

20 Station 4 47

ENGINEERING DATA TRANSMITTAL (EDT) 0023439

JAN 13 1989

(2) To: (Receiving Organization) DISTRIBUTION AND 24320 ENVIRONMENTAL PROJECTS

(3) From: (Originating Organization) ENVIRONMENTAL PROJECTS 24320

(5) Proj/Prog/Dep/Div: B-714 / GROUT

(6) Cogn/Proj Engr: S.R. BRIGGS

(7) Purchase Order No: N/A

(8) Originator Remarks: THESE DRAWINGS AND SPECIFICATION ARE BEING RELEASED TO INSTALL THE SHEET PILING (CONTRACT KEH-5161) AND COMPLETE THE EXCAVATION FOR PROJECT B-714. DRAWING H-2-77575 SH 2 HAS HOLD NO. B714-001 FOR THE GRAVEL DIFFUSION BARRIER, WHICH IS NOT PART OF THE SCOPE OF CONTRACT KEH-5161. THE APPROVERS OF THIS EDT WILL ALSO APPROVE THE ECN THAT WILL BE REQUIRED TO REMOVE THE SUBJECT HOLD WHEN ALL ISSUES RELATED TO THE HOLD ARE SETTLED.

(9) Equip/Component No: N/A

(10) System/Bldg/Facility: 218-E-16

(11) Receiver Remarks: N/A

(12) Major Assem Dwg No: H-2-77573

(13) Required Response Date: N/A

DATA TRANSMITTED

(A) Item No.	(B) Document/ Drawing, No.	(C) Sh. No.	(D) Rev No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	H-2-77575	1	0	CIVIL EDU EXCAVATION & DIFFUSION BARRIER	3	1 & 2	1	
2	H-2-77575	2	0	CIVIL EDU EXCAVATION & DIFFUSION BARRIER	3	1 & 2	1	
3	SPEC B-714-C3		0	KEH-5161 (B714) CONSTRUCTION SPEC FOR SHEET PILING AND EXCAVATION	3	1 & 2	1	
	V-B714C3-002							

KEY

Impact Level (F) 1, 2, 3, or 4 see MRP 5.43 and EP 1.7	Reason for Transmittal (G) 1. Approval 2. Release 3. Information 4. Review 5. Post-Review	Disposition (H) & (I) 1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged
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SIGNATURE/DISTRIBUTION

(See Impact Level for required signatures)

Reason	Disp	(J) Name	(K) Signature	(L) Date	(J) Name	(K) Signature	(L) Date	Reason	Disp
2	1	D.R. LUCAS	[Signature]	1/9/89					
2	1	D.R. ELLINGSON	[Signature]	1/9/89					
2	1	J.R. MCGEE	[Signature]	1/9/89					
2	1	D.D. WOODRICH	[Signature]	1/12/89					
2	1	<del>S.M. AMIMOTO</del>							
2	1	A.W. LASSILA	[Signature]	1/15/89					
12	1	S.R. BRIGGS	[Signature]	1/11/89					



(17) Signature of EDT Originator: D.E. PALMER 1/9/89

(18) Authorized Representative for Receiving Organization: D.R. LUCAS 1/9/89

(19) Cognizant/Project Engineer's Date Manager: D.R. LUCAS 1/9/89

(20) DOE APPROVAL (If required)  
 LTR No. \_\_\_\_\_  
 Approved  
 Approved w/comments  
 Disapproved w/comments



The following is a summary of instructions to be used in preparing an Initial Release and Change Control Record (IRACCR) page and how appropriate Engineering Change Notice (ECN) and revisions are identified on the IRACCR.

**NOTE:** Prior to revision of an engineering document, all proposed changes shall have been approved by an ECN.

An IRACCR sheet shall include the following information.

#### Initial Release

- 1) The title of the engineering document.
- 2) The engineering document number.
- 3) The dated approval signature of Cognizant/Project Engineer.
- 4) The dated approval signature of the Cognizant/Project Manager signifying the engineering document has met requirements for initial release.
- 5) The Engineering Document Transmittal (EDT) number.

#### Change Control Record

- 6) The revision number of the change.
- 7) A description of the change, including page changes, additions, and deletions where appropriate. List the ECN number(s) which have been incorporated.
- 8) The authorizing signature of the Cognizant/Project Engineer signifying accurate editorial incorporation of the change.
- 9) The dated signature of the Cognizant/Project Manager authorizing subsequent release of the revised engineering document.



Westinghouse  
Hanford Company

P.O. Box 1970  
Richland, Washington 99352

Hanford Operations and Engineering Contractor  
for the U.S. Department of Energy  
under Contract No. DE-AC06-87RL10930.

V-B714C3-002

### SPECIFICATION FOR

B-714-C3

CONSTRUCTION SPECIFICATION FOR SHEET PILING  
AND EXCAVATION FOR GROUTED WASTE DISPOSAL  
FACILITIES (218-E-16)

Building: 218-E-16

Project: B-714 GROUT VAULTS

Impact Level: 3

OFFICIAL RELEASE	47
BY WHC	
DATE JAN 13 1989	
Station 4	

Prepared By:

D.E. PALMER  
2752E-B-109 R3-92

Approved By:

A.R. Buggap  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date  
1/13/89  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

000000014

B-714-C3

CONSTRUCTION SPECIFICATION FOR  
SHEET PILING AND EXCAVATION  
FOR  
GROUTED WASTE DISPOSAL FACILITIES (218-E-16)

Work Order ER9090

Prepared By:

