

United States Department of Energy



Remedial Action Plan and Final Design for Stabilization of the Inactive Uranium Mill Tailings At Green River, Utah

Final

Volume III - Appendix F: Final Design

Appendix B of the
Cooperative Agreement
No. DE-FC04-81AL16257

December 1989

Uranium Mill Tailings Remedial Action Project



wm-68

UNITED STATES DEPARTMENT OF ENERGY
Albuquerque, New Mexico

**CONFORMED SUBCONTRACT
DOCUMENTS**

**Uranium Mill Tailings
Remedial Action Project
(UMTRAP)
Green River, Utah**

GRN

Subcontract Documents

Final Design for Construction

**Bid Schedule
Special Conditions
Specifications
Subcontract Drawings**



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September 1988

 **MORRISON-KNUDSEN ENGINEERS, INC.**
A MORRISON KNUDSEN COMPANY

UMTRA PROJECT - GREEN RIVER, UTAH
SUBCONTRACT DOCUMENTS GRN
FINAL DESIGN FOR CONSTRUCTION
SEPTEMBER 1988

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Bid Schedule

SECTION 00310

BID SCHEDULE

Name of Bidder _____ Date: _____

Following are the prices bid for completion of the Work as required by the Subcontract Documents:

Item No.	Spec. Section	Description*	Unit	Approx. Quantity	Unit Price	Amount
<u>000 - MOBILIZATION</u>						
001	01019	Mobilization	L.S.	100%	N/A	_____
002	SC-22	Payment for Bond Premium	L.S.	100%	N/A	_____
<u>200 - SITE PREPARATION</u>						
201	01500	Temporary Offices	L.S.	100%	N/A	_____
202	01500	Temporary Roads and Parking Areas	L.S.	100%	N/A	_____
203	01500	Janitorial and Snow Removal Services	L.S.	100%	N/A	_____
204	01500	Temporary Sanitary Facilities	L.S.	100%	N/A	_____
205	01500	Temporary Electric Power	L.S.	100%	N/A	_____
206	01500	Temporary Water	L.S.	100%	N/A	_____
207	01500	Decontamination Facilities	L.S.	100%	N/A	_____
208	02051	Demolition and Disposal of Existing Structures, Facilities and Utilities	L.S.	100%	N/A	_____

Item No.	Spec. Section	Description*	Unit	Approx. Quantity	Unit Price	Amount
209	02051	Decontamination of Existing Structures, Facilities and Utilities	L.S.	100%	N/A	_____
210	02090	Sealing of Monitor Wells	L.F.	1,510	_____	_____
211	02110	Clearing and Cleaning from Brown's Wash Area	S.Y.	3,800	N/A	_____
212	02200	Excavation of Uncontaminated Materials from Southeast Diversion Ditch	C.Y.	700	_____	_____
213	02200	Placement of Excavated Uncontaminated Materials as Common Fill for Retention Basin Dikes	C.Y.	4,500	_____	_____
214	02200	Excavation of Uncontaminated Materials from Retention Basin	C.Y.	3,600	_____	_____
215	02200	Placement of Excavated Uncontaminated Materials as Common Fill for Brown's Wash Dike	C.Y.	30,000	_____	_____
216	02771	Membrane Liner for Wastewater Retention Basin and Spillway	S.Y.	5,400	_____	_____

400 - TAILINGS PILE

401	02200	[Excavation of Contaminated Materials from Existing Tailings Pile, Wastewater Retention Basin Foundation and Brown's Wash Dike and Placement in Tailings Embankment]**	C.Y.	[210,600]**	_____	_____
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Item No.	Spec. Section	Description*	Unit	Approx. Quantity	Unit Price	Amount
402	02200	Excavation of Contaminated Materials from Other Areas of the Site and Placement in Tailings Embankment	C.Y.	[107,400]**	_____	_____
403	02200	Excavation of Contaminated Materials under the Crusher Building Foundation and Placement in Tailings Embankment	C.Y.	25	_____	_____
404	02200	Excavation of Vicinity Property Materials from Stockpile and Placement in Tailings Embankment	C.Y.	[25,000]**	_____	_____
[405]**	02200	Placement of Excavated Uncontaminated Materials from Tailings Embankment Area as Select Fill, Type A, for Tailings Embankment	C.Y.	[52,900]**	_____	_____
<u>500 - COVER</u>						
501	02200	Furnish and Place Radon Barrier Material in Tailings Embankment	C.Y.	[28,000]**	_____	_____
[Item 502		Relocated as 405 in Category 400]**				
<u>600 - EROSION PROTECTION</u>						
601	02278	Furnish and Place Riprap Material, Type A	C.Y.	10,100	_____	_____

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Item No.	Spec. Section	Description*	Unit	Approx. Quantity	Unit Price	Amount
602	02278	Furnish and Place Riprap Material, Type B	C.Y.	[16,000]**	_____	_____
603	02278	Furnish and Place Bedding Material	C.Y.	[4,800]**	_____	_____
<u>800 - SITE RESTORATION</u>						
801	02200	Excavation of Uncontaminated Materials from Tailings Embankment Area	C.Y.	[370,000]**	_____	_____
802	02200	Placement of Excavated Uncontaminated Materials as Common Fill or Backfill for Final Site Grading of the Area Outside of the Final Site Boundary	C.Y.	[263,400]**	_____	_____
803	02200	Placement of Excavated Uncontaminated Materials from Tailings Embankment Area as Select Fill, Type B, for Finish Grading of Site Within the Final Site Boundary	C.Y.	[57,800]**	_____	_____
804	02200	Furnish and Place Gravel Fill Materials in the Gullies	C.Y.	69,900	_____	_____
805	02935	Seeding	Acre	53	_____	_____
<u>900 - FENCING</u>						
901	02832	Chain Link Fence	L.F.	710	_____	_____

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Item No.	Spec. Section	Description*	Unit	Approx. Quantity	Unit Price	Amount
904	02833	Woven Wire Fence	L.F.	6,720	_____	_____
TOTAL (SUBCONTRACT PRICE)					\$	_____

* For complete description of a Bid Item and for measurement and payment provisions, see Part 4 of the Specification Section cited.

END OF SECTION 00310

Special Conditions

SECTION 00800
SPECIAL CONDITIONS

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SC-22	MEASUREMENT AND PAYMENT

SC-1 DEFINITIONS

A. Wherever used in the Subcontract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1. Access Control Area - Access control area shall include the areas occupied by and in the immediate vicinity of administration facilities including, but not limited to, Contractor's and Subcontractor's office trailers, access control trailer, sanitary facilities, decontamination pad and its contaminated water collection sump, equipment and materials lay-down and storage area, employee and service vehicle parking area, roadway connecting vehicular gate to decontamination pad.
2. Addenda - Written and/or graphic instruments issued prior to opening of Bids which clarify, correct or change the bidding documents.
3. Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
4. Bonds - Bid, performance and payment bonds.
5. Construction Facilities - Construction facilities shall include temporary facilities required during construction phase of the permanent facilities. These facilities are specified in Section 01500.
6. Contaminated Materials - Tailings and other materials having radioactive contamination levels greater than specified in the applicable US Environmental Protection Agency Standards. Contamination levels shall be as determined by the Contractor. These standards are presented in the Federal Register, January 5, 1983, Section 192.12: "Standards for Remedial Actions at Inactive Uranium Processing Sites". All demolished materials and debris shall be considered as contaminated materials for disposal purposes.
7. Controlled Area - See Article SC-9, Paragraph A.7 of the Special Conditions.
8. General Requirements - Division 1 of the Specifications.
9. Lower-Tier Subcontractor/Other Subcontractor:

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- a. Lower-tier Subcontractor - An individual firm or corporation having a direct contract with the Subcontractor.
 - b. Other Subcontractor - An individual firm or corporation (other than the Subcontractor) having a direct contract with the Contractor for other work on the Project.
10. Notice of Award - The written notice by Contractor to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, Contractor will sign and deliver the Agreement.
 11. Notice to Proceed - A written notice given by Contractor to Subcontractor fixing the date on which the Subcontract Time will commence to run and on which Subcontractor shall start to perform Subcontractor's obligations under the Subcontract Documents.
 12. Permanent Facilities - Permanent facilities shall include permanent features of the Project including, but not limited to, the following: Tailings embankment, permanent drainage ditches, finish grading and seeding.
 13. Project - The total construction to be provided under these Subcontract Documents.
 14. Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Subcontractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by Subcontractor to illustrate material or equipment for some portion of the Work.
 15. Site Manager - The authorized representative of the Contractor who is assigned to the site or any part thereof.
 16. Specifications - Those portions of the Subcontract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

17. Subcontract Change Notice/Change Order - A document signed by Subcontractor and Contractor authorizing an addition, deletion, revision, or clarification of the Work, modified in writing and issued on or after the Effective Date of the Agreement.
18. Subcontract Drawings - The drawings which show the character and scope of the Work to be performed and which are referred to in the Subcontract Documents.
19. Subcontract Modification - A document issued to incorporate Subcontract Change Notices/Change Orders and adjustments in the Subcontract Price or Subcontract Time or to modify Subcontract.
20. Subcontract Price - The moneys payable by Contractor to Subcontractor under the Subcontract Documents as stated in the Agreement.
21. Subcontract Time - Duration of time specified in the Subcontract Agreement Form for the completion of the Work under the Subcontract. The time commences from the date or the day specified in the Notice to Proceed, and may be specified in terms of number of calendar days available to complete the Work, or in terms of the date on or before which to complete the Work.
22. Tailings embankment shall consist of relocated contaminated materials from the tailings pile, windblown areas, vicinity property materials, sediments from wastewater retention basin, contaminated demolished materials and debris, and the protective cover materials placed and compacted as shown on the Subcontract Drawings and as specified in this Section.
23. Temporary Facilities - Synonymous with Construction Facilities. See Paragraph 5 above.
24. Temporary Roads - Improvements to existing roads, and construction of new roads if any, carried out by the Subcontractor for his convenience in the performance of the Subcontract. These improvements or new constructions are not designated on the Subcontract Drawings.
25. Uncontaminated Materials - All materials having radioactive contamination levels less than specified in the applicable US Environmental Protection Agency Standards. These standards are presented in the

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Federal Register, January 5, 1983, Section 192.12:
"Standards for Remedial Actions at Inactive Uranium
Processing Sites".

26. Work - The entire completed construction required under the Subcontract Documents. Work is the result of performance of services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Subcontract Documents.

B. The other terms such as Contractor, Subcontractor, Government, DOE, Subcontract Administrator, Subcontract Documents, MK-F and Site of Work are defined in Article GP-2 of General Provisions.

SC-2 HOLIDAYS

A. The following days will be observed as holidays by MK-Ferguson Company, the Contractor:

New Year's Day
President's Day
Memorial Day
Pioneer Day
Independence Day
Labor Day
Veterans Day
Thanksgiving Day
Christmas Day

B. Holidays occurring on Saturday or Sunday will be observed on Friday or Monday.

SC-3 CONSTRUCTION RESTRAINTS

A. Concurrent Work: MK-Ferguson Company (Contractor) and other subcontractors may be engaged in work in the general areas covered by the Work under this Subcontract. Such personnel will have access to the areas and to the utilities. The Subcontractor shall cooperate to best utilize the available areas, roadways and facilities. Coordination shall be through the Contractor.

B. During the course of this Subcontract, the Contractor will perform radiological surveys, and will conduct tests on excavated areas to determine whether additional contaminated material remains to be excavated. Results of

such tests of contaminated material are generally available within four hours during normal work hours; however, test equipment constraints may increase the testing time.

- C. Upon apparent completion of contaminated material excavation in a distinct area, the Contractor will conduct a radiological verification survey to confirm removal of contamination to EPA standards. This survey may take up to seven work days. The Subcontractor shall plan his work accordingly.
- D. Stop Work in Case of Excessive Radionuclide or Other Toxic Concentrations: The Site Manager will monitor construction activities and may shut down the Work or require modification of Subcontractor activities in the event that gaseous or particulate radionuclide or other toxic concentrations associated with construction activities exceed allowable limits. Any shut down shall be a last resort response to such conditions; other responses including watering, vehicle speed reduction, covering of material emitting radon gas, etc., shall first be implemented by the Subcontractor.
- E. The Subcontractor shall not be permitted to bring explosives under any circumstances to the site.
- F. The Subcontractor shall maintain the exhaust systems of all vehicles and equipment to protect against excessive noise and air pollution in compliance with the applicable local, state and federal requirements. The trucks shall be equipped with sound-dampening features. Tailgate chains shall be rubber-insulated and latches shall be adequately secured. Noise surveys will be conducted by Contractor's representative on all equipment.
- G. The public will have access to the site access road during the term of the Subcontract.
- H. If the Subcontractor uncovers any archaeological artifacts or human remains during the term of the Subcontract, he shall immediately halt operations in the immediate vicinity of such a discovery and notify the Site Manager. Further work in these areas shall not resume until a qualified archaeologist has inspected the site and completed all resource recovery work.

SC-4 SITE LOCATION AND ACCESS

- A. The location of the site is specified in Specification Section 01010.
- B. Access:
 - 1. Private, personal or agency vehicles not used for authorized construction purposes will not be allowed in the controlled site areas.
 - 2. Parking of private, personal or agency vehicles shall be in a restricted area outside of the controlled site areas as designated by the Site Manager or his representative.

SC-5 COORDINATION OF WORK

The Subcontractor shall carefully coordinate all construction activities with the Site Manager to avoid conflicts and unnecessary delays in construction.

SC-6 LABOR, MATERIALS, EQUIPMENT AND TEMPORARY FACILITIES

- A. Unless otherwise specified elsewhere in the Subcontract Documents, Subcontractor shall furnish and assume full responsibility for furnishing all materials, equipment, plant, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work as shown on the Subcontract Drawings and as specified in the Specifications.
- B. Pursuant to the provisions of Section GC-1.C of the General Conditions, and Specification Section 01500 - Temporary Facilities, during the construction period, the Subcontractor will be permitted on-site temporary storage of material and equipment at a location approved by the Site Manager.

