PLANS MUST BE REPLACED.
- SOIL BORINGS REFERENCED ON THE PLANS ARE FROM THE GEOTECHNICAL REPORT REFERENCED IN NOTE 1 OF THE GENERAL DESIGN CRITERIA ABOVE.



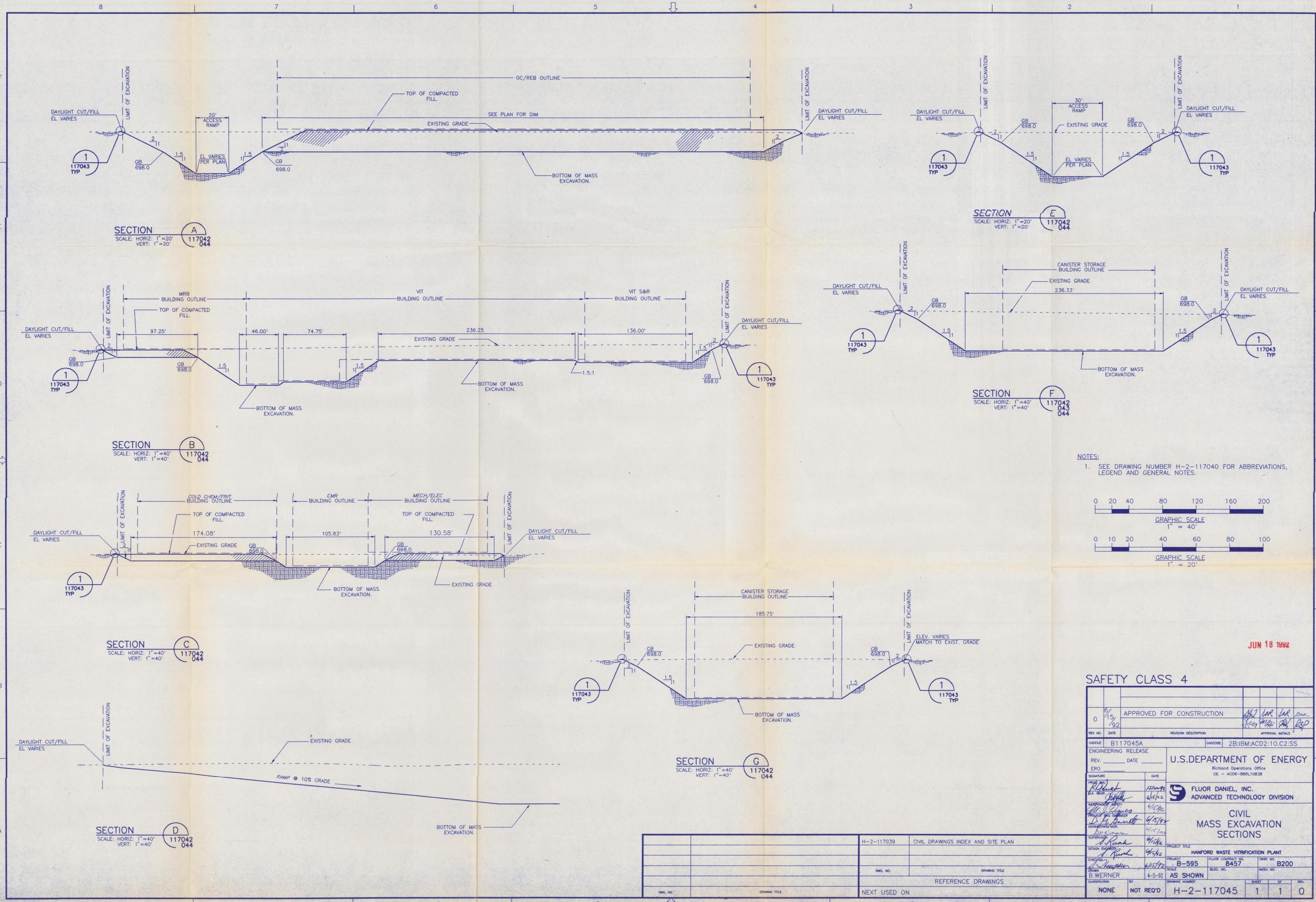
KEY PLAN
SCALE: NONE

JUN 18 1992

SAFETY CLASS 4

0	6/15/92	APPROVED FOR CONSTRUCTION	<i>[Signatures]</i>
REV. NO.	DATE	REVISION DESCRIPTION	APPROVAL INITIALS
001	B117040A		2B:BM:ACD2:10.C2:SS
ENGINEERING RELEASE		U.S. DEPARTMENT OF ENERGY	
REV. DATE		Richland Operations Office EIE - AC08-BERL10835	
SIGNATURE	DATE	FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION	
<i>[Signature]</i>	6/15/92	CIVIL MASS EXCAVATION INFORMATION SHEET	
<i>[Signature]</i>	6/15/92		
<i>[Signature]</i>	6/15/92		
<i>[Signature]</i>	6/15/92		
DESIGN ENGINEER	DATE	PROJECT TITLE	
<i>[Signature]</i>	6/15/92	HANFORD WASTE VITRIFICATION PLANT	
CHECKED	DATE	PROJECT NO.	CWBS NO.
<i>[Signature]</i>	6/15/92	B-595	8457
SCALE	INDEX NO.	SCALE	INDEX NO.
NONE	3-18-92	NONE	B200
CLASSIFICATION	BY	DRAWING NUMBER	SHEET OF REV.
NONE	NOT REQ'D	H-2-117040	1 1 0

DWG. NO.	DRAWING TITLE	NEXT USED ON
H-2-117039	CIVIL DRAWINGS INDEX AND SITE PLAN	



SECTION A
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

SECTION E
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

SECTION B
SCALE: HORIZ: 1"=40'
VERT: 1"=40'

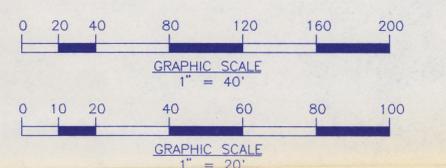
SECTION F
SCALE: HORIZ: 1"=40'
VERT: 1"=40'

SECTION C
SCALE: HORIZ: 1"=40'
VERT: 1"=40'

SECTION G
SCALE: HORIZ: 1"=40'
VERT: 1"=40'

SECTION D
SCALE: HORIZ: 1"=40'
VERT: 1"=40'

NOTES:
1. SEE DRAWING NUMBER H-2-117040 FOR ABBREVIATIONS, LEGEND AND GENERAL NOTES.



JUN 18 1992

SAFETY CLASS 4

REV. NO.	DATE	REVISION DESCRIPTION	APPROVAL INITIALS
0	5/15/92	APPROVED FOR CONSTRUCTION	[Signatures]
CADFILE: B117045A		CODE: 2B:BM:ACD2:10.C2:SS	
ENGINEERING RELEASE			
REV. DATE			
E.O.			
SIGNATURE DATE			
DESIGN ENGINEER			
SUPERVISOR			
PROJECT TITLE			
PROJECT NO. 8457			
SCALE AS SHOWN			
CLASSIFICATION			
BY NOT REQ'D			
DRAWING NUMBER H-2-117045			
SHEET 1 OF 1			
REV. 0			

DWG. NO.	DRAWING TITLE
H-2-117039	CIVIL DRAWINGS INDEX AND SITE PLAN
REFERENCE DRAWINGS	
NEXT USED ON	