KAISER ENGINEERS HANFORD COMPANY  
Richland, Washington

For the US Department of Energy

Contract DE-AC06-87RL10900

<u>William J. Maguire</u>	<u>1-10-89</u>	<u>Daniel D. Hardy</u>	<u>1-10-89</u>
Principal Lead Engineer	Date	Technical Documents	Date
<u>Andrew L. Minister</u>	<u>1/11/89</u>	<u>Aimee P. Ray</u>	<u>1-10-89</u>
Safety	Date	Environmental	Date
<u>D. P. Veer</u>	<u>1/10/89</u>	<u>[Signature]</u>	<u>1-11-89</u>
Quality Engineering	Date	Project Manager	Date
WESTINGHOUSE HANFORD COMPANY			
<u>[Signature]</u>			<u>1/11/89</u>
Projects Department			Date

TABLE OF CONTENTS

	<u>Total Pages</u>
<u>DIVISION 1 - GENERAL REQUIREMENTS</u>	
Section 01010 Summary of Work	2
*Section 01027 Application for Payment	4
*Section 01040 Coordination	1
*Section 01043 Job Site Administration	2
Section 01050 Survey and Field Engineering	2
*Section 01065 Permits	1
*Section 01200 Project Meetings	2
Section 01300 Submittals	4
Section 01310 Progress Schedules	2
Section 01400 Quality Assurance	2
*Section 01500 Construction Facilities and Temporary Controls	4
*Section 01630 Product Option and Substitution	4
Section 01720 Project Record Documents	2
<u>DIVISION 2 - SITEWORK</u>	
Section 02368 Sheet Piling	3

\*Denotes Sections that do not require Technical Design Control.

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.1 INTRODUCTION

1.1.1 Project B-714 for construction of grout disposal vaults is located near the 200-E Area in the Controlled Access Area of the Hanford Site, approximately 28 road miles north of Richland, Washington.

1.1.2 This Specification is for the installation of sheet piling around perimeter vaults 218-E-16-102 and 218-E-16-103, and the excavation of material within the sheet pile area to EL 606.00.

1.2 STATEMENT OF WORK

1.2.1 Scope: The work consists of furnishing supervision, labor, equipment, and materials for driving sheet pile around perimeter of vaults 102/103, and the excavation of material within the sheet piled area to EL 606.00 in accordance with these Contract Documents.

1.2.2 Work Included: The following itemization included herein is intended to be broad in scope to identify major elements. The work shall include, but not be limited to the following.

1.2.2.1 Furnish and install sheet piling around perimeter of vaults 218-E-16-102 and 218-E-16-103 as specified on Drawings H-2-77575, Sheets 1 and 2 of 2, Rev. 0.

1.2.2.2 Excavate within sheet pile area to EL 606.00

1.2.2.3 Haul material excavated from within the sheet pile area to an existing stockpile site approximately 0.5 miles from the jobsite.

1.2.3 Work Not Included

1.2.3.1 The following items of work are not included in this project.

- a. Items shown on Drawings to be done by others.
- b. Excavation outside the sheet pile area.
- c. Excavation below EL 606.00 within sheet pile area.
- d. Placement of Gravel Diffusion Barrier.
- e. Protective Geotextile within sheet pile area.
- f. Placement of 70 lb sand bags.

- g. Concrete basin.
- h. Concrete vault structure.
- i. Leachate sump concrete pad.
- j. Leachate sump and riser.
- k. Concrete around leachate sump.
- l. General Notes 1 and 2 on Drawing H-2-77575, sht. 1 of 2,

Rev. 0.

1.3 DRAWINGS

1.3.1 The Drawings which show the work to be accomplished by these Contract Documents are identified in the Schedule of Drawings.

1.3.2 Technical requirements are listed on Drawing H-2-77575, shts. 1 and 2 of 2, Rev. 0, and by reference incorporated herein.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01027

APPLICATION FOR PAYMENT

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 FORMAT

1.3.1 Complete Form KEH-1026.00, Progress Estimate Backup and/or Form KEH-0960.00 Backup Sheet for Unit Price Contracts, as applicable (samples appended). Contractor developed substitutes for these forms may be used only with prior approval of KEH.

1.3.2 Complete Form KEH-0959.00 (6/88) Monthly Estimate of Work Complete (sample appended), or include the following in a letter requesting payment:

Subtotal Value of All Pay Items	\$X,XXX.XX
Completed to Date (Include all modifications)	

Allowance for Material Stored on Site:	
Previous Net Allowance	\$X,XXX.XX
Minus Materials Placed	X,XXX.XX
Plus Materials Stored	<u>X,XXX.XX</u>
Net Allowance	\$X,XXX.XX

Subtotal Value Completed to Date	\$X,XXX.XX
Less Previous Payments	\$X,XXX.XX
Less Other Charges from KEH	<u>X,XXX.XX</u>
Subtotal Deductions	<u>(X,XXX.XX)</u>

Total Payment Requested	\$X,XXX.XX
-------------------------	------------

Less Retainage @ ____%	<u>(X,XXX.XX)</u>
------------------------	-------------------

Total Payment Allowed	\$X,XXX.XX
-----------------------	------------

1.4 APPLICATION PROCEDURE

1.4.1 Payments to Contractor as set forth in Section 15 of Contract General Conditions are initiated by the Contractor making an application for payment as follows:

1.4.1.1 Begin the application for payment by completing the KEH furnished forms referred to in paragraph 1.3.1 above. For lump sum contracts, each application for payment shall include, as a minimum, a breakdown of the contract price for each item listed in Section 01310 and the percent complete for each item.

1.4.1.2 Review the backup sheets with the KEH Field Contract Engineer and adjust the data if required by the Field Contract Engineer.