SC-7 CLEANUP AND WASTE DISPOSAL

- A. Cleanup: The Subcontractor will be required to clean up construction work areas including all trailers and dispose of waste material. Cleanup of construction work

areas will be required on a daily basis. At the close of each day's work all small quantities of waste and debris resulting from construction activities shall be gathered up and disposed of as designated in paragraph B below. Waste and debris shall not be allowed to accumulate in such quantities as to create an unsightly appearance, a safety or fire hazard, nor shall it interfere in any way with free access to, and operation of existing facilities. All construction areas shall be thoroughly cleaned to the satisfaction of the Contractor prior to final acceptance of the completed Subcontract. For additional requirements, see Section GC-1.D of the General Conditions.

B. Waste Disposal:

1. **General:** Material determined to be waste will be tested for radioactive contamination prior to removal from the construction site. Testing will be performed by the Contractor at no cost to the Subcontractor to classify the waste into the following two categories for disposal purposes:

a. **Uncontaminated Waste:** The Subcontractor shall provide suitable receptacles for all construction office waste material such as wrapping paper, discarded containers, scrap lumber, scrap metals, etc. Other uncontaminated waste including construction office waste shall be disposed of off-site as Subcontractor's property in a safe, acceptable manner, in accordance with the applicable laws and ordinances and as prescribed by authorities having jurisdiction. No waste material and debris shall be buried on the site. The Subcontractor shall be responsible for the location of dump for trash and debris, length of haul, and disposal costs.

b. **Contaminated Waste:** Waste materials identified as contaminated materials defined in Article SC-1 and materials resulting from demolition operations and demolished materials stockpiled on site by others shall be disposed of in the construction of the tailings embankment as specified in Section 02200.

C. Hazardous Waste:

1. The Site Manager shall be notified immediately if suspected hazardous wastes are encountered. The

wastes will be fully characterized through laboratory analysis by the Contractor. The Contractor will then identify the wastes for disposal in accordance with the applicable state and federal requirements.

2. If the wastes are identified as radiologically contaminated and suitable for disposal in the tailings embankment, the Subcontractor may be directed by Subcontract Change Notice to remove and dispose of these wastes in the tailings embankment.
3. If the wastes are identified as non-radiologically contaminated (chemical or toxic) and not suitable for disposal in the tailings embankment, the Subcontractor may be directed by Subcontract Change Notice to obtain qualified services for removal and disposal of these wastes.

SC-8 CONSTRUCTION HEALTH AND SAFETY

A. Contractor Safety Program:

1. The Subcontractor shall comply with the Construction Safety and Health Management Program (Document No. MK-UMTRA-4). This document is available upon request from the Contractor's office in Albuquerque, New Mexico.
2. The successful bidder will be issued a copy of the Construction Safety and Health Management Program Document with the Notice of Award by the Contractor's Subcontract Administrator.
3. A table of contents for the Construction Safety and Health Management Program is listed below:

SAFETY AND HEALTH MANAGEMENT PROGRAM

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B. Construction Safety and Health Initial Indoctrination and Training:

1. All construction personnel working on the site shall receive the basic Construction Safety and Health Initial Indoctrination and Training. The Indoctrination and Training will cover such matters as first aid and medical responsibilities, emergency actions, etc. The indoctrination will be oral or written (approximately 30 minutes). It will be presented to construction personnel either individually or on a group basis and at the Subcontractor's convenience. The indoctrination will be presented to all personnel upon request, between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday (holidays excluded). No construction personnel will be permitted to work without having received this basic indoctrination.
2. The use of respirators may be necessary on this Project. If respirator use becomes necessary, the respirators will be provided by the Contractor and training in the proper use of respirators in the performance of specific tasks will be provided by the Contractor. This instruction is approximately two hours long and will be provided to the Subcontractor at no extra cost. The Subcontractor shall notify the Contractor's Representative at least one (1) week in advance of the time that the training is desired. Note, that individuals with beards or facial hair that interferes with a proper respirator seal will not be accepted for respirator training.
3. No payment will be made to the Subcontractor for his employees' attendance at Safety and Health Initial Indoctrination and Training Program or respirator training provided by the Contractor. Full compensation for such costs will be considered incidental to the Work of this Subcontract.
4. Based upon the criteria established by the MK-Ferguson Corporate Medical Director and upon the recommendations listed in the American National Standard, ANSI Z88.2-1980, "Practices for Respiratory Protection", all employees who will or may be required to wear respirators on this Project shall complete a medical [questionnaire, and will be given a blood pressure and pulmonary function test.]* There may be a need for further medical evaluation based on answers in the questionnaire. The Respirator Program Administrator or his designee will make this determination.

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C. Electrical Precautions:

1. Personnel Ground Fault Protection: All electrical conductors used in construction, operating on single phase, 120 vac, 15 or 20 amperes circuits, shall be equipped with UL listed Ground Fault Circuit Interrupters set at five (5) milliamperes plus (+) or minus (-) one (1) milliampere. All portable electric tools and their usage shall be in compliance with applicable OSHA (29 CFR 1926) standards.
2. Electrical Clearance Requirement: All electrical circuit connections shall be made on de-energized systems. Working clearance for energized systems shall be 3 feet for 0 to 150 volts and 4 feet for 151 to 600 volts. The work shall be performed by a qualified journeyman electrician or by an apprentice electrician under the direct supervision of a qualified journeyman electrician.

D. Smoking, Drinking, Eating and Chewing Restrictions: No smoking will be permitted in the immediate vicinity of any flammable liquids, gases or highly combustible material, or in any area posted as a non-smoking area. No smoking, drinking, eating or chewing will be permitted in any controlled area.

E. Ladders, Scaffolds, and Man Lifts: All man-lift equipment, ladders, and scaffolding shall be in compliance with applicable OSHA (29 CFR 1926) standards and be subject to inspection by the Contractor prior to and during its use.

F. Trench/Excavation Barricades:

1. Trenching, excavation, shoring bracing, and barricading requirements shall be in accordance with OSHA, 29 CFR 1926, Subpart P.
2. The following forms of protection shall be required for open trenches/excavations adjacent to occupied buildings, crossing pedestrian crosswalks and paths, at street intersections, and crossing or adjacent to sidewalks and driveways:
 - a. Barricades shall be positioned on each side of the trench and stationed at a maximum of ten (10) foot intervals. Spacing on each side of the trench shall alternate to show that a front view depicts barricades at five (5) foot intervals.

- b. Whenever possible, each barricade shall be positioned at least two (2) feet away from the open trench or excavation.
 - c. Each barricade shall be equipped with a yellow flasher of at least eight (8) inches in diameter. (NOTE: Temporary barricades used during daylight operations do not require flashers.) Street side flashers shall be directed parallel with the street, curb side flashers and flashers along pedestrian routes shall be facing in the direction of pedestrian traffic.
 - d. When continuous solid barricades are not provided, interconnecting ropes or tape shall be attached to all barricades. When rope is used, streamers shall be attached at 2-3 foot intervals.
 - e. Walkways and/or bridges with standard guard rails, shall be provided at all pedestrian crossing points except for trench width 2'-0" and less where a barricade straddling the trench on either side of the walkway may be used.
 - f. Where vehicle traffic must cross trenching operations, metal plate covers shall be provided to support all motor vehicles.
 - g. Where trenches or excavations interrupt a doorway, ramp, or other exits/entrances to buildings, the doors shall be locked or blocked and a sign displayed to indicate the condition that exists.
- G. Notification of Occurrences: Subcontractors shall advise the Contractor immediately upon occurrence of any non-routine events, occurrences, incidents, or accidents, etc., particularly in situations such as lost time accidents and ambulance calls.
- H. Responsibility:
- 1. Subcontractor Safety Responsibility:
 - a. Each Subcontractor shall designate a qualified person to implement the Construction Safety and Health Management Program at the work site. The designated person shall have authority for actions and for control of work activity to prevent accidents. [The safety representative shall be full time at the site, and shall be a non-pro-

duction oriented person (i.e. field engineer) who reports directly to the Subcontractor's management. This person may have other duties besides that of a safety representative.]*

- b. Daily work area safety and health inspections are required and appropriate action shall be taken to correct noncompliance conditions.
- [c. Construction Vehicles, Machinery and Equipment Safety Inspections: The Subcontractor shall designate a competent person who shall inspect all construction vehicles, machinery and equipment prior to use and during use, to make certain they are in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced before use is continued. A thorough annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor. Reports of such inspection and repair records shall be submitted to the Contractor's Site Manager before construction vehicles, machinery, and equipment may be used on the Project.]*

2. Contractor Safety Responsibility:

- a. Contractor Safety Department personnel or designated representatives will make regular continuing inspections of all facilities and operations within the scope of the Subcontract. These inspections will include the facilities and operations of all Subcontractors, but do not in any way relieve Subcontractors of their responsibility for compliance with the provisions of the Construction Safety and Health Management Program.
 - b. Daily work area safety and health inspections will be made by Contractor personnel.
- I. Hazardous Materials Identification: If the suspected materials are confirmed through laboratory analysis to be hazardous, the Subcontractor will be notified immediately of the applicable standards which the Subcontractor shall comply with for personnel safety and health protection.
 - J. Galvanized Fence Materials: Personal respiratory protection or ventilation is required if a heat process takes place with galvanized fencing materials.

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K. Back Up Alarms: It is mandatory for all heavy equipment to have functioning audible back up alarms while in use on an UMTA project.

L. Industrial Hygiene:

[1. This project shall comply with the U.S. Air Force Noise Standard AFR 161.35. Time weighted averages for 8 hour exposure shall not exceed 84 dB(A). Noise levels will be taken on all equipment by the Contractor, and select personnel will be required to wear noise dosimeters to establish 8 hour time weighted average. Hearing protection shall be provided by the Subcontractor, and shall be worn when noise levels exceed 84 dB(A). Eight personnel from the Contractor and Subcontractor staff will receive baseline and exit audiograms. These will consist of 3 personnel from the Subcontractor staff and 5 from the Contractor staff. Costs of the exams only will be paid by the Contractor. Testing will take approximately 15 minutes plus travel time.]*

2. Dust: Subcontractor's dust control provisions shall be adequate to prevent personnel from potential inhalation exposure to silica or nuisance particulates. Contractor's Safety Department will conduct ongoing dust monitoring and will inform the Subcontractor about the need for respiratory protection. [As part of the dust monitoring program the Contractor will periodically place dust samplers on site workers, including those of the Subcontractor.]*

3. Ongoing monitoring will be conducted for CO, H₂S, combustibles and adequate oxygen. All confined spaces will be checked by the Contractor prior to entry.

SC-9 HEALTH PHYSICS

Portions of the Subcontract work area is a radiologically controlled area. All work shall be governed by the essential requirements given in the following paragraphs:

A. Work Conditions:

1. Radiation/Contamination Areas: Radiation/contamination controlled areas shall be established on a case-by-case basis at the discretion of the Site Manager. Protective clothing for contamination control

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is provided to the Subcontractor at no charge on a loan basis. Clothing will be issued by Contractor personnel when required at the access control gate.

2. Radiation Dressing Requirements:
 - a. All controlled area protective clothing, when required, shall be put on and removed at the controlled area boundary. The Subcontractor shall ensure that removed items are properly stored and areas are maintained in proper order.
 - b. When required, protective clothing for contamination control could consist of coveralls, gloves, and rubber boots, shoecovers or any combination of the above. Personnel will be required to change out of the protective clothing prior to leaving the controlled area.
3. Personnel Monitoring: All personnel will be required to self-monitor for radioactive contamination upon leaving the controlled area. Personnel will be instructed in self-monitoring procedures in accordance with paragraph 5 below defining Training Requirements.
4. Vehicles and Other Monitoring: Vehicles, equipment and tools from the controlled area will be monitored for radioactive contamination by the Contractor before leaving the area.
5. Training Requirements: In order to work in the controlled area, personnel shall be trained as Radiation Workers by the Contractor. The training course is approximately four hours long and is available to Subcontractor personnel at no cost for the instruction. Training in the proper use of respirators for performing specific tasks may be required. A test will be given to all personnel at the conclusion of training to establish qualifications as a Radiation Worker. Personnel must pass this test to work within the radiation control area. For respirator training and medical requirements, see Articles SC-8.B.2 and SC-8.B.4.
6. Radiation Exposure Limits and Restrictions:
 - a. Radiation exposure on this Project is expected to be well within allowable radiation exposures. Whole body radiation exposure in rem shall be determined by Personal Thermoluminescent Dosimeters (TLD) issued to each radiation worker.

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- b. Prior to working at the construction site each employee shall provide prior radiation exposure records as applicable.
 - c. While working at the construction site each employee is required to wear TLD badges issued and collected daily.
 - d. No one under the age of 18 shall be permitted to enter or work in the controlled area.
7. Some areas on the construction site may have localized Health Physics restrictions. These are controlled by ribbons, signs, and tags. Such area restrictions shall be observed by the Subcontractor and applicable precautions taken.

B. Special Examinations:

- 1. Employees working in radiation control areas may be required to submit a bioassay sample prior to starting work in the radiation control areas and also upon termination or completion of the Subcontract. Certain Subcontractor employees, identified by the Contractor based on potential exposure to airborne radionuclides, will be required to submit quarterly bioassay samples. Employees may be required to submit additional bioassay samples on an occasional basis, to ensure that applicable radionuclide exposure standards are being met. It is the Subcontractor's responsibility to ensure that each employee submits bioassay samples as required by the Subcontract.
 - 2. The Subcontractor shall notify the Contractor of any personnel terminations or transfer within 8 working hours of such terminations or transfers. The Subcontractor shall also provide the Contractor with weekly lists of all Subcontractor or subtier employees employed by, or for, the Subcontractor who have been issued TLD radiation exposure badges. These weekly listings shall include full name, social security number, hire date, and termination/transfer date (if applicable), of all such employees.
- C. Health Physics (HP) Personnel: The Site Manager will monitor the construction work through HP personnel employed by him. The HP personnel will provide radiological surveillance over construction activities and advise supervision on matters concerning radiation safety as related to activities or conditions affecting the construction work.