1.4.1.3 Finalize the application for payment by either completing the Monthly Estimate of Work Completed form (KEH-0959.00 6/88) or initiating a letter containing the elements of paragraph 1.3.2 above.

#### 1.5 PAYMENT PROCEDURE

1.5.1 Upon receipt of the application for payment, the KEH shall audit the data and check for compliance with requirements of Section 01720. When satisfied that contract requirements are up-to-date, the Monthly Estimate of Work Completed form (KEH-0959.00) will be prepared and/or signed by the Contract Administrator.

1.5.2 A copy of the signed Monthly Estimate of Work Completed form indicating the amount of payment to be made will be furnished to the Contractor.

1.5.3 KEH will mail the check to the Contractor's designated address.

#### 1.6 ADDITIONAL DATA REQUIRED

1.6.1 When processing applications for payment and preparing payment documents, KEH may require data to substantiate and justify amounts requested. Processing of payment documents may be delayed if data is not forwarded expeditiously to KEH.

1.6.2 Requests for payment for equipment or material which the Contractor has received, but has not installed, shall be accompanied by invoice or other data to provide evidence that the title to such equipment or material is held by the Contractor.

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used



Contract or P.O. No.	Estimate No.	Date
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Name of Contractor

Address

Nature of Work

Initial Amount of Contract	Total Amount of Modifications to Date	Total Adjusted Contract Amount
----------------------------	---------------------------------------	--------------------------------

Detail	Percent	Amount	
Estimated Work Completed to (Date)			
Less:			
Amount to be Retained			
Previous Payments			
Other Charges (Explain Below)			
<b>Total Deductions</b>			
<b>Total this Payment</b>			

I certify that I have verified this periodical estimate dated \_\_\_\_\_ for \$ \_\_\_\_\_ and that to the best of my knowledge and belief it is a true and correct statement of work performed and that the contractor's statement of his account and amount due him is correct and just, and the quantities included in this estimate have been performed in full accordance with the terms and conditions of the corresponding construction documents.

FOR THE CONTRACTOR

KAISER ENGINEERS HANFORD COMPANY

By \_\_\_\_\_

By \_\_\_\_\_





1.7 SAFETY REQUIREMENTS

1.7.1 Fire Safety

1.7.1.1 The Contractor is required to address fire safety as part of his construction safety plan as required by Section 55 of Contract General Conditions. The following fire safety requirements are to be incorporated into the construction safety plan.

a. Maintain fire watch for period of 1/2 hour after cessation of welding, cutting or grinding.

b. Utilize portable shields wherever welding, cutting, or grinding.

c. Have fully charged fire extinguishers available whenever welding, cutting, or grinding.

d. Have means to control the ignition of brush fires.

1.7.2 Safety Apparel

1.7.2.1 Personnel shall wear appropriate foot wear in construction areas. Tennis shoes, canvas type shoes, or open toe shoes do not meet this requirement.

1.7.2.2 Hardhats shall be worn at all times.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01050

SURVEY AND FIELD ENGINEERING

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 QUALITY CONTROL

1.3.1 Use skilled personnel trained and experienced in construction staking and familiar with requirements and methods needed for proper performance of work.

1.3.2 Deliver field notes, records, and documentation to KEH to review and verify procedures used and accuracy of work as shown on the drawings.

1.4 SURVEY DATA

1.4.1 Basic reference points with coordinate descriptions and bench mark with elevation identified will be located by others.

1.4.2 Contractor shall be responsible for preservation of bench marks and reference points, including stakes or other markers established until removal is authorized by KEH.

1.5 PROCEDURES

1.5.1 Before initial layout, field verify horizontal and vertical data furnished. Report any discrepancies to KEH before proceeding.

1.5.2 Establish an adequate number of permanent reference points, to be used during construction, referenced to original control points. Record locations with horizontal and vertical data on Project Record Documents.

1.5.3 Protect and preserve control points and reference points until work is complete. Report loss or destruction of control points to KEH. Report relocation or change in data affecting reference points.

1.5.4 Periodically verify data for control and reference points, and construction stakes to maintain construction accuracy.

1.5.5 After completion of pile installation and excavation, survey to verify limits and elevations. Provide final survey notes to KEH.

003000001120

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

00210801021

SECTION 01065

PERMITS

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 FEDERAL, STATE, AND MUNICIPAL LAWS, CODES, AND REGULATIONS

1.3.1 Permits or licenses to do business required by Federal, State, and Municipal laws, codes, and regulations are the responsibility of the Contractor as stated in Section 6 of Contract General Conditions.

1.4 HANFORD SITE PERMITS

1.4.1 General: Before certain types of work can be performed at Hanford, the Contractor is required to have a permit. Permits are provided by KEH at no cost, however, the Contractor must furnish information required and notify KEH in advance of work which requires a permit. Contractor shall meet the requirements and restrictions set forth in each permit.

1.4.2 Excavation: Do not excavate without permit set forth in subsection 50.9 of Contract General Conditions. Post permit at Site.

1.4.3 Oversize Load Permits: In addition to a Washington State Permit, obtain from KEH permits for each movement of each oversize vehicle or load within the Hanford Site. See Section 01500, subparagraph 1.6.3.2 for additional requirements.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION



1.5.2.6 Major material and equipment lists.

1.5.2.7 Other pertinent items.

1.6 CONSTRUCTION PROGRESS

1.6.1 Meetings, held weekly at time and location determined at preconstruction meeting, will be approximately one hour long.

1.6.2 KEH will chair meeting and request attendance of key personnel as required. Authorized representative of Contractor and pertinent subcontractors shall attend.

1.6.3 Purpose of meetings is to monitor status and provide forum for exchange of pertinent Project information. Major topics may include, but not be limited to, the following.

1.6.3.1 Schedule, cost, and construction status.

1.6.3.2 Design and scope changes.

1.6.3.3 Submittal status, key material and equipment delivery status.

1.6.3.4 Potential problem areas.

1.6.3.5 Inspection and testing status.

1.6.3.6 Action item status, goals for next meeting.

1.6.3.7 Other appropriate items.

1.6.4 Meeting minutes will be issued by KEH as promptly as possible following the meeting. Action items will be identified with assigned follow-up. Issues resolved will be reported in the minutes, as well as closed action items.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

## SECTION 01300

### SUBMITTALS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

1.1.1 This section summarizes the submittals required in Part 1 of each Section of this Specification, it explains the type of submittals required, and it describes procedures for submittals and review.

1.1.2 Submittals required in Part 1 of each Section of this Specification are summarized in SCHEDULE OF SUBMITTALS. Submittals are required for either Review and Approval or Review for Record.

1.1.2.1 Submittals requiring Review and Approval are those which must receive approval before procurement, fabrication, or construction is commenced.

1.1.2.2 Submittals requiring Review for Record are those which the Contractor may proceed with procurement, fabrication, construction, or acceptance testing, but acceptance is contingent upon strict compliance with Drawings and Specifications.

1.1.3 Supplemental Submittals are initiated by the Contractor in accordance with Section 01630 for consideration of substitute products or corrective procedures and require Review and Approval.

##### 1.2 SUBMITTAL PROCEDURES

1.2.1 All submittals shall be transmitted to KEH by use of a Data Transmittal form.

1.2.2 Each submittal shall be identified by the Submittal Number, Reference Section, and Title noted in the Schedule of Submittals. The number of copies required for retention by the KEH are shown in the Schedule and include two copies to be returned to the Contractor. Additional copies required for Contractor uses must be added.

1.2.3 Each submittal shall be reviewed for completeness, for compliance with contract documents, and for proper identification before being sent to KEH. The submittal data shall either be stamped indicating that the review process has taken place for the Data Transmittal form may be signed with a statement of "Reviewed for Compliance". All submittals which have not been stamped or signed to indicate review will be returned without consideration.

1.2.4 Submittals requiring Review and Approval shall be stamped by KEH and marked as "Approved", "Approved with Exception", or "Not Approved, Review and Resubmit". Approval of submittals does not relieve the Contractor of responsibility for errors which may be contained therein.

1.2.4.1 Approved submittals are identified by submittal stamp with "Approved" or "Approved with Exception" box checked. "Approved" signifies general concurrence to achieve conformance with design concept of the Project and compliance with requirements of Contract Documents. "Approved with Exception" signifies general concurrence with noteworthy comments or clarifications. Approval of submittals does not relieve Contractor of responsibility for errors contained therein. Approval of a specific item shall not be construed as approval of a system or an assembly of which the item is a component.

1.2.4.2 A submittal which is Not Approved is identified as "Not Approved, Revise and Resubmit". Such submittal is considered by KEH to be technically deficient or incomplete and therefore, unacceptable. Resubmittal is required, hence fabrication, procurement or performance of procedures shall not proceed.

1.2.4.3 Upon receipt of deficient submittal data, the Contractor shall make corrections noted on the transmittal and shall resubmit the data to KEH within ten (10) calendar days.

1.2.5 Materials and equipment fabricated or installed without required approved submittals, or which differ from approved Drawings or vendor data are subject to rejection and replacement at the Contractor's expense.

1.2.6 Delays arising out of the Contractor's failure to submit in a timely manner all required Drawings and other related data as described in the contract documents shall not constitute excusable delays for extensions, unless excusable under other provisions of the contract. The Contractor shall allow fifteen (15) calendar days for KEH review and disposition of submittals (including shop drawings and vendor information) required to be furnished by the Contractor. The fifteen (15) calendar day period shall be measured from the date of receipt of the submittal in KEH's office to the date of return mailing to the Contractor.

1.2.7 The Contractor is responsible for dimensions to be confirmed and correlated at the worksite.

1.2.8 Submittals for Review and Record shall be reviewed and filed. Incomplete or inaccurate data will be returned to the Contractor marked "Resubmit" with appropriate comments, and items procured or work performed shall be corrected. Payment for equipment will not be made unless all required Commercial Vendor Information (CVI) has been furnished.

1.2.9 Supplemental Submittals shall contain sufficient data as required in Section 01630 to indicate substantial compliance with Drawings and Specifications. Substitute product submittals must contain as a minimum, outline dimensions, operating clearances, and engineering data. Each submittal shall be identified by the Specification section number and paragraph number or a referenced drawing number and detail. Improperly identified or incomplete submittals will be returned without consideration.

1.2.10 Procedures for performing certain items of work are required to be submitted for Review and Approval before work is commenced. Those work procedures which have been approved by KEH for work similar to that to be accomplished on this project may not need to be reapproved. One copy of the previously approved procedure shall be forwarded to KEH by Data Transmittal form and identified by Submittal Number, Reference Section, Title, and either Contractor's procedure number or project number for which procedure was approved. The submittal will be reviewed by KEH and if acceptable will be retained for record. If previously approved procedure is not acceptable, the submittal will be returned with requirements for resubmittal.