- D. **Warning Signals:** The Subcontractor may depend on direct verbal information from the Contractor's personnel for warning signals. This verbal information will be communicated directly to the Subcontractor's personnel by the Site Manager or his designee. These warning signals may be required due to the Contractor's identification of unusual or unanticipated radiation levels, presence of toxic substances, or unsafe working conditions. The Subcontractor's employees shall take action as directed. The Subcontractor shall obtain the name and position of the Contractor's representative providing such direction.
- E. **Disposition of Contaminated Equipment, Tools and Material:**
1. The Subcontractor shall use his own or rental equipment in performing the required work under this Subcontract. All tools, vehicles, equipment and material will be inspected for radioactive contamination by the Contractor or his designee prior to removal from the construction area.
 2. Should the Subcontractor's tools, material, or equipment become contaminated, they will have to be decontaminated before removal from the area. If decontamination becomes necessary, the Site Manager will provide instructions for decontamination by the Subcontractor's employees. Decontamination may consist of steam cleaning, dry brushing, or washing with appropriate liquids. Decontamination required beyond these described will be handled under [Article GP-4]*, "CHANGES" of the General Provisions.
 3. If decontamination proves impracticable or impossible, the tools, material, or equipment in question will be retained by the Contractor and an equitable adjustment for same will be negotiated with the Subcontractor provided that:
 - a. There is no fault or negligence of the Subcontractor contributing to the contamination;
 - b. The Subcontractor has followed all the specific instructions of the authorized HP personnel who have surveillance over the work;
 - c. Items or equipment confiscated from the Subcontractor will be documented by a Confiscation Notice furnished to the Subcontract Administrator by the Contractor and signed by HP personnel and the Site Manager;

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- d. The Subcontractor allows reasonable time (a minimum of ten (10) working days, excluding weekends and holidays) in which to attempt decontamination of the item(s) in question. The reimbursement schedule will be as follows:
- 1) Tools valued less than \$300.00 at 95% of replacement cost.
 - 2) Tools/Equipment \$300.00 and up: If less than one (1) year old or at top of depreciation schedule, at 75% of replacement cost; if at bottom of or off the depreciation schedule, at 50% of replacement cost.
- e. Failure to agree upon an equitable adjustment shall constitute a dispute per Article GP-7 of the General Provisions.
- f. In view of the foregoing, the Subcontractor is encouraged to plan his work to minimize the transfer of equipment into and out of the construction area.

SC-10 SUBMITTALS

Pursuant to the provisions of [text deleted]* Specification Section 01300 - Submittals, the Subcontractor shall submit samples of materials, schedules and reports, shop drawings, product data, manufacturer's instructions, and design calculations and design drawings to the Contractor.

SC-11 QUALITY ASSURANCE

All work shall be performed to the requirements of the Contractor's Quality Assurance Program. This program meets the requirements of 10 CFR 50 Appendix B and ANSI/ASME NQA-1-79. The program will be wholly administered by the Contractor. All Quality Records will be generated by and maintained by Contractor's personnel.

SC-12 PERMITS

- A. The Contractor will provide the following permits and notifications as required, for the facilities and activities depicted on the Subcontract drawings, except as noted below in Article SC-12.B:

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1. Threatened or Endangered Species Consultation
(U.S. Fish and Wildlife Service)
 2. Cultural Resource Clearance
(Utah State Historic Preservation Office)
 3. National Pollutant Discharge Elimination System
(NPDES) Permit
(Utah Division of Environmental Health, Bureau of
Water Pollution Control)
 4. Wastewater Treatment Facility Construction Permit
(Utah Division of Environmental Health, Bureau of
Water Pollution Control)
 5. Air Quality Notice of Intent and Approval
(Utah Division of Environmental Health, Bureau of
Water Pollution Control)
 6. Approval of Well Plugging
(Utah State Engineer's Office, Division of Water
Rights)
 7. Zone Change and Use Permit
(Grand County Commissioners)
- B. All other permits and notifications, including but not limited to the following, as required, shall be the responsibility of the Subcontractor in accordance with Article GP-13 of the General Provisions:
1. Sewer Connection Approval
(Grand County Health Department and/or State Health
Department)
 2. Water Supply Connection Approval
(City of Green River and/or Grand County Health
Department)
 3. Air Quality Permit for Rock Processing Equipment
(Utah Division of Environmental Health, Bureau of Air
Quality)
- C. The Subcontractor shall comply with the provisions of the permits at all times during the execution of the Subcontract.
- D. Separate measurement or payment will not be made for work required of the Subcontractor for obtaining additional permits and for compliance with the provisions of all

permits, unless specifically provided for in this Subcontract. All costs in connection with obtaining such permits and for compliance with such permits will be considered incidental to the Subcontract.

SC-13 ROAD CONSTRUCTION AND TRAFFIC CONTROL INCLUDING HAUL ROAD AND PUBLIC ROAD

- A. The Subcontractor shall post construction areas and roads with traffic control signs or devices used for protection of workmen, the public and equipment. The signs or devices shall conform to the American National Standards Institute D6.1-1978, Manual on Uniform Traffic Control Devices for Streets and Highways. [Haul roads on site shall be posted for maximum speed of 25 mph.]*
- B. Signs or traffic control devices shall be removed or covered as soon as they have served their purpose. It is particularly important to remove any markings on road surfaces which under conditions of poor visibility could cause a driver to turn off the road or into traffic moving in the opposite direction.
- C. Barricades for protection of employees shall conform to the portions of the American National Standards Institute D6.1-1978, Manual on Uniform Traffic Control Devices for Streets and Highways, relating to barricades.
- D. Material Haul on Public Roads: All requirements stated in the permits shall be followed for using public roads for hauling materials to the site.
- E. The Subcontractor shall be responsible for providing all necessary bonding required by the applicable city, county and state highway departments.
- F. All existing, temporary, or maintenance roads may also require decontamination after the construction activities are completed. All costs in connection therewith shall be considered to be incidental to the applicable items of work to which they pertain.

SC-14 ENVIROMENTAL PROTECTION

- A. Pollution of Waterways: The Subcontractor's construction and related activities shall be performed by methods that prevent discharge or accidental spillage of solid or liquid matter, contaminants, debris and other objection-

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able pollutants and wastes into streams, watercourses, flowing or dry, and underground water sources. Such pollutants and wastes will include, but will not be restricted to refuse, earth and earth products, garbage, cement, concrete, sewage effluent, industrial waste, radioactive substances, hazardous chemicals, oil and other petroleum products, aggregate processing tailings, and mineral salts. Pollutants and wastes shall be disposed of in accordance with applicable permit provisions or in a manner acceptable to and approved by the Contractor.

B. Storage and Disposal of Petroleum Products:

1. Petroleum products covered by this Article include gasoline, diesel fuel, lubricants, heating oils, and refined and used oil. During project construction, all petroleum products shall be stored in such a way as to prevent contamination of all ground and surface waters.
2. Storage facilities shall conform to the requirements of Construction Safety and Health Management Program specified in Article SC-8 of the Special Conditions.
3. Lubricating Oil: Lubricating oil may be brought into the project area in steel drums or other means, as the Subcontractor elects. If the total volume of stored oil is greater than 1320 gallons, then the Subcontractor shall provide secondary containment facilities. Used lubricating oil shall be stored in steel drums, or other approved means, and shall be returned to the supplier for disposal. It shall not be burned or otherwise disposed of at the project area.
4. If the total volume of stored petroleum products is greater than 1320 gallons and these products are stored above ground, the Subcontractor shall prepare a spill prevention control and countermeasure plan in accordance with applicable EPA and other state regulations.

SC-15 SUBCONTRACTOR LABOR AND EQUIPMENT RATES

- A. Within 15 days after receipt of Notice to Proceed, the Subcontractor shall furnish to the Contractor a list of all equipment to be used on the Project. The list, as a minimum, shall include the following for each piece of equipment:**

1. Equipment number, make, model, type, year of manufacture, capacity and/or horsepower.
 2. Rental rates for hourly, daily, weekly and monthly time periods. These rates shall include overhead and profit, but shall not exceed 60% of the current edition of the Rental Rate Blue Book for Construction Equipment.
 3. An hourly operating rate for fuel, oil, parts, maintenance and repairs, etc. for actual hours of operation only. Each rate shall be listed separately, and shall include appropriate overhead and profit but shall not include the equipment operator.
 4. The above information shall also be provided for any subsequent equipment brought onto the site during the term of the Subcontract in addition to the initial list, and shall be provided within five days of the date the equipment arrives.
 5. The initial equipment rate list submittal above shall be valid for all pieces of equipment from its receipt until January 1 of the following year.
 6. The equipment rate list shall be revised on January 1 of each year with the current Blue Book rates. These rates shall be used until the equipment rate list is revised on January 1 of the following year.
- B. Within 15 days after receipt of Notice to Proceed, the Subcontractor shall furnish to the Contractor labor rates for all craft designations to be used on the Project as follows:
1. List craft category and classification (i.e., loader operator, 6 cy; truck driver, 3 axle; etc.).
 2. Labor cost rate including fringe benefits, payroll, taxes, insurance, overhead and profit.
 3. Each item in 2 above shall be listed separately.
- C. The rates provided in Paragraphs A and B above shall be used for changes to the Subcontract where unit prices or other methods of pricing do not apply and shall be used solely at the discretion of the Contractor. The intent is that for small changes where there is little risk to the Subcontractor such rates are appropriate. For larger changes, unit pricing or other appropriate methods will be used which will allow more appropriate profit margins.

- D. In the event the Contractor directs the Subcontractor to work overtime in addition to the Subcontractor's original intended schedule, the Contractor will pay (except in states where such a requirement is prohibited by law) only the actual labor cost over the rate of regular time plus actual payroll burdens (applicable taxes, fringes, benefits, etc.).

SC-16 MODIFICATION PROPOSALS PRICE BREAKDOWN

The Subcontractor, in connection with any proposal he makes for a Subcontract modification, shall furnish a price breakdown, itemized as required by the Subcontract Administrator. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract, and overhead costs, as well as profit, and shall cover all work involved in the modification, whether such work was deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown and/or quotes from the Subcontractors. In addition, if the proposal includes a time extension, a justification therefore shall be furnished. The proposal, together with the price breakdown and time extension justification, shall be furnished by the date specified by the Subcontract Administrator.

SC-17 VARIATIONS IN QUANTITIES

In all cases, except cancellation of one or more line items, where the quantity of a unit priced line item in the Subcontract is an estimated quantity, and where the actual quantity of such line item varies by more than 10% above or 10% below the originally estimated quantity stated in the Subcontract, an adjustment in unit price shall be negotiated upon demand of either party for the quantities above or below the stated variation.

SC-18 LAWS AND REGULATIONS

Subcontractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If Subcontractor observes that the Specifications or Subcontract Drawings are at variance therewith, Subcontractor shall give Contractor prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If Subcontractor performs

any Work knowing or having reason to know that it is contrary to such laws, ordinances, rules and regulations, and without such notice to Contractor, Subcontractor shall bear all costs arising therefrom; however, it shall not be Subcontractor's primary responsibility to make certain that the Specifications and Subcontract Drawings are in accordance with such laws, ordinances, rules and regulations.

SC-19 FUNDING LIMITATIONS

- A. Of the total Subcontract Price, the sum of \$ _____ is presently available for payment to the Subcontractor under this Subcontract during fiscal year 1988. It is anticipated that additional funds will be allotted from time to time to this Subcontract subject to Government appropriations available in this fiscal year or succeeding fiscal years. The responsibilities of Contractor are limited by this clause notwithstanding any contrary provision of the "Payments to Subcontractors" clause or any other clause of this Subcontract.
- B. The Subcontractor agrees to perform or have performed work up to the point at which, in the event of termination of this Subcontract pursuant to the clause hereof entitled "Termination for Convenience", the total amount payable by the Contractor (including amounts payable in respect of lower-tier subcontracts and settlement costs), pursuant to paragraph E. thereof, would in the exercise of reasonable judgment by the Subcontractor approximate the total amount at the time allotted to this Subcontract. The Contractor shall not be obligated in any event to pay or reimburse the Subcontractor in excess of the amount from time to time allotted to this Subcontract, anything to the contrary in this clause or the clauses hereof entitled "Termination for Convenience" as specified in Article GP-18 and "Payments to Subcontractors" as specified in Article GP-8 of the General Provisions notwithstanding.
- C. It is contemplated that funds presently allotted to this Subcontract will cover the work to be performed in Fiscal Year 1988. In the event funds allotted are considered by the Subcontractor to be inadequate to initiate work, the Subcontractor shall notify the Subcontract Administrator when the work will reach a point at which, in the event of termination of this Subcontract pursuant to the clause hereof entitled "Termination for Convenience", the total amount payable by the Contractor

(including amounts payable in respect of lower-tier subcontracts and settlement costs) pursuant to paragraph E. thereof, will approximate 85% of the total amount then allotted to this Subcontract. Such notice shall be in writing and shall be given not less than 45 days nor more than 60 days prior to the estimated date when such point will be reached. Such notice shall also state the estimated amount of additional funds required to continue performance to the above stated date. The Subcontractor shall, 30 days prior to the date above stated, advise the Subcontract Administrator in writing as to the estimated amount of additional funds which will be required for the timely performance of this Subcontract for the balance of the current fiscal year and the succeeding fiscal year. If after such latter notification, additional funds are not allotted by the date above written or by an agreed date in substitution thereof, the Subcontractor, by written notice delivered to the Subcontract Administrator at any time before such additional funds are allotted, may elect to treat its responsibility to proceed with the work under this Subcontract as having been terminated. Such a termination shall be considered a termination pursuant to the clause hereof entitled "Termination for Convenience".

- D. The Contractor may at any time prior to the Subcontractor's election to terminate as provided in Paragraph C. above, and with the written consent of the Subcontractor after such election to terminate, allot additional funds for continued performance of this Subcontract. The Subcontract Administrator will promptly notify the Subcontractor in writing, of any such allotment and the parties shall: (a) agree on the applicable period of Subcontract performance which shall be covered by such funding; (b) modify Paragraph C. above in order to reflect such extended period of coverage; and (c) modify the amount stated in Paragraph A. above. The provisions of Paragraphs B. and C., above, shall apply to such additional allotted funds and modified period of Subcontract performance.
- E. In the event the Subcontractor incurs additional costs, or is delayed in the performance of the work under this Subcontract, solely by reason of the failure of the Contractor to allot additional funds pursuant to Paragraph D. above in amounts sufficient for the timely performance of this Subcontract, and if additional funds are allotted by the Contractor pursuant to Paragraph D. for continued performance of this Subcontract, then an equitable adjustment may be made in the Subcontract Price (includ-

ing appropriate target, billing and ceiling prices where applicable) or in the time required for the performance of the work, or both, and this Subcontract may be modified in writing accordingly; provided, that the Subcontractor provides to the Subcontract Administrator written notice of its claim of entitlement to an equitable adjustment prior to the end of the period stated in Paragraph C.