### 1.3 SCHEDULE OF SUBMITTALS

Submittal Number	Submittal Title	Quantity	Review and Approval	Review for Record
<b>CONTRACT GENERAL CONDITIONS</b>				
55.2	Safety Program and Job Safety Analysis	5	5 days before start of work.	
55.3	Industrial Injury/Illness Experience	5		5 days before start of work and each month
55.5.1	OSHA Form No. 200 Report	5		5th working day, each month
55.6	Equipment Certification	5		2 days before bringing equipment onsite
<b>PROGRESS SCHEDULES</b>				
01310/1.2.1	Progress Schedule	5	10 days after notice of award	
<b>CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS</b>				
01500/1.2.1	Anchoring and Enclosure Methods	10	Before placing field office	
<b>SHEET PILING</b>				
02368/1.2.1	Method to Prevent Damage During Excavation	10	Before excavation	



SECTION 01310

PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Refer to Section 01300 for submittal procedures.

1.2.1 Rate of Progress Schedule: Submit schedule required in Article 1.3.

1.3 PROGRESS SCHEDULES

1.3.1 Schedule identified in Section 5 of Contract General Conditions shall be in accordance with the following.

1.3.1.1 Show order Contractor proposes to carry on the Work, starting dates of the several salient features of the Work including procurement of materials and equipment, and contemplated dates for completion. Each schedule shall be in the form of horizontal bar chart of suitable scale to show percentage of Work scheduled for completion at any time with separate bar for each activity. At end of each week or at end of other periods of time specified in Contract, Contractor shall prepare and submit one copy of chart showing actual progress at the end of period.

1.3.2 Organize schedule to show activities relative to each major subcontractor and supplier. Provide subschedule to define critical portions of the entire schedule.

1.3.3 Schedule shall include design activities and milestones, delivery date of design documents, construction activities, progress milestones, and include but not be limited to following activities.

1.3.3.1 Bonds and insurance.

1.3.3.2 Mobilization.

1.3.3.3 Install sheet pile.

1.3.3.4 Excavation within sheet pile.

1.3.3.5 Survey verification.

1.3.3.6 Submit record documents.

1.3.3.7 Demobilize

1.3.4 Schedule shall show, as a minimum, accumulated percentage of completion of each activity and total percentage of work completed as of last work day of each month.

1.3.4.1 Develop an "S" curve from percentage of total work figures and superimpose on the schedule.

1.3.4.2 Show dollar value or percent of total next to each activity shown on schedule. Figures will be basis for determining progress payments described in Section 01027.

#### 1.4 REVISIONS TO SCHEDULES

1.4.1 Whenever the KEH determines there are significant variances between actual and scheduled progress, endangering completion within Contract completion time, Contractor may be required to prepare and submit revised progress schedule.

1.4.2 Show progress to date of submittal and projected completion date of each activity. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

1.4.3 Provide narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken, or proposed, and its effect, including effect of changes on schedules of separate contractors.

1.4.4 Distribute copies of revised schedules to KEH, job site file, subcontractors, suppliers, and other concerned entities. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in revised schedules.

1.4.5 If Contractor fails to submit progress schedule specified in Paragraph 1.3.1 within prescribed time, or updated progress schedule specified in Paragraph 1.4.1, within requested time, KEH may withhold approval of progress payments until time Contractor submits required progress schedules.

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01400  
QUALITY ASSURANCE

PART 1      GENERAL

1.1          REFERENCES: Not Used

1.2          SUBMITTALS: Not Used

1.3          INSPECTION AND TESTING

1.3.1        In accordance with Section 19 of Contract General Conditions, KEH will perform following inspections and tests.

1.3.1.1      Witness specific inspection and witness points.

1.3.1.2      Perform final acceptance inspection.

1.3.2        Specific Inspection and Witness Points: Contractor shall adhere to inspection points required. Contractor shall assure their personnel have completed inspections of and approved portions of work in accordance with Contract requirements before notifying KEH.

a.          Specific inspection points are defined as follows.

1) Construction inspection (H): Required for witnessing of specific construction features, before further construction is allowed to proceed.

2) Witness (W): Selected for inspection at option of KEH. Work may proceed upon verbal release by KEH or upon expiration of 1 hour beyond scheduled time of witness.

3) Receiving (R): Special items of fabrication, equipment and/or material scheduled to be delivered to the job site and/or other designated location which require inspection upon their arrival. Contractor shall notify KEH within four hours after arrival of such item.

b.          Specific Inspection Points: Apply to (both) onsite (and offsite) work. Except where a longer notification period is specified, the Contractor shall notify the KEH not less than four (4) working hours prior to each inspection point for onsite work. (For offsite work (work performed off the worksite), the Contractor shall notify the KEH not less than three (3) working days prior to each required inspection point.)

1.3.2.1 The Inspection Points; Construction Inspection (H), Witness (W), and Receiving (R) for the contract work will be for the following items and stages of work:

- H - Prior to initial driving of sheet piling
- W - Prior to initial butt welding
- W - Final excavation

#### 1.4 OPEN ITEM DEFICIENCY AND NONCONFORMANCE REPORTING

1.4.1 KEH utilizes open item deficiencies and nonconformance reports to document deviations from Contract requirements.

1.4.1.1 Open Item Deficiency: Documented on Open Items Lists available from KEH on request. Can be corrected by Contractor without additional direction. The correction must bring item into compliance with Contract requirements, using approved rework procedures or standards without violating applicable specifications, codes, or standards.

1.4.1.2 Nonconformance Report: Documented on Nonconformance Report (NCR). NCR's document deviations from Contract requirements when characteristic, documentation or procedure renders the quality of an item or activity unacceptable or indeterminate. May be identified by a blue NCR tag or red construction hold tag. A hold tag prohibits movement, installation, processing or further fabrication of the nonconforming item pending approval of NCR disposition. An NCR tag identifies a nonconformance but does not preclude movement, installation, processing or further fabrication of the item. No action may be taken to correct or alter the actual condition prior to receipt of an approved disposition. Tags are not to be removed by anyone other than agency who applied tag.