- F. Nothing in this clause shall affect the right of the Contractor to terminate this Subcontract pursuant to the clause of this Subcontract entitled "Termination for Convenience".

SC-20 CERTIFIED PAYROLLS

In addition to the copies of certified payrolls that are to be submitted each week to the Subcontract Administrator, one copy will also be submitted to the Site Manager.

SC-21 SUBCONTRACTOR'S LIABILITY

The Subcontractor has total liability for all of his own equipment, supplies, tools, etc., brought on the job site or used in the performance of his Subcontract.

SC-22 MEASUREMENT AND PAYMENT

- A. Unless otherwise provided in the Subcontract Documents, no separate measurement or payment will be made for compliance with the provisions of the General Provisions, General Conditions and Special Conditions. Full compensation for such work will be considered to be included in the related items of Bid Schedule or incidental to the Subcontract.
- B. Payment for the cost of premiums paid by the Subcontractor to obtain performance and payment bonds will be as specified in Article GP-8.E of the General Provisions. The Subcontractor shall quote the price for the premiums by the lump sum in the Bid Schedule. (Bid Schedule Item 002)

END OF SECTION 00800

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Specifications

Division 1
General Requirements

SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.1 PROJECT LOCATION AND ACCESS

- A. Project Location: The Green River inactive uranium mill site is located in Grand County, Utah, approximately one mile southeast of the City of Green River and 1/2 mile south of U.S. Highways 6 and 50. The 48-acre site is in Sections 15 and 22, Township 21 South, Range 16 East, Salt Lake Meridian, and is located between the main line track of the Denver and Rio Grande Western Railroad on the north and recently completed Interstate 70 on the south.
- B. Borrow area for radon barrier is located approximately two miles north of the site.
- C. A borrow source for erosion protection materials approved by the Contractor is located at Fremont Junction (Riprap Types A and B and Bedding), approximately 75 miles by road from the site.

1.2 SCOPE OF WORK

A. General:

- 1. The Work is generally described as site work related to the excavation of contaminated residual radioactive materials from the abandoned uranium mill tailings pile and windblown areas, and placement of these materials in an embankment with a protective cover. The Work is outlined in Article 1.2.B below. Such Work is more fully detailed in the Specifications and Subcontract Drawings included herein.
- 2. The Work includes furnishing all plant, labor, tools, equipment, materials, transportation, and services, and performing all operations necessary for and properly incidental to the construction as shown and noted on the Subcontract Drawings and as specified in these Specifications.

B. The Work Includes:

1. Mobilization: Mobilization as specified in Section 01019.
 2. Construction Facilities: Construction, installation, operation, maintenance and removal of temporary facilities and controls, required during the construction phase of the permanent facilities, are specified in detail in Section 01500. These temporary facilities and controls shall include, but not be limited to, the following:
 - a. Temporary Offices
 - b. Parking Areas
 - c. Janitorial and Snow Removal Services
 - d. Temporary Roads
 - e. Dust Control
 - f. Storage of Materials and Equipment
 - g. Construction Equipment
 - h. Temporary Sanitary Facilities
 - i. Temporary Electric Power
 - j. Temporary Water
 - k. Decontamination Facilities
 - l. Temporary Heat
 - m. Temporary Telephone Service
 - n. Barricades, Lights, and Flag Persons
 - o. Temporary Fences
 - p. Dewatering and Drainage Facilities
 3. Permanent Facilities: Permanent facilities shall include construction of permanent features including, but not be limited to, the following. Permanent facilities are specified in detail in various Specification Sections.
 - a. Construction of tailings embankment.
 - b. Construction of drainage ditch.
 - c. Finish grading and seeding.
 - d. Sealing monitor wells.
 4. Decontamination or demolition of existing buildings.
- C. The above description of the Work is for general information only, and in no way limits the responsibility of the Subcontractor for completing the Work in strict accordance with the Subcontract Drawings and Specifications listed in the Table of Contents.

- D. Environmental Observations: The Work shall be performed in strict accordance with the applicable requirements of EPA, Grand County, and other involved state and federal agencies having jurisdiction, and in accordance with the requirements of General Provisions, General Conditions and Special Conditions.

1.3 OTHER SUBCONTRACTS

- A. Other subcontracts may be in progress during the Work of this Subcontract. The Contractor or his authorized representative will be responsible for coordinating all activities between the subcontractors in accordance with the requirements of Article SC-3.A of the Special Conditions.
- B. Other subcontracts awarded by or for the Department of Energy (DOE) includes Vicinity Properties Subcontracts. The contaminated materials from Vicinity Properties areas are being delivered on the Site and stockpiled in an area near the water storage tank. Estimated quantities are included in the appropriate earthwork items for removal and disposal by the Subcontractor.

1.4 CONSTRUCTION SEQUENCE

- A. Unless otherwise specified, directed, or modified the Subcontractor shall follow the sequence of operations as set forth below and as indicated on the Subcontract Drawings. Full compensation for conforming to such requirements will be considered as included in the related Bid Schedule items of Work and no additional compensation will be allowed therefor:
- B. Meetings will be conducted between the Contractor and Subcontractor prior to starting each sequence of construction listed below. The intent of these meetings is to review and discuss specification requirements for that particular sequence of construction. During these meetings, the Subcontractor shall present a construction plan that will outline and detail the equipment, personnel, schedule, and source, transportation, excavation, placement and compaction of materials proposed for each construction sequence as applicable.
- C. The sequence of operations:
1. Mobilization as specified in Section 01019.

2. Within 120 days of receipt of Notice-to-Proceed, the Subcontractor shall complete demolition and decontamination of all structures, and cleanup of all contaminated materials within the boundary of the existing fence around the mill site buildings, as shown on Subcontract Drawing GRN-PS-10-0503. Demolition, decontamination, removal and disposal of structures, interior fences, and abandoned utilities as specified in Section 02051; sealing of monitor wells as specified in Section 02090; and construction of temporary facilities as specified in Section 01500.
3. Construction of retention basin including spillway; temporary collection ditches; and opening of borrow sites. Placing contaminated material excavated from retention basin and temporary drainage ditches in stockpiles; stockpiling uncontaminated material excavated from retention basin, spillway and temporary drainage ditches for later use as fill; and grading for site drainage.
4. Sequence of excavation of the tailings, construction of the tailings embankment, and finish grading of the site shall conform to the sequence of excavation and placement indicated on the Subcontract Drawings. As the embankment construction nears completion, the impermeable membrane liner in the retention basin and spillway will be demolished and placed within the tailings embankment along with any contaminated sediment settled in the retention basin, spillway and the drainage ditch areas.
5. Construction of the radon barrier layer over the contaminated material in the tailings embankment. The radon barrier layer shall consist of selected uncontaminated material obtained from designated borrow areas.
6. [Placing erosion protection materials over the radon barrier layer.]* The erosion protection materials consist of a layer or layers of bedding material and a layer or layers of stone riprap.
7. Restoration and finish grading of the areas shall be performed as soon as practicable after decontamination of those areas.
8. Site Cleanup: Removal and disposal of stockpiled materials, grading of the borrow sites and removal of site perimeter fencing.

* P.I.D. 10-S-03, Rev. 3

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9. Site Restoration: Grading of the site and the borrow areas to provide drainage including placement of uncontaminated fill, and revegetation.

1.5 BORROW AREA LOCATIONS

- A. The source of radon barrier material has been identified in Section 2, Township 21 South, Range 16 East as shown on the Subcontract Drawings. Access to the source is by Hasting Road north of U.S. Highways 6 and 50.
- B. Contractor-Approved Erosion Protection Materials Source: The Fremont Junction source is located approximately 75 miles west of the site. Access is by Interstate 70 and approximately 2 miles of dirt road east of the existing intersection at Fremont Junction.

1.6 SUBCONTRACT DRAWINGS

- A. A list of Subcontract Drawings and Titles is provided in the Table of Contents of these Subcontract Documents under "Subcontract Drawings".
- B. Where "as shown," "as detailed," "as noted," or words of like meaning are used in the Subcontract Documents, it shall be understood that reference is being made to the Subcontract Drawings unless otherwise specified.

1.7 TIME OF COMPLETION

- A. The Subcontractor shall commence Work under this Subcontract within five (5) calendar days from receipt of a written Notice to Proceed issued by the Contractor, and shall complete the Work within 390 calendar days from the day of starting.
- B. Termination for default, damages for delay and time extensions are specified in Article GP-6 of General Provisions.

1.8 CODES AND STANDARDS

- A. Pursuant to Section GC-3 of the General Conditions, any material, method, or procedure specified by reference to the number, symbol, or title of a specific specification or standard, such as a Commercial Standard, American National Standard, Federal or State Specification, Indus-

try or Government Code, a trade association code or standard, or other similar standard, shall comply with the requirements in the latest revision thereof and any amendments or supplements thereto in effect on the date of Award of the Subcontract, except as limited to type, class or grade, or modified in such reference.

- B. The code, specification or standard referred to, except as modified in these Specifications, shall have full force and effect as though printed in these Specifications. These Specifications and standards are not furnished to bidders because manufacturers and trades involved are assumed to be familiar with their requirements. The Contractor will furnish, upon request, information as to how copies of the specifications and standards referred to may be obtained.

1.9 MANUFACTURERS' SPECIFICATIONS AND INSTRUCTIONS

- A. Unless otherwise indicated or specified, all manufactured materials, products, processes, equipment, or the like shall be installed or applied in accordance with the manufacturers' instructions, directions, or specifications. Said installation or application shall be in accordance with printed instructions furnished by the manufacturer of the material or equipment concerned for use under conditions similar to those at the jobsite. Two copies of such instructions shall be furnished to the Contractor and his acceptance thereof obtained before work is begun.
- B. Any deviation from the manufacturers' printed recommendations shall be explained and acknowledged as correct for the circumstances, in writing by the particular manufacturer. Subcontractor will be held responsible for all installations contrary to the manufacturers' recommendations. If any item of material or equipment is found to be installed not in accordance with the manufacturer's recommendations, Subcontractor shall make all changes necessary to achieve such compliance.

1.10 WORK QUALITY

- A. Shop and field work shall be performed by mechanics and workers skilled and experienced in the fabrication and installation of the work involved. All work on this Project shall be performed in accordance with the best practices of the various trades involved and in accordance with the Subcontract Drawings and these Specifications.

- B. All Work shall be erected and installed plumb, level, square and true, or true to indicated angle, and in proper alignment and relationship to the work of other trades. All finished work shall be free from defects and damage.
- C. The Contractor reserves the right to reject any materials and work which are not considered to be up to the highest standards of the various trades involved. Such inferior material or work shall be repaired or replaced, as directed, at no additional cost to the Contractor or extension of Subcontract time.

1.11 FIELD MEASUREMENT AND TEMPLATES

Subcontractor shall secure all field measurements required for proper and accurate fabrication and installation of the work included in this Subcontract. Exact measurements are the Subcontractor's responsibility. Subcontractor shall also furnish or obtain all templates, patterns, and setting instructions required for the installation of all work. All dimensions shall be verified by the Subcontractor in the field.

1.12 ACCESS TO WORK

- A. Pursuant to the provisions of Article GP-11 of the General Provisions, the authorized agents of the following agencies will also have the right to inspect all work covered by these Subcontract Documents during the performance of this Subcontract:
 - 1. United States Department of Energy (DOE)
 - 2. United States Nuclear Regulatory Commission (NRC)
 - 3. State of Utah
 - 4. Grand County
- B. The inspections will be performed in conjunction with an inspection by the Contractor. Reasonable facilities for the proper handling and inspection of any documents, and the Work shall be furnished by the Subcontractor.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

(Not Used)

END OF SECTION 01010

SECTION 01019

MOBILIZATION

PART 1 - GENERAL

1.1 SCOPE

A. This Specification Section covers the following:

1. Organization and mobilization of Subcontractor's forces and equipment;
2. Transporting construction plant and equipment to the site and setting up of same;
3. Transporting tools, materials, and equipment to the site; and
4. Construction, installation, operation, maintenance and removal of construction facilities not included for payment under Section 01500 but required for initial construction operations.
5. Subsequent removal of construction equipment, materials, and supplies including decontamination of equipment and facilities, cleaning of equipment for salvage, cleaning of the site, and restoration and reseedling of the offsite temporary roads.

1.2 RELATED WORK

Construction, installation, operation, maintenance and removal of construction facilities and other mobilization items are specified in the General Conditions, Special Conditions and in Section 01500.

1.3 DESCRIPTION

A. Mobilization shall include:

1. Mobilization of all construction equipment, materials, supplies, appurtenances, and the like, manned and ready for commencing and performing the Work.

2. Assembly and delivery to the site of plant, equipment, materials, and supplies necessary for the performance of the Work but which are not intended to be incorporated in the work; the preparation of the Subcontractor's work area; the complete assembly, in working order, of equipment necessary to perform the required work; personnel services preparatory to commencing actual work; and all other preparatory work required to permit commencement of the actual work on construction items for which payment is provided under the Subcontract.
3. Decontamination of construction facilities, equipment, materials, supplies, appurtenances; and cleaning of equipment for salvage.
4. Subsequent removal from the site of all construction equipment, materials, supplies, appurtenances, and the like upon completion of the Work.
5. Construction, installation, operation, maintenance and subsequent removal and disposal of construction facilities not included for payment under Section 01500; and cleaning of the site as required by the Contractor.
6. Maintenance of existing fences.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Measurement for payment for mobilization will be by the lump sum basis.

4.2 PAYMENT

- A. Payment for mobilization will be made at the lump sum price quoted therefor in the Bid Schedule, and shall include all items as specified herein. Payment will be made as follows:
1. Payment of 50 percent of the lump sum price will be made upon completion of "move-in". Move-in is defined as organization of the Subcontractor's manpower and equipment, transporting equipment to the site, and installation of Subcontractor's field office and other supporting structures.
 2. Payment of the remaining 50 percent of the lump sum price will be made upon completion of work corresponding to 10 percent of the total price quoted in the Bid Schedule exclusive of the price quoted for mobilization.
- B. Payment for furnishing, installing, operating, maintaining and subsequent decontaminating and removing of construction facilities not included in the payment provisions under other sections will be considered to be included in the Bid Schedule item for Mobilization.

END OF SECTION 01019

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SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section covers descriptions of measurement and payment as they apply to this Subcontract. The provisions of this Section shall be supplemental to the requirements specified in General Provisions, General Conditions and Special Conditions.
- B. Measurement methods specified in the individual Sections of these Specifications shall govern if they differ from methods specified in this Section.
- C. The Subcontractor shall compute all quantities. Where necessary, such computations will be based upon surveys performed by the Subcontractor. [However, the Contractor or an appropriate third party will perform measurement verification surveys for final payment for each item requiring surveys for payment.]*

1.2 RELATED WORK

- A. General Provisions - Article GP-8: Payments to Subcontractor.
- B. General Conditions - Section GC-4B: [Text deleted]* Progress Payments.
- C. Section 00800 - Special Conditions: Article SC-17, Variations in Quantities.
- D. Section 01052 - Layout of Work and Surveys.
- E. Section 01300 - Submittals: Schedule of Values and Progress Payment Schedule.

1.3 MEASUREMENT OF QUANTITIES

- A. Measurement Standards: All work to be paid for at a Contract price per unit of measurement will be measured in accordance with United States Standard Measures. A ton shall consist of 2,000 pounds avoirdupois.

* P.I.D. 10-S-01

B. Measurement by Weight:

1. Reinforcing steel, steel shapes, castings, miscellaneous metal, metal fabrications, and similar items, to be paid for by weight, shall be measured by scale or by handbook weights for the type and quantity of material actually furnished and used.
2. Material to be measured and paid for by weight shall be weighed on accurate, Contractor-approved scales, furnished by and at the expense of the Subcontractor. Use platform scales of sufficient size and capacity to permit the entire vehicle or combination of vehicles to rest on the scale platform while being weighed. Combination vehicles may be weighed as separate units provided they are disconnected while being weighed. All scales shall be inspected and certified as often as the Contractor may deem necessary to ascertain accuracy. Costs incurred, as a result of regulating, adjusting, testing, inspecting, and certifying scales, shall be borne by the Subcontractor.
3. The Contractor may be present to witness the weighing and to check and compile the daily record of such scale weights; however, in any case, the Contractor will require that the Subcontractor furnish weigh slips and daily summary weigh sheets. A duplicate weigh slip or a load slip for each vehicle weighed shall be delivered to the Contractor at the point of delivery of the material.
4. If the material is shipped by rail, the certified car weights will be accepted, provided that only actual weight of material will be paid for and not minimum car used for assessing freight tariff. Car weights will not be acceptable for material to be passed through mixing plants.
5. Trucks used to haul material being paid for by weight, shall be weighed empty daily and at such additional times as the Contractor may require. Each truck shall bear a plainly legible identification mark. The Contractor may require the weight of the material verified by weighing empty and loaded trucks on such other scales as the Contractor may designate.

C. Measurement By Volume:

1. Measurement by volume will be by the cubic dimension listed or indicated in the Bid Schedule. Method of

volume measurement will be as specified in the Specifications or as determined or directed by the Contractor.

2. When material is to be measured and paid for on a volume basis and it is impractical to determine the volume by the specified method of measurement, or when requested by the Subcontractor in writing and accepted by the Contractor in writing, the material will be weighed in accordance with the requirements specified for weight measurement. Such weights will be converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Contractor and shall be agreed to by the Subcontractor before such method of measurement of pay quantities will be accepted.

D. Measurement by Area: Measurement by area will be by the square dimension listed or indicated in the Bid Schedule. Method of square measurement will be as determined or directed by the Contractor.

E. Linear Measurement: Linear measurement will be by the linear dimension listed or indicated in the Bid Schedule. Method of linear measurement will be as determined or directed by the Contractor. Generally, items, components, or work to be measured will be measured at the centerline of the item in place.

F. Lump-Sum Measurement:

1. Lump-sum measurement will be for the entire item, unit of work, structure, or combination thereof, as listed or indicated in the Bid Schedule.
2. If the Subcontractor requests progress payments for lump-sum items or amounts in the Bid Schedule, such progress payments will be made in accordance with a Schedule of Values for that item as specified in Section GC-4B of the General Conditions and Article SC-15 of the Special Conditions.

1.4 FIELD MEASUREMENT FOR PAYMENT

- A. The Subcontractor shall compute all quantities of Work performed or of materials and equipment delivered to the site, for payment purposes.

- B. The Subcontractor shall assist the Contractor in the taking of measurements by providing all equipment, workers, and survey crews, as required, for verification of quantities by the Contractor in accordance with the provisions of Section 01052 of these Specifications.
- C. All such assistance in measurement services required of the Subcontractor, as specified, shall be performed under the direction and supervision of the Contractor.

1.5 PAYMENT

- A. Payment will be full compensation for furnishing all labor, materials, tools, equipment, transportation, services, and incidentals, as specified, in Article GP-8 of the General Provisions and Section GC-4B of the General Conditions, and for performing all work necessary for completing the erection or installation of the item or work classification, including all adjusting and balancing, testing, cleaning, and all other incidental work.
- B. Full compensation for all expense involved in conforming to the requirements for measuring materials or work shall be considered as included in the unit or lump-sum prices paid for the materials or work being measured, and no additional compensation will be permitted therefor.

1.6 VALUES OF UNIT PRICES

- A. The number of units and quantities contained in the Bid Schedule are approximate only, and final payment will be made for the actual number of units and quantities which are incorporated in or made necessary by the Work included in this Subcontract.
- B. In the event that work and/or materials or equipment are required to be furnished to a greater or lesser extent than is indicated by the Subcontract Drawings and Specifications, such work and/or materials or equipment shall be furnished in greater or lesser quantities, and the adjustment in unit price shall be made as specified in Article SC-17 of the Special Conditions.

1.7 REJECTED MATERIALS

Quantities of material wasted or disposed of in a manner not called for under the Subcontract; rejected loads of material, including material rejected after it has been placed by reasons of the failure of the Subcontractor to conform to the provisions of the Subcontract; material not unloaded from the transporting vehicle; material placed outside the limits indicated on the Subcontract Drawings or established by the Contractor; or material remaining on hand after completion of the Work, will not be paid for, and such quantities shall not be included in the final total quantities. No compensation will be permitted for loading, hauling, and disposing of rejected material.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Separate measurement for payment will not be made for work required under this Section.

4.2 PAYMENT

Separate payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included in the related item of work in the Bid Schedule, or incidental to the Subcontract.

END OF SECTION 01025

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SECTION 01052

LAYOUT OF WORK AND SURVEYS

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section covers the procedures and accuracy requirements for the following survey services:
 - 1. Layout and performance of work.
 - 2. Field measurement of work quantities for payment purposes.
- B. Before commencing any layout of work and surveys, the Subcontractor shall give the Contractor five working days written notice in advance so that the Contractor may witness such work.
- C. [Paragraph deleted]*

1.2 DESCRIPTION

- A. Reference Points: The reference points to be provided by the Contractor [text deleted]* will include referenced monuments and elevation bench marks in the vicinity of the project. Initial reference points will be furnished by the Contractor. Replacement of survey stakes by the Contractor will be charged to the Subcontractor at a rate of \$150 per hour. All other necessary reference points shall be established by the Subcontractor.
- B. The Subcontractor shall furnish all necessary detail surveys including all lines, grades, and appropriate surveys as specified.
- C. The Contractor reserves the right to perform any desired checking and correction of the Subcontractor's surveys but this shall not relieve the Subcontractor of responsibility for the adequate performance of the Work.

* P.I.D. 10-S-01

- D. **Equipment and Personnel:** The Subcontractor's instruments and other survey equipment shall be accurate, suitable for the surveys required in accordance with recognized professional standards, and in proper condition and adjustment at all times. Survey work shall be done by experienced personnel under supervision of a licensed surveyor.
- E. **Field Notes and Records:** The Subcontractor shall record surveys in duplicate page field notebooks. The original pages of such records shall be furnished to the Contractor at intervals required by the Contractor. A duplicate of each field notebook shall be furnished to the Contractor when filled or completed.
- F. **Use by the Contractor:** The Contractor may at any time use line and grade points and markers established by the Subcontractor. The Subcontractor's surveys are a part of the Work and may be checked by the Contractor or representatives of the Contractor at any time. The Subcontractor shall be responsible for any lines, grades, or measurements which do not comply with specified or proper tolerances, or which are otherwise defective, and for any resultant defects in the Work. The Subcontractor will be required to conduct re-surveys or check surveys to correct errors indicated by review of the field notebooks or otherwise detected.

1.3 SURVEYS FOR LAYOUT AND PERFORMANCE

The Subcontractor shall perform all surveys for layout and performance of the Work, and shall reduce the field notes and make all necessary calculations and drawings necessary to carry out the Work.

1.4 SURVEYS FOR MEASUREMENT FOR PAYMENT

When the Specifications or the Contractor require Bid Schedule items of work to be measured by surveying methods, the Subcontractor shall perform the surveys. All such surveys, including control surveys run for establishing the measurement reference lines, shall be performed in the presence of the Contractor (or a representative of the Contractor) who will witness the surveying operation by signing the field notes or keeping duplicate field notes, at the Contractor's option. The Subcontractor will reduce the field notes and calculate final quantities for payment purposes. A duplicate of the note reductions and calculations will be given to the Contractor.

1.5 SURVEYING ACCURACY AND TOLERANCES IN LAYOUT OF SURVEY STAKES

A. Tolerances in layout of Work shall not exceed the following:

<u>Type of Line or Mark</u>	<u>Horizontal Position</u>	<u>Elevation</u>
Permanent reference points	1 in 10,000	± .01 ft.
General Excavation and earthwork	1 in 2,000	± .10 ft.

B. Tolerances for designed thicknesses shown on Subcontract Drawings with the exception of erosion protection materials, and for elevations shown on the Subcontract Drawings shall be ± 0.10 foot. Tolerances on erosion protection material thicknesses are specified in Section 02278.

C. These tolerances shall not supersede stricter tolerances required by the Drawings or Specifications, or by the governing authorities, and shall not otherwise relieve the Subcontractor of responsibility for measurement in compliance therewith.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Separate measurement for payment will not be made for work required under this Section.

4.2 PAYMENT

Separate payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included in the related item of work in the Bid Schedule, or incidental to the Subcontract.

END OF SECTION 01052

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Specification Section describes the requirements for the following submittals:

1. Technical Submittals:

- a. Schedule of Technical Submittals
- b. Shop Drawings
- c. Samples
- d. Product Data
- e. Manufacturer's Instructions
- f. Design Calculations and Design Drawings
- g. Winter Shutdown Plan

2. General Submittals:

- a. Schedule of General Submittals
- b. Site Mobilization Schedule
- c. Project Construction Schedule
- d. Schedule of Values/Cost Profile
- e. Labor and Equipment Rates

3. Submittals Not Requiring Approval:

- a. Weekly Status Reports
- b. Weekly Manhour Reports/Employee Roster
- c. Certified Payroll
- d. Monthly Schedule Updates

B. The requirements specified in this Section shall be supplemental to the requirements specified in General Provisions, General Conditions, Special Conditions and any other requirements specified in individual sections.

C. All submittals shall be in the English language.

D. The Subcontractor shall submit all submittals to the Site Manager. A copy of the submittal, marked "Information Only", shall be sent to the Subcontract Administrator by the Subcontractor.

E. Technical and General Submittals shall be numerically serialized by type, Technical Submittal with a "T" prefix (T-1, T-2, T-3, etc.) and General Submittals with a "G" prefix (G-1, G-2, G-3, etc.).

F. The Site Manager will clearly label the submittals as follows and return to the Subcontractor:

1. Approved
2. Approved as Noted
3. Revise and Resubmit
4. Rejected
5. Information Only

G. When submittals are returned marked with either "Revise and Resubmit" or "Rejected" the Subcontractor shall make such revisions and corrections as required and resubmit the submittal with the same submittal number followed by R1 (Revision One). Example: T-5 - R1.

1.2 TECHNICAL SUBMITTALS

A. Schedule of Technical Submittals:

[1. The Subcontractor shall complete a Technical Submittals Schedule listing all technical submittals required by this Section.]*

2. The Technical Submittals Schedule shall separate submittals by major specification section. This schedule shall include submittal delivery dates, required return dates, material delivery dates, and other pertinent data which may be required to ensure that the project schedule is met by the Subcontractor.

3. This Schedule shall be continually updated to reflect progress and any additions or deletions to the submittal schedule. Copies of the updated schedule shall be furnished to the Contractor during the first week of each calendar month.

B. Shop Drawings:

[Text deleted]*

[1.]* Shop drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation of adjoining work, and incorporate minor changes of design or construction to suit actual conditions. Shop drawings shall be drawn to scale and shall be completely dimensioned.

* P.I.D. 10-S-01

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- [2.]* Sheet sizes of shop drawings shall be 8 1/2 inches x 11 inches, 11 inches x 17 inches, or 22 inches x 34 inches.
- [3.]* A clear space of 3 inch by 3 inch shall be provided on each drawing for the Contractor's review stamp and comments.
- [4.]* Shop drawings shall be submitted to the Contractor in the form of a reproducible transparency, together with three blackline or blue-line prints.
- [5.]* After the Contractor has completed his review of shop drawings, he will return one print to the Subcontractor indicating the approval status as described in Article 1.1.D.
- [6.]* The Contractor will review and generally return shop drawings within ten days of receipt by the Subcontract Administrator but in no case will this process take longer than thirty days.