1.4.2 Contractor shall ensure its organization is represented by individuals with sufficient authority to commit Contractor to Corrective Action Requests identified by KEH.

1.4.3 Open Item deficiencies and nonconformances reported during performance of Contract require resolution before completion and final payment.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 REFERENCES

1.1.1 Reference Standards and Specifications: The following standards and specifications, including documents referenced therein, form part of this Section to extent designated herein.

1.1.1.1 National Fire Protection Association (NFPA)

NFPA 701-1977

Standard Method of Fire Tests  
for Flame-Resistant Textiles  
and Films

1.1.1.2 Washington State Department of Transportation (WSDOT)

M41-10-88

Standard Specification for  
Road, Bridge, and Municipal  
Construction

1.2 SUBMITTALS: Refer to Section 01300 for procedures.

1.2.1 Anchoring and Enclosure Methods: Submit the methods proposed for anchoring portable structures and enclosing underfloor area to meet the requirements of this Section.

1.3 CONSTRUCTION FACILITIES

1.3.1 First Aid: Facilities are available at Building 2719EA in the 200 East Area to provide first line medical attention.

1.3.2 Operation and Storage Areas: Confine onsite operations, including storage of materials, to laydown area designated by KEH.

1.3.3 Disposal Site for Waste: Disposal of excess excavation, broken asphalt, and broken concrete at Central Landfill approximately 10 road miles from Project. Site is open only during regular working hours.

1.4 TEMPORARY UTILITIES

1.4.1 Water

1.4.1.1 Construction: Available from stand pipe located outside 200E perimeter fence adjacent to the Project site. Furnish hauling, dispensing, temporary piping, and fittings approved by KEH for connection to water source. Remove temporary piping, hoses, fittings, and valves before final acceptance of the work.

1.4.1.2 Drinking: Furnish adequate drinking water that meets health and safety requirements to employees.

1.4.2 Electrical Power: Contractor will furnish temporary 240-120V ac power for construction.

#### 1.4.3 Telephone

1.4.3.1 Telephone system is operated by General Telephone Company of the Northwest, Inc. (GTE). Upon written request, KEH will arrange for telephone service at field offices of Contractor and subcontractors, if facilities for such services are available. KEH will charge Contractor for installation and services in accordance with charge assessed by GTE. Charges will be determined on basis of published tariffs. Information on tariffs may be obtained from DOE's Site Services Contractor, office of the Manager of the Plant Telephone and Radio, Telephone 376-6322.

1.4.3.2 Charges will be deducted from payments due Contractor. Contractor and subcontractors may use provided telephones for long distance calls necessary to the work. Calls shall be made by valid credit card and cost not charged to Site Services Contractor or KEH.

1.4.4 Sanitary Facilities: Furnish and service chemical or other approved sanitary toilets for use of employees. Facilities shall meet the requirements of KEH which are available upon request.

#### 1.5 ACCESS ROADS AND PARKING AREAS

1.5.1 Access to Project site will be by existing grout perimeter access road having no load restrictions located outside 200 East Area. Contractor shall be responsible for maintaining access road.

1.5.2 Parking: Available in vicinity of the Project outside the Limited Area.

1.5.3 Off-Road Driving: Keep off-road driving to a minimum. Vehicles driving off-road or to remote locations, shall carry a minimum 10 pound ABC dry chemical portable fire extinguisher, communications equipment consisting of 2-way radio or mobile phone (CB type radios are not acceptable), and shovel. Report fires immediately to nearest Hanford Patrol, telephone 373-1780, and Hanford Fire Department, telephone 373-1311, or emergency number 811.

#### 1.6 TEMPORARY CONTROLS

1.6.1 Dust Control: Maintain work areas to prevent hazard or nuisance to others. Accomplish dust control by sprinkling or other methods approved by KEH. Repeat sprinkling at necessary intervals to keep disturbed area damp at all times. Keep sufficient equipment on the Project job to accomplish dust control as work proceeds and whenever dust nuisance or hazard occurs. No separate or direct payment will be made for dust control and cost shall be considered incidental to and included in contract price.

1.6.2 Temporary enclosures: Plastic sheeting materials, minimum 14 mils thick, used to form enclosures shall have fire retardant properties meeting the requirements of NFPA 701 for small and large scale fire tests. Acceptable manufacturers are Winman Corporation (Plastic Division), St. Cloud, Minnesota; Lancs Industries, 1270 N.E. 124th Street, Kirkland, Washington 98034; and Protective Plastics, Inc. 230 Silver Creek Road, Greer, South Carolina 29651.

1.6.3 Traffic Control: Temporary traffic control and barricades in accordance with WSDOT M41-10, Section 1-07.23(3).

1.6.3.1 Vehicle Travel

a. Slow moving equipment and wide loads shall not travel on Hanford Site roads during heavy traffic periods between 6:30 A.M. and 8:00 A.M., and 3:30 P.M. and 5:30 P.M.

b. Do not block existing roads with equipment or vehicles.

c. Do not park on roadway shoulders.

1.6.3.2 Oversize Vehicles and Loads

a. Permits specified in Section 01065 are required for vehicles or loads exceeding following dimensions.

1) Width: 8'-6".

2) Height: 14 feet.

3) Length: Single unit, 40 feet.  
Single trailing unit, 48 feet.

b. Additional requirements for vehicles and loads exceeding 8'-6" width.