C. Samples:

[Text deleted]*

- [1.]* The Subcontractor shall furnish the Contractor at least three samples of each of the various materials, together with the finish thereon, as specified for and intended to be used on or in the work. Samples shall be sent to the Contractor.
- [2.]* The Subcontractor shall submit all samples to the Contractor at least 21 days before purchasing, fabricating, applying, or installing such materials and finishes, unless otherwise stated. The Contractor will review the samples for visual aspects such as kind, color, pattern, and texture, and will approve or ask for resubmission of samples generally within ten days but in no case longer than thirty days of the Subcontractor's submission. All approvals of samples will be given by the Contractor in writing.
- [3.]* Unless otherwise specified in the various sections of these specifications, the Subcontractor shall submit all samples, other than field samples, in triplicate. A cover letter shall accompany the sample and shall list all items being transmitted, designating their particular usage and location in the project.

* P.I.D. 10-S-01

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[4.]* After the Contractor has performed his review and analysis of samples, two samples will be retained and the remaining sample will be returned to the Subcontractor together with the Contractor's comments.

[5.]* Samples shall be submitted and resubmitted until approved as satisfactory. Approval of a sample shall not be taken in itself to change or modify any Subcontract requirement.

All materials, color, pattern and texture in the completed building or structure shall be equal in every respect to that of the approved samples.

[6.]* Each sample shall be identified completely as to product, color, manufacturer, trade name, lot, style, model, location of use, and Subcontract Document reference, as well as the names of the Subcontractor, Supplier, Project and Contractor.

[7.]* Test samples, as designated by the Contractor, may also be selected from the materials or equipment delivered by the Subcontractor to the site for use in the work. If any test sample fails to meet the specification requirements, such materials or equipment which fail the testing, shall be removed and replaced by the Subcontractor with materials or equipment meeting the Specification requirements.

[8.]* Field samples shall be prepared at the site by the Subcontractor in the manner and number as specified in these specifications. Affected finish work shall not be commenced until the Contractor has approved the field samples, in writing.

D. Product Data:

1. Each copy shall be marked to identify applicable products, models, options, and other data; manufacturers' standard data shall be supplemented to provide information unique to the work.
2. The Subcontractor shall submit the number of copies which the Subcontractor requires to be returned, plus two copies which will be retained by the Contractor.

E. Manufacturer's Instructions: When required by the manufacturer's warranty requirements, the Subcontractor shall submit manufacturer's printed instructions for delivery, storage, shelf life assembly, installation, adjusting, and finishing.

* P.I.D. 10-S-01

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F. Design Calculations and Design Drawings:

1. Design Calculations: When requested by the Contractor, design calculations shall be submitted to the Contractor for review with all pertinent data, assumptions, objective, criteria, applicable codes, standards and references. The calculations shall be on 8-1/2 by 11-inch or 11 by 17-inch sheets. Each design calculation set shall bear page numbers, titles, revision numbers, date and calculation number. Where multiple number of items are designed in a particular system, the calculations shall be preceded by a table of contents.
2. Design Drawings:
 - a. When requested by the Contractor, design drawings shall be submitted to the Contractor for review.
 - b. Pertinent requirements of Article 1.2.B of this Section shall be applicable for submittal of design drawings.

G. Winter Shutdown Plan: A winter shutdown plan will be required for sites which will shutdown or limit operations for the winter season. This plan [shall be submitted not later than October 31, 1988, and shall include]* grading modification drawings, product data and a narrative of the steps the subcontractor will take to address the following subjects:

1. Erosion from wind and water runoff of both contaminated and uncontaminated areas.
2. Slope protection.
3. Temporary ditching.
4. Grading of excavations and embankments to drain.
5. Segregation of contaminated and non-contaminated runoff.
6. Reduction of water in the retention basin to allow for spring snow melt.
7. Protection of all equipment and piping from damage due to freezing.
8. Other items which may be required by the Contractor.

* P.I.D. 10-S-01

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1.3 GENERAL SUBMITTALS

A. Schedules and Reports:

- [1. The Subcontractor shall prepare and submit a schedule of General Submittals listing all General Submittals required by this Section.]*
2. The schedules and reports shall describe the Subcontractor's work plan in sufficient detail as delineated below to provide:
 - a. Assurance to the Contractor that the finished work complies accurately with the Subcontract Documents, and the requirements of Section GC-4 of General Conditions are satisfied,
 - b. A basis for determining the progress of the work, and
 - c. A basis for the Contractor's internal planning activities.
3. Within fifteen calendar days after Notice to Proceed, the Subcontractor shall provide the Contractor with initial copies of the General Submittals specified in this Section. The cost profile shall be submitted within 30 calendar days.
4. The schedules shall be in a reproducible form and all of the same scale or may be combined at the option of the Subcontractor.
5. Unless otherwise specified, the schedules shall be presented in graphic format and shall be updated for each construction meeting, or at least monthly, and transmitted to the Contractor.
6. The Subcontractor shall obtain approval of the various schedules specified in this section before submitting the first application for payment. Schedule revisions also require Contractor approval.

- B. Schedule of General Submittals: The Subcontractor shall complete the attached General Submittals Schedule, listing all General Submittals required per this section.

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C. Site Mobilization Schedule:

1. Format: The Subcontractor shall present, at the pre-construction meeting, the schedule for site mobilization in bar chart format. The schedule shall delineate the establishment of the temporary facilities identified in Section 01500 and the Subcontractor's plan for starting the work.
2. Written Narrative: The Site Mobilization Schedule shall be accompanied by a written narrative discussion of the schedule. The narrative shall provide a man-power level by month for the first three months of the job, transportation routes proposed for delivery of major construction equipment to be used on the project, identification of special permits required and when they are needed, and a description of the temporary facilities to be provided.
3. Status and Progress: The status of mobilization schedule items will be reported in the Weekly Status Report discussed below.

D. Project Construction Schedule:

1. Scheduling: A preliminary issue of the Project Construction Schedule shall be prepared for review at the preconstruction meeting. Fifteen days after receipt of Notice to Proceed the Subcontractor shall issue the Project Construction Schedule for approval and issue the approved Project Construction Schedule ten days after receipt of approval and comments from the Contractor.
2. Format: The Project Construction Schedule shall consist of the following items, each compatible with the other and developed from the same basis:
 - a. Method of Construction Narrative
 - b. CPM Schedule: A time scaled Critical Path Method (CPM) Schedule which depicts proper restraints, activity durations, total float and free float for each schedule activity.
 - c. Critical Milestone Dates as listed below:
 - 1) Start/complete mobilization.
 - 2) Start/complete site preparation.
 - 3) Start/complete demolition and decontamination of structures.

- 4) Start/complete tailings placement.
- 5) Start/complete radon barrier material placement.
- 6) Start/complete erosion protection material placement.
- 7) Start/complete site restoration.
- 8) Start/complete demobilization.

d. Schedule of Values

3. Method of Construction: Method of construction submitted at the preconstruction meeting with the preliminary schedule shall be a written discussion of the Subcontractor's methods for completing the work. The Subcontractor shall briefly describe his approach to the Subcontract.
4. The Use of Schedule Float: In as much as the Subcontractor's Schedule represents the Project Construction Schedule, the calculated float for an activity is shared by the Subcontractor and Contractor. Adjustments to the schedule float will be equitably resolved by the Contractor.
5. Computer Generated Schedule: The Subcontractor may generate the CPM Schedule manually or by using a computer. The CPM Schedule shall include all significant items of Work.
6. Comments Incorporated: The Subcontractor shall incorporate the Contractor's comments into revisions of the Project Construction Schedule, adjust the manpower loading as required and resubmit the schedule to the Contractor for approval along with a summary of the changes.
7. Revisions made to the schedule will be given a new revision number and submitted to the Contractor for approval. A written narrative shall accompany any changes to the logic and/or durations of the Construction Schedule. This narrative shall explain in detail what the change involves, the reason for the change, and any effect to the critical path of the schedule.

E. Schedule of Values/Cost Profile:

1. Each time a construction schedule is submitted, it shall be accompanied by a Schedule of Values for the entire Scope of Work. The Schedule of Values shall conform to the format sample [(01300-A)]* provided with

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this Section. The Schedule of Values shall be based upon that specific revision of the Construction Schedule, and presented in such a format to clearly provide total period and cumulative cost information each month for the entire duration of the Subcontract. This Schedule of Values shall be in a form which will provide a correlation between the subcontract bid items and the Subcontractor's schedule activities. The Subcontractor may, at his own risk, plan work in excess of the funding limitations outlined in the Special Conditions.

2. The format and the substance of the finalized Schedule of Values shall be as approved by the Contractor.

F. Labor and Equipment Rates: The Subcontractor shall submit labor and equipment rates as stipulated in Subcontractor Labor and Equipment Rates of the Special Conditions.

1.4 SUBMITTALS NOT REQUIRING APPROVAL

A. The Subcontractor shall furnish the following submittals for information only. These submittals will not be approved and returned to the Subcontractor.

1. Weekly Status Reports: The Subcontractor shall submit a Weekly Status Report to the Contractor by [Friday noon of that week]*. The report shall be on a form satisfactory to the Contractor, and shall include items such as a Summary of Work completed and a Two-Week Look Ahead Bar Chart.

2. Weekly Manhour Reports/Employee Roster: The Subcontractor shall provide a weekly employee roster listing all Subcontractor and lower-tier subcontractor employees. The Subcontractor shall also tabulate total manhours worked each week including manhours spent by lower-tier Subcontractor's personnel, craft, supervision, management and submit this information to the Contractor. The manhour report shall include separate totals for each craft and administrative classification.

3. Certified Payrolls: Certified Payrolls are to be submitted in strict compliance with Section 10 of MK-Ferguson Company Standard Documents Package for proposed construction subcontracts.

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4. Monthly Schedule Updates: The Subcontractor shall submit an updated schedule, with the Critical Milestones clearly identified, by the first of each month. The status of the CPM Schedule shall indicate percent complete by activity, remaining duration of in-progress activities, total float and free float for each schedule activity.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Separate measurement for payment will not be made for work required under this section.

4.2 PAYMENT

Separate payment will not be made for work required under this section. All costs in connection therewith shall be considered to be incidental to the applicable items of work to which they pertain.

END OF SECTION 01300

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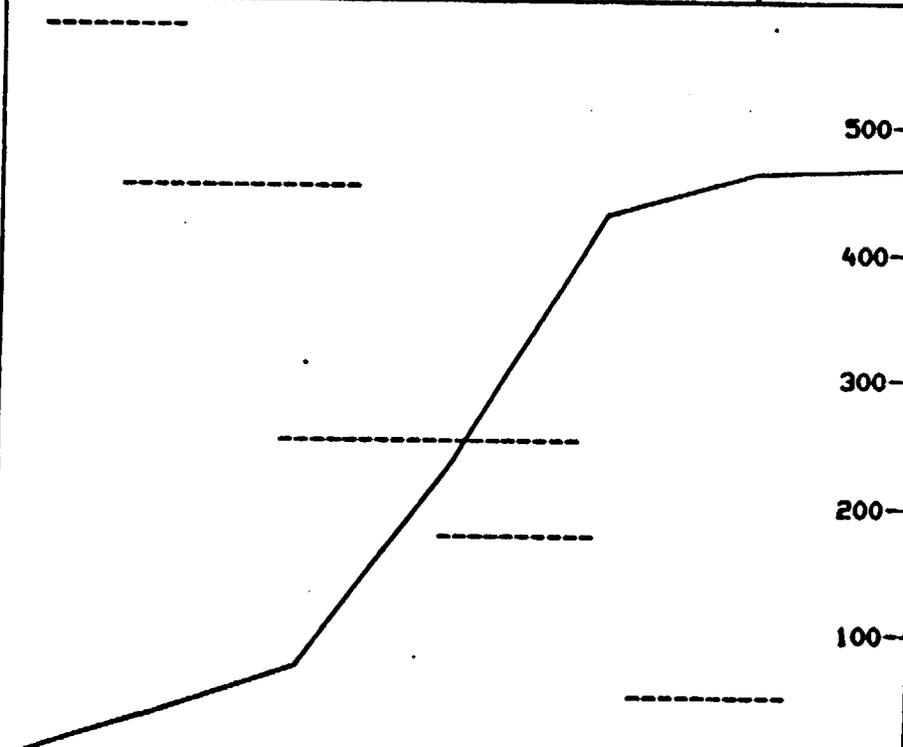
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UMTRA PROJECT
SUBCONTRACT DOCUMENTS _____
SCHEDULE OF VALUES

SAMPLE

01300 - A

DESCRIPTION	SCHEDULE ACTIVITY NUMBER	BID ITEM		1987						TOTAL DOLLARS
		NUMBER	PERCENT	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	
										
MOBILIZATION	1	001	50%							\$32,000
INSTALL FENCE AT CONTRACT- OR'S OFFICE	2	901 902	25% 100%							\$57,000
EXCAVATION (TAILINGS)	3	204	100%							\$320,000
INSTALL REMAINING FENCE	4	901	75%							\$21,000
DEMOBILIZATION	5	001	50%							\$32,000
TOTAL:				\$31,000	\$40,000	\$152,000	\$207,000	\$30,000	\$2,000	\$462,000
		PERIOD		\$31,000	\$71,000	\$223,000	\$430,000	\$460,000	\$462,000	
		CUMULATIVE		\$31,000	\$71,000	\$223,000	\$430,000	\$460,000	\$462,000	

CONSTRUCTION START DATE: 3/10/87
CONSTRUCTION COMPLETION DATE: 8/07/87

SECTION 01500

CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section covers the requirements for the construction facilities.
- B. Construction facilities shall include, but not be limited to, the following temporary offices, utilities, equipment, materials and services:
 - 1. Temporary Offices
 - 2. Parking Areas
 - 3. Janitorial and Snow Removal Services
 - 4. Temporary Roads
 - 5. Dust Control
 - 6. Storage of Materials and Equipment
 - 7. Construction Equipment
 - 8. Temporary Sanitary Facilities
 - 9. Temporary Electric Power
 - 10. Temporary Water
 - 11. Decontamination Facilities
 - 12. Temporary Heat
 - 13. Temporary Telephone Service
 - 14. Barricades, Lights, and Flag Persons
 - 15. Temporary Fences
 - 16. Dewatering and Drainage Facilities
- C. The Subcontractor shall be responsible for furnishing, installing, constructing, operating, maintaining, removing and disposing of the facilities as shown on the Subcontract Drawings, as specified in this Specification, and as required by the Contractor for the completion of the Work under the Subcontract.
- D. All such temporary facilities shall be located as shown on the Subcontract Drawings, or as directed, and maintained in a clean, safe and sanitary condition at all times until completion of the Subcontract.
- E. Upon completion of the Subcontract, the temporary facilities shall be left in the status specified in Article 1.22 of this Section.

- F. The requirements specified herein are in addition to any requirements specified elsewhere in the Subcontract Documents. Temporary facilities shall meet the requirements for all-weather service.
- G. All land disturbances related to the temporary facilities shall be minimized to the greatest extent possible and the land restored to the extent reasonable and practical, to its original contours by grading to provide positive drainage and by seeding the area to match with existing vegetation. Required facilities shall not be placed on contaminated materials. Removal of contaminated materials is described in Section 02200.

1.2 RELATED WORK

- A. Section 00800 - Special Conditions: Definitions
- B. Section 01019 - Mobilization: Payment
- C. Section 02141 - Dewatering and Drainage
- D. Section 02200 - Earthwork

1.3 APPLICABLE PUBLICATIONS

- A. 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:
 - 1. UMTRA Project Construction Safety and Health Management Program (MK-UMTRA-4)
 - 2. State of Utah, Standard Specifications for Road and Bridge Construction, 1979 Edition and Subsequent Revisions, as applicable.
 - 3. Uniform Building Code (UBC): [1988]* Edition, applicable Chapters and Sections.
 - 4. National Fire Protection Association (NFPA), as applicable.
- B. All required facilities, equipment and utilities shall also be constructed/installed, maintained and operated in accordance with applicable Federal, State, County, and Utility laws, rules, and regulations. Notwithstanding contrary provisions of General Provisions, General Condi-

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tions and Special Conditions, nothing in the Subcontract Drawings and Specifications shall be construed to permit work not conforming to the above.

1.4 TEMPORARY OFFICES

- A. Existing office building and service utilities shall be decontaminated as specified in Section 02051 and as required by the Contractor.
- B. Modifications and improvements will consist of the following with the applicable requirements of the local building and plumbing codes and health department regulations.
 - 1. Fix doors and windows
 - 2. Water supply
 - 3. Sanitary Systems
 - 4. Plumbing
- C. After the building is decontaminated, and the structure and the utilities are brought to the occupancy standard, the building shall be used for the following purposes:
 - 1. Contractor's Offices
 - 2. Subcontractor's Offices
- D. The Subcontractor shall visit the site to determine the work and the cost involved to modify and improve the structure and the utilities to the operational standards in accordance with the requirements of the local building and plumbing codes.
- E. Access and Quality Control Trailer:
 - 1. Additionally, the Subcontractor shall furnish and install an Access and Quality Control Trailer, 720 S.F. (12 ft. x 60 ft.), for the Contractor's staff (including Contractor's Quality Control staff) in the approximate location shown on the Subcontract Drawings. The final location of the trailer shall be as approved by the Contractor prior to setting in place.
 - 2. The trailer shall be divided into three compartments by partitions with openings in the partitions, as required by the Contractor, to serve the following purposes. Each compartment shall be provided with a separate outside entry door and steps.

- a. Access control
 - b. Quality control
3. The trailer shall contain, as a minimum, the following facilities:
- a. [A full length counter and large wash sink.]*
 - b. Wash basin.
 - c. Single shower and change facility for occasional use by personnel working on the site.

[4.]* The trailer shall be provided with adequate stairs, stoops, and hand railings. Utilities shall be designed and constructed to provide service without interruption during extreme weather conditions.

- F. The trailer and the office building shall be provided with running water and power, and shall be properly lighted and temperature conditioned for summer and winter uses. Wash basins, [text deleted]* and shower shall be connected to sanitary facilities specified in Article 1.11.

1.5 PARKING AREAS

- A. No personal vehicles will be permitted inside the construction controlled work area. Vehicles used for construction purposes will be allowed inside the work area, but will be monitored for radioactive contamination at the access gate or control point before leaving the area.
- B. Subcontractor shall provide aggregate surfaced parking area for maintenance and delivery vehicles, the Contractor's and Subcontractor's representatives, and for other authorized visitors, as indicated on the Subcontract Drawings. Parking for personal cars shall be limited to the Contractor's and Subcontractor's office areas.

1.6 JANITORIAL AND SNOW REMOVAL SERVICES

- A. The Subcontractor shall provide daily janitorial, and snow removal when required, services including, but not limited to, the following for Contractor's office building, access and quality control trailer, toilet facilities, Contractor's office area, and the access control area:

1. Sweep, vacuum, mop, and, if required, polish floors.

* P.I.D. 10-S-01

2. Clean toilets, doors and windows, office furniture.
 3. Collect and dispose of office and yard solid waste.
 4. Furnish paper, soap, cups, napkins, light bulbs, etc.
 5. Operate and maintain trailer services including, but not limited to, the water supply and wastewater collection systems; heating, ventilating and air-conditioning system; and lighting and security systems.
 6. Remove snow from the walkways to the office trailers and from the parking areas.
- B. Janitorial services shall be provided throughout the period of the Subcontract.

1.7 TEMPORARY ROADS

- A. Temporary roads as defined in Article SC-1 of the Special Conditions shall meet the following requirements:
1. Construction shall be coordinated with and shall be as approved by the Contractor.
 2. Thirty days prior to the start of roadway work, the Subcontractor shall submit, for review and approval, improvement drawings to the Contractor prior to initiation of construction work on any roads. The drawings shall indicate approval by the agency having jurisdiction over such roads.
 3. The Subcontractor shall coordinate all road construction activities with local utilities, fire and police departments.
 4. Erosion shall be kept to a minimum and suitable grades and radii of curves shall be maintained to facilitate ease of movement of vehicles and equipment.
- B. Longitudinal and cross drainage facilities including, but not limited to, the ditches, structures, pipes and the like shall be furnished and installed by the Subcontractor.

1.8 DUST CONTROL

- A. Dust control shall consist of furnishing water, required equipment, additives, accessories and incidentals, and carrying out proper and efficient measures wherever and as often as necessary to reduce dust nuisance, and to prevent

dust originating from construction operations and causing damage to crops, orchards, cultivated fields, and dwellings, or causing a nuisance to persons during the completion of the Subcontract, as required by the Contractor.

- B. Water shall be applied by means of pressure-type distributors or pipe lines equipped with a spray system or hoses with nozzles that will insure a uniform application of water. [Pursuant to the air quality permit requirements, water shall be applied at a minimum application rate of 0.5 gallon per square yard every two hours unless daily rainfall exceeds 0.10 inch or roads and operational areas are in a muddy or snowpacked condition.]*
- C. All equipment used for the application of water shall be equipped with a positive means of shut-off.
- D. Unless otherwise permitted by the Contractor or unless all the water is applied by means of pipelines, at least one mobile unit with a minimum capacity of 5,000 gallons shall be available in operating conditions at the site for applying water on the project at all times.
- E. To conserve water, the Subcontractor may use chemical additives in dust control water. If such additives are used, furnishing and applying the additives shall be at no additional expense to the Contractor.
- F. The use, location of application, and the amount and type of additives proposed for use by the Subcontractor shall be subject to approval by the Contractor.
- G. The Subcontractor shall be responsible for dust control over the entire site including, but not limited to, the Vicinity Properties material stockpile.

1.9 STORAGE OF MATERIALS AND EQUIPMENT

- A. Subcontractor shall make arrangements for exterior storage areas for materials, equipment, and debris. Locations and perimeters of such facilities shall be subject to the approval of the Contractor.
- B. All operations of the Subcontractor, including storage of materials, shall be confined to areas approved. Subcontractor shall be liable for any and all damage caused by him during such use by him of property of the Contractor or other parties.

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- C. Subcontractor shall store construction materials and equipment within boundaries of designated areas. Storage of gasoline or similar fuels shall conform to the requirements specified in Article SC-14 of the Special Conditions.

1.10 CONSTRUCTION EQUIPMENT

- A. Subcontractor shall erect, equip, and maintain all construction equipment in accordance with all applicable statutes, laws, ordinances, rules and regulations of the Contractor or other authority having jurisdiction.
- B. Scaffolding, staging, runways, hoists, barricades, and similar equipment required for performance of the Subcontract shall be provided and maintained by the Subcontractor. Hoists or similar equipment shall be provided with operators and signals, as required.
- C. Subcontractor shall provide, maintain, and remove upon completion of the work, all temporary rigging, scaffolding, hoisting equipment, debris boxes, barricades around openings and excavations, fences, ladders, and all other temporary work, as required for all work hereunder unless otherwise directed by the Site Manager.
- D. Construction equipment and temporary work shall conform to all the requirements of State, County, and local authorities, OSHA, and underwriters which pertain to operation, safety, and fire hazard. Subcontractor shall furnish and install all items necessary for conformity with such requirements, whether or not called for under the separate sections of these Specifications.

1.11 TEMPORARY SANITARY FACILITIES

- A. Subcontractor shall provide temporary sanitary facilities for use by all employees and persons engaged in the Work, including lower-tier subcontractors, Contractor, DOE, their employees and authorized visitors.
- B. Sanitary facilities include enclosed chemical toilets, washing sinks, pipes, tanks and pumping equipment. These facilities shall meet the requirements of local public health standards. Open pit or trench latrines will not be permitted.
- C. Chemical toilets and washing sinks shall be provided for use by the Subcontractor, his employees and all other

workers and suppliers. The number required shall conform to the requirements [of UOSHA Section 51.3.]*

- D. Wash sink and shower from the Access and Quality Control Trailer shall be drained to [the decontamination pad sump.]* Toilets and wash sinks from the Contractor's and Subcontractor's Office building [text deleted]* shall be connected to drain by gravity to existing sanitary sewer system available in the vicinity of the Site, or at the Subcontractor's option to a septic tank. The Subcontractor shall be responsible for obtaining all permits and approvals and for construction, operation and maintenance of the line.
- E. During the term of the Subcontractor, the contents of the [decontamination pad sump]* shall be pumped into the wastewater retention basin or to decontamination washwater recycling system. The contents of the septic tank, if provided, shall be disposed of offsite as Subcontractor's property. Both [containers]* shall be kept pumped out at regular intervals to prevent overflow and contamination of the ground, flowing streams or surface drainage.
- F. Sanitary facilities shall be located as shown on the Subcontract Drawings and as approved by the Contractor, and shall be maintained in a sanitary condition during the entire course of the Work. Subcontractor shall keep such facilities adequately supplied with toilet paper, paper toweling, paper cups, etc., as required.
- G. At completion of the Work, sanitary facilities shall be properly disinfected and the tank shall be emptied out and the contents disposed of as required by the Contractor.

1.12 TEMPORARY ELECTRIC POWER

- A. The Subcontractor shall provide and maintain during the course and progress of the Work all electrical power and wiring requirements to facilitate the work of all trades and services associated with the Work. The site can be served by the Utah Power and Light Company. The Subcontractor shall make arrangements with the serving utility and shall pay all charges for providing and maintaining electrical service including usage costs at the site. All temporary wiring, feeders, and connections shall be furnished by the Subcontractor.

* P.I.D. 10-S-01

- B. Routing of temporary conductors, including welding leads shall not create a safety hazard nor interfere with operation and maintenance of existing facilities. Approval from Site Manager shall be obtained prior to making connections to existing power panels.
- C. All temporary wiring installed by the Subcontractor shall be accomplished in accordance with the requirements of the National Fire Protection Association (NFPA) Codes 70 and 70E (latest edition), using acceptable code materials and equipment.
- D. There may be times during the period of the subcontract when the Contractor will schedule power outages which will make temporary electrical power unavailable over any of the electrical transmission and distribution systems. Normally, these outages will be scheduled sufficiently in advance to give the Subcontractor prior notification; however, due to operational requirements, it may be necessary to "kill" the lines without prior notification. The Contractor assumes no liability for interruptions, delays, or inconveniences caused to the Subcontractor as a result of such electrical power outages or power failure, scheduled or unscheduled, except that any delay in completion of the work resulting directly from such power outages shall be deemed a delay due to unforeseeable causes beyond the control and without the fault or negligence of the Subcontractor within the meaning of the Article 6, "TERMINATION FOR DEFAULT-DAMAGES FOR DELAY TIME EXTENSIONS," of the General Provisions, and the Subcontractor shall be entitled to relief in accordance with the provisions of said Article 6, provided he gives written notice of such delay in accordance with the requirements thereof. There will be no adjustment in the Subcontract Price due to any such electrical power outage or power failure.
- E. Subcontractor shall provide power and lighting to the office building and the access and quality control trailer, and for all Work as required, at no extra cost to the Contractor, and as follows:
 - 1. A minimum of 200A electric service to the office building and the access and quality control trailer.
 - 2. Adequate temporary lighting to the office building and the access and quality control trailer, and for all Work, as required.
- F. Temporary power for the Radon Gas Monitor (RGM) Stations and the Air Particulate (AP) Stations: Power provided

shall be capable of providing 2-1/2 kW minimum service and shall be 120V, single phase, 60 cycle. The use of generators or temporary power lines shall be at the Subcontractor's option. This power shall be provided and available 30 days prior to contaminated earthmoving activities and maintained for 30 days after completion of the radon barrier cover. Locations of the above stations are shown on page 01500-A.

1.13 TEMPORARY WATER

- A. Temporary water for potable and construction use shall be provided at no additional cost to the Contractor.
- B. Subcontractor shall furnish, install, operate and maintain all equipment, piping, hoses, and the like, to distribute water from an existing 6-inch diameter water line owned and operated by the City of Green River.
- C. The Subcontractor shall make all required arrangements and pay all fees and charges including permits for obtaining water from the City of Green River.
- D. Subcontractor shall provide chilled drinking water or municipal drinking water to the office building and the access and quality control trailer without additional cost to the Contractor. The chilled drinking water shall be furnished in bottles from an approved source.