1) Display oversize load sign on front of towing vehicle and rear of trailing unit.

2) Attach red flags to each corner.

3) Notify KEH 5 days before moving loads

4) Travel between 9:00 a.m. and 2:30 p.m. unless special arrangements are made.

c. Escort vehicle requirements

1) Equip with oversize load signs and amber lights.

2) Vehicles or loads over 10 feet wide: Provide escort cars in front and rear on 2 lane highways.

3) Vehicles or loads over 14 feet wide: Provide escort car in rear on multiple lane highways.

4) Vehicles or loads over 20 feet wide: provide escort cars in front and rear on multiple lane undivided highways.

d. Electrical escort requirements: KEH will provide qualified electrical escort when load reaches height of 14 feet or more from road surface, or when clearance of at least 6 feet cannot be maintained from overhead electrical or signal lines. Notify KEH 48 hours in advance of escort need.

1.6.4 Safety Barricades: Temporary safety barricades shall be furnished and installed approximately four (4) feet from sheet piling. Safety barricades shall encompass the sheet piled area around vaults 218-E-16-102 and 218-E-16-103. Temporary safety barricades shall meet OSHA, WISHA and WSDOT M41-10, Section 1-07.233(3) standards. Temporary safety barricades will remain around the sheet piled area after completion of contract and become property of KEH.

## 1.7 FIELD OFFICE

1.7.1 Contractor may establish a field office equipped and staffed to conduct the Work. Keep copies of Drawings, Specifications, and other information pertinent to the Work at office or Site. KEH shall have access to documents at all times. Telephone services will be made available at field office as set forth in Paragraph 1.4.3 providing service is available. Contractor may utilize existing telephones at buildings designated by KEH for local calls.

1.7.2 Anchor or tie down portable or relocatable structures, including trailers for field offices and storage, to prevent overturning or lateral movement in winds up to 70 mph, and enclose or skirt underfloor area with material that will not burn or support combustion to prevent accumulation of wind-blown debris and use of underfloor space for material storage. Complete anchoring and enclosing in accordance with submittal within 14 days of arrival onsite.

### PART 2 - PRODUCTS

Not Used

### PART 3 - EXECUTION

Not Used

END OF SECTION

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SECTION 01630

PRODUCT OPTION AND SUBSTITUTION

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 GENERAL

1.3.1 Products include material, equipment and systems and shall meet the requirements of the specifications and referenced standards.

1.3.2 Material and workmanship shall meet requirements of Section 13 of the Contract General Conditions.

1.3.3 Components required to be supplied in quantity within Specification sections shall be the same and be interchangeable.

1.3.4 Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

1.4 PROCEDURES

1.4.1 Submittal not required when product is specified by reference standards or by description and proposed product meets the standards.

1.4.2 Submittal required when product is specified by naming models of one or more manufacturers and product not named.

1.4.3 Limitations on substitutions

1.4.3.1 Substitutions will not be considered when indicated or implied on fabricator drawings or product data submittals without separate formal request, when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.

1.4.3.2 Substitute products shall not be ordered or installed without written acceptance.

1.4.3.3 Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

1.4.3.4 KEH will determine acceptability of substitutions.

1.4.4 Requests for substitutions

1.4.4.1 Submit separate request for each substitution using form KEH 1151.00 (sample attached). Document request with complete data

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substantiating compliance of proposed substitution with requirements of Contract Documents.

1.4.4.2 Identify product by Specification section and Article or Paragraph numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.

1.4.4.3 Attach as a minimum product data as specified in Section 13 of Contract General Conditions.

1.4.4.4 Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specifications section and Article or Paragraph numbers.

1.4.4.5 Give quality and performance comparison between proposed substitution and the specified product.

1.4.4.6 List availability of maintenance services and replacement materials.

1.4.4.7 State effect of substitution on construction schedule, and changes required in other work or products. If substituted product requires or necessitates revisions to structures, foundations, footings, services, systems, piping, electrical, etc; cost of engineering and construction shall be borne by Contractor. Contractor shall submit for approval drawings, calculations, and vendor data which clearly show revisions to accommodate the substitution.

#### 1.4.5 Contractor Representation

1.4.5.1 Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined it is equal to or superior to specified product.

1.4.5.2 Contractor shall provide same warranty for substitution as for specified product.

1.4.5.3 Contractor shall coordinate installation of accepted substitute, making changes required for work to be completed.

1.4.5.4 Contractor waives claims for additional costs related to substitution which may later become apparent.

1.4.5.5 Contractor waives claim for additional performance time resulting from product substitution.

#### 1.4.6 Submittal

1.4.7.1 Submit ten (10) copies of request for substitution.

1.4.6.2 KEH will review Contractor's request for substitutions with reasonable promptness.

1.4.6.3 For accepted products, submit fabricator drawings, product data, and samples as required in Section 01300.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

From (Contractor) \_\_\_\_\_ Contract No. \_\_\_\_\_

Project \_\_\_\_\_

Description of Proposed Substitution \_\_\_\_\_

We hereby submit for consideration the following product instead of specified item for above project:

Specification No. \_\_\_\_\_ Section \_\_\_\_\_

Drawing No. \_\_\_\_\_ Section or Zone \_\_\_\_\_

Specified Item \_\_\_\_\_

Proposed Substitution \_\_\_\_\_

Attach complete technical data, including laboratory tests and samples, as applicable.

Provide detailed comparison of the significant qualities (system performance, interface requirements, size weight, durability, performance and similar characteristics, and including visual effect where applicable) for the proposed substitution of comparison with the original requirements.

Describe other changes to drawings and specifications required by proposal as outlined below and attach additional information as necessary.

**Complete Each Item**

A. Changes to drawing dimensions \_\_\_\_\_

B. Effect of substitution on other systems \_\_\_\_\_

C. Outline differences between proposed substitution and specified item \_\_\_\_\_

D. Manufacturer's guarantees of proposed and specified items are:

\_\_\_\_\_ Same \_\_\_\_\_ Different (explain on attachment)

Undersigned attests function, and quality equality equivalent or superior to specified item and has reviewed General Conditions paragraph GC-13 for assignment of responsibility if the substitution is approved.

Submitted By	Signature
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Address	Date
	Phone

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 RECORD REQUIREMENTS

1.3.1 The nature of work at the Hanford Site requires that certain documents, defined herein, be held to record the construction process and the administration of the Contract. KEH will assemble pertinent data for final disposition. Contractor shall prepare, preserve, and deliver Project Record Documents to KEH required by this Contract. Documents are in addition to submittals required in Section 01300.

1.3.2 Mark project record documents to identify copies for record and to prevent use for construction. Keep record copies of construction documents in field office and make available to KEH during the progress of the work.

1.3.3 Some data required for Project Records shall be delivered to KEH during course of construction and contract administration, while other required records shall be assembled after completion of construction for delivery to KEH. Document delivery by retaining copy of reports delivered during course of work until construction completion, retaining copy of letter of transmittal itemizing delivered items, or other means acceptable to KEH.

1.4 PROJECT RECORD DOCUMENTS

1.4.1 General: Documents required for project records are itemized herein. Identify complete documents by Title or Number. Notes or markings added by hand shall be legible utilizing permanent non-smearing marking media, such as ink or felt tip markers, in contrasting color.

1.4.2 Contract Documents: Keep 1 set in Field Office apart from documents used in construction and maintain in a clean, dry, and legible condition. Legibly mark each item to record actual construction, including changes to dimensions and details, manufacturer's name, catalog number, and substitute products.

1.4.3 Certified Payrolls: Each week submit certified payrolls, required by Section 108 of the Contract General Conditions, with KEH. Progress payments will not be processed unless certified payrolls for work period have been received by KEH.

1.4.4 Weekly Manpower Report: Complete weekly manpower reports daily and submit weekly before 10:00 a.m. on Monday for previous week, during performance period of the contract. Forms will be furnished by KEH.

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1.4.5 Survey Notes: Deliver notes, specified in Section 01050, to KEH.

1.4.6 Product Samples and Manufacturer's Instructions: In addition to submittals required in Section 01300 and requirements of this Section, information received by Contractor from suppliers that can document products used and how they were installed shall be forwarded to KEH for Project Records.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

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SECTION 02368

SHEET PILING

PART 1 - GENERAL

1.1 REFERENCES

1.1.1 Reference Standards and Specifications: The following standards and specifications, including documents referenced therein, form part of this Section to extent designated herein.

1.1.1.1 American Society of Mechanical Engineers (ASME)

1986 Edition, w/Addenda  
through Dec 1987

ASME Boiler and Pressure Vessel  
Code

Section IX

Qualification Standard for  
Welding and Brazing Procedures,  
Welders, Brazers, and Welding  
and Brazing Operators

1.1.1.2 American Welding Society (AWS)

AWS D1.1-88

Structural Welding Code - Steel

1.2 SUBMITTALS: Refer to Section 01300 for submittal procedures.

1.2.1 Method to Prevent Damage During Excavation: Submit procedure proposed to prevent overstressing existing structures or interrupting service to existing facilities.

1.2.2 Manufacturer's Data: Submit manufacturer's data on sheet pile driving equipment.

1.2.3 Method for Correcting Existing Defects: Submit written procedure for correcting defects found during examination of sheet pile to be installed.

1.3 QUALITY ASSURANCE

1.3.1 Qualification of Welding Personnel and Procedures

1.3.1.1 Personnel and procedures for welding structural steel shall have been qualified in accordance with AWS D1.1 before welding. Qualification in accordance with ASME Section IX may be substituted for this requirement.

1.3.1.2 Maintain file of welding procedure specifications, procedure qualification records, and welder performance qualification test results at Site.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Steel Sheet Piles: Specified on the Drawings.

2.1.1.1 Used sheet piling that meets the requirements of this Section may be utilized.

2.1.2 Inspect materials, delivered to Site, for damage. If damaged, set aside and do not use. Piling should be stacked in such a manner that piles will not bend.

PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Take necessary precautions for protection of existing structures and utilities during installation of piles and excavation of earth material.

3.2 INSTALLATION

3.2.1 Driving: Drive sheet piles in place for permanent installation.

3.2.2 Sheet Piles

3.2.2.1 Install with tolerances specified on the Drawings.

3.2.2.2 Install to elevations shown on the Drawings. If pile fails to reach elevations shown, notify KEH and perform corrective measures as directed.

3.2.2.3 Where damaged, mislocated, or out of alignment, replace or install additional sheet piles as directed. Correct defects in accordance with approved submittal.

3.2.3 Splicing and Cutting

3.2.3.1 Splicing: Splices may be used after approval of KEH. Splices shall be continuous full penetration butt weld in accordance with AWS D1.1.

3.2.3.2 Cutting: Cut sheet piles with acetylene torch, sawing, or other means approved by KEH.

3.2.4 Excavation Within Sheet Pile Area

3.2.4.1 Excavate within tolerances specified on the Drawings.

3.2.4.2 Excavation equipment restrictions specified on the Drawings.

3.2.4.3 Dispose of material excavated from within sheet pile area at existing stockpile site approximately 1/2 mile from Site.

END OF SECTION

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