[1.14 DECONTAMINATION FACILITIES

- A. The Subcontractor shall operate and maintain the existing washwater decontamination facilities at the site for washing contaminations from vehicles, equipment, tools and materials that become contaminated during use in Work. Operation shall include maintaining supply of water for delivery to the pumps, and emptying the water and the solids from the sump, as required.
- B. The existing decontamination facilities consist of the following:
 - 1. High-pressure (75 to 100 psi) metered water system with piping to above ground valves.
 - 2. A sump, 5500-gallon capacity.
 - 3. A washwater collection ditch leading to the sump.

4. Decontamination pad of Portland cement concrete.

- C. Contaminated washwater and sediment shall be collected from the decontamination pad by gravity via a drainage ditch into the sump. The water and the sediments from the sump shall either be pumped and discharged into the wastewater retention basin or used to the extent feasible for dust control of contaminated areas and in moisture-conditioning of soils during construction of fills in contaminated areas, as required to prevent overflow from the sump.
- D. At the completion of the Subcontract, the Subcontractor shall remove and dispose of all equipment; demolish the decontamination pad and sump and dispose of the debris in the tailings embankment as specified in Section 02200; and restore the area to the lines and grades shown on the Subcontract Drawings.
- E. Demolition of decontamination pad and sump shall conform to Section 02051.
- F. The use of decontamination facilities shall be made available to the Vicinity Properties Subcontractors. The Subcontractor shall cooperate with the Vicinity Properties Subcontractors in sharing the use of these facilities. In case of conflict in the schedule of the use, the Subcontractor shall have priority over the Vicinity Properties Subcontractors.]*

1.15 DEWATERING AND DRAINAGE FACILITIES

See Section 02141.

1.16 TEMPORARY HEAT

Subcontractor shall provide, at his own expense, all temporary heat as necessary for the trailers, for proper installation of all work, equipment, and materials, and for the protection of all work and materials, against injury from dampness, cold, and freezing.

1.17 TEMPORARY TELEPHONE SERVICE

The sites can be served by the Mountain Bell Telephone Company. The Subcontractor shall make arrangements for telephone service for his own use. The Contractor will make his own arrangements for telephone service to his offices.

* P.I.D. 10-S-01

1.18 BARRICADES, LIGHTS, AND FLAG PERSONS

- A. Pursuant to Article GP-34 of General Provisions, Section [GC-3C]* of General Conditions, and Article SC-13 of Special Conditions, the Subcontractor shall construct and maintain fences, planking, barricades, lights, shoring, and warning signs as required by local authorities and Federal and State safety ordinances, and as required, to protect the Contractor's property from injury or loss and as necessary for the protection of the public, and provide walks around any obstructions made in a public place for carrying on the Work covered in this Subcontract. It shall leave all protection in place and maintain it until removal is authorized.
- B. In addition, the Subcontractor shall guard and protect all workers, pedestrians, and the public from excavations, blasting operations, construction equipment, all obstructions, and other dangerous items or areas by means of adequate railings, guard rails, temporary walks, barricades, warning signs, sirens, directional signs, overhead protection, planking, decking, danger lights, etc.
- C. Flag persons, properly equipped with International Orange protective clothing and flags, shall be provided at all such times, as necessary, to direct or divert pedestrian or vehicular traffic.

1.19 TEMPORARY FENCES

See Sections 02832 and 02833.

1.20 SHUT-DOWN TIME OF SERVICES

The Subcontractor shall not disconnect or shut down any part of the existing utilities and services, except by express permission of the Contractor. The Subcontractor shall submit schedule of estimated shut-down time in order to obtain such permission, and shall notify all interested parties, utilities, County authorities, etc., as required.

1.21 MAINTENANCE

- A. Subcontractor shall maintain all temporary facilities and utilities in good working condition as required by the Contractor during the term of the Subcontract.

* P.I.D. 10-S-01

- B. Subcontractor's maintenance shall include, but not be limited to, all temporary roads including access control areas and fencing during the term of the Subcontract for the safe and efficient transport of equipment, supplies and personnel.
- C. The Subcontractor shall remove from the access and the haul roads any contaminated material deposited there by his operations. Such removal and cleanup shall be at no additional cost to the Contractor.

1.22 STATUS AT COMPLETION

- A. Upon completion of the Work, or prior thereto, when so required by the Contractor, Subcontractor shall:
 - 1. Repair all existing roads improved by the Subcontractor for his convenience (used as temporary roads) including recompacting and resurfacing to at least equal or better conditions existing prior to the start of the Subcontract, at no additional cost.
 - 2. Obliterate new roads constructed as temporary roads and restore the areas to their near original contours by grading to provide positive drainage and by seeding the area to match surrounding vegetation.
 - 3. Remove all other facilities including all Subcontractor-furnished trailers.
 - 4. Restore disturbed areas as specified in Section 02200.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Measurement for payment for the following items will be by their lump sum basis:

1. Temporary Offices
 2. Temporary Roads and Parking Areas
 3. Janitorial and Snow Removal Services
 4. Temporary Sanitary Facilities
 5. Temporary Electric Power
 6. Temporary Water
 7. Decontamination Facilities
- B. Separate measurement for payment will not be made for any other item of work specified in this Section.

4.2 PAYMENT

- A. Payment for items 1 through 7 of Article 4.1.A above will be by their applicable lump sum prices quoted therefor in the Bid Schedule. The prices quoted shall include full compensation for furnishing all labor, materials, equipment, tools, accessories, and incidentals, and for performing all work including designing, fabricating, installing/constructing, operating, maintaining, removing and disposal of facilities through the term of the Subcontract.
- B. Separate payment will not be made for any other item of work specified in this Section. Full compensation for such work will be considered to be included in the applicable related items of Work under the Subcontract.

END OF SECTION 01500

TO GREEN RIVER

DENVER AND RIO GRANDE RAILROAD

SITE BOUNDARY

TAILINGS PILE

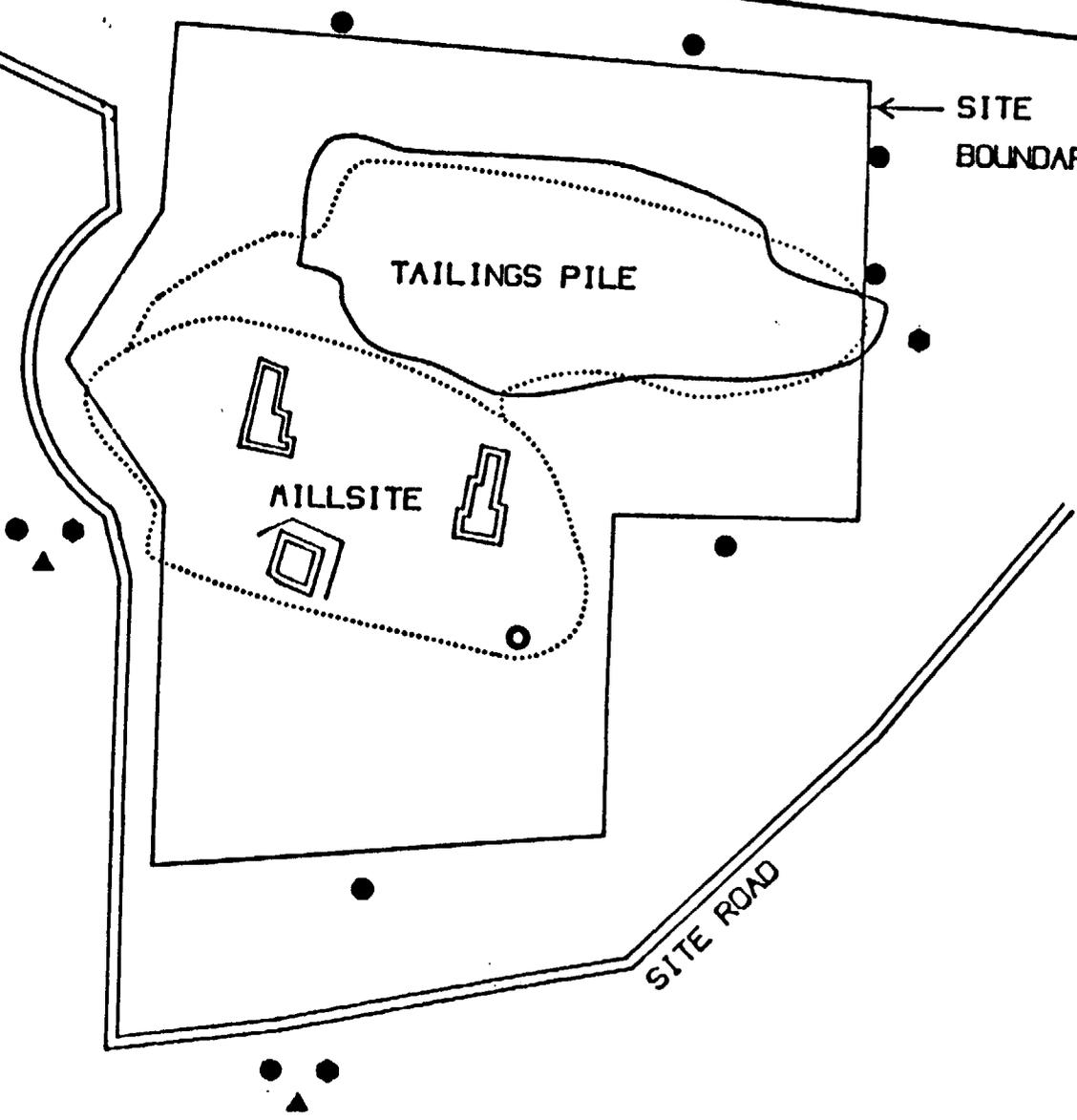
MILLSITE

SITE ROAD

● TRACK-ETCH CUPS

● RGM

▲ A.P. STATION



LOCATIONS OF RGM AND A.P. STATION

01500-A

Division 2
Sitework

SECTION 02051

DEMOLITION AND DECONTAMINATION

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section describes the requirements for the demolition and decontamination of structures, utilities and facilities and removal and disposal of demolished materials and debris as specified in this Section.
- B. Existing structures and facilities to be demolished include, but are not limited to, the following. Detail descriptions of these structures, utilities and facilities are contained in a separate document entitled "Information for Bidders":
 - 1. Office Building Addition
 - 2. Mill Building Addition
 - 3. Roaster Building
 - 4. Fences
 - 5. Culverts
 - [6. False ceiling of assembly building.]*
- C. Decontamination pad and the sump constructed under this Subcontract shall be demolished and disposed of as specified in this Section.
- D. Existing structures to be decontaminated and saved include the following. Detailed descriptions of these structures are contained in a separate document entitled "Information for Bidders".
 - 1. Mill Building
 - 2. Office Building
 - 3. Crusher Building

* P.I.D. 10-S-01

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1.2 WORK NOT INCLUDED

- A. Identification of the contents of the structures and vessels; and removal and disposal of hazardous waste material will be as specified in Section 00800, Article SC-7.
- B. Removal of contaminated material from underneath the Crusher Building and disposal of contaminated material.

1.3 RELATED WORK

- A. Section 00800 - Special Conditions: Articles SC-7, SC-8 and SC-9
- B. Section 02090 - Sealing Monitor Wells
- C. Section 02200 - Earthwork
- D. Section 02771 - Membrane Liner
- E. Section 02832 - Chain Link Fence and Gates
- F. Section 02833 - Woven Wire Fence

1.4 DEFINITIONS

- A. Demolition: Demolition includes complete dismantling, cutting and breaking up of structures, including all solid contents and associated services and utility lines including their foundations and below grade slabs and footings. Irrespective of the depth of excavations, all foundations shall be removed, demolished and disposed of as specified in this Section. Demolition also includes removal and disposal of demolished materials and debris, as shown on the Subcontract Drawings and as specified in this Section.
- B. Utility: For the purpose of this Section, utility means any service, such as electric power systems; gas distribution systems; telephone; water distribution; storm drain; and sanitary sewer services.
- C. Decontamination: Decontamination of structures entails the removal of alpha- and beta-gamma-emitting nuclides to acceptable levels as established by the Nuclear Regulatory Commission and the Environmental Protection Agency.

1.5 SUBMITTALS

- A. General submittal requirements are specified in Section 01300.
- B. Twenty days prior to the start of Work, the Subcontractor shall submit to the Contractor, for review, a demolition plan including the following:
 - 1. Methods of demolition to be used.
 - 2. Methods of decontamination and protecting structures, and facilities to be salvaged.
 - 3. Schedule showing dates and structures to be demolished.
 - 4. List of equipment to be used.

1.6 PROTECTION

The structures and facilities not to be demolished shall be protected from damage during their decontamination and during demolition of adjoining structures.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 DEMOLITION

- A. During the execution of this Subcontract, if chemically hazardous or toxic waste material, in addition to the already identified materials, is suspected or encountered, the Site Manager shall be immediately notified for identification and subsequent disposition.
- B. Locations of buildings, utilities and other structures to be demolished are shown on the Subcontract Drawings; however, the Subcontract Drawings do not show the locations of all foundations, rubble and debris, concrete pads, and the like required to be demolished and cleaned up.

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C. Pollution Controls:

1. Water sprinkling, temporary enclosures, and other Contractor-approved methods shall be used to limit the amount of airborne dust and dirt to the lowest practical level. Demolition work shall comply with governing regulations pertaining to environmental protection.
2. Water shall not be used if it is likely to create hazardous or objectionable conditions such as ice, flooding, or pollution. An approved water-based biodegradable wetting agent (surfactant) such as Dupont "Duqonol WAQ" or equal shall be used to reduce the quantity of water required.

D. Removal of Contaminated Materials from Structures and Facilities to be Salvaged: The Subcontractor shall remove contaminated materials from below existing foundations, walls, ceilings and floors of the structures and facilities to be salvaged, as required by the Contractor, and as specified herein and in Section 02200.

E. Demolition:

1. Permit requirements are specified in Article SC-12 of the Special Conditions.
2. Buildings, foundations and other structures shall be demolished by methods required to complete the work in accordance with governing regulations.
3. Pieces of wood, concrete, and masonry shall be cut or broken up to be no greater than 3 feet in any dimension.
4. Structural steel members and other long items shall be cut or broken up in 10-foot lengths or smaller.
5. Removal or plugging of the utility shall not be undertaken until written approval for such work has been obtained from the Contractor.
6. Relocation of lines, where required, will be performed by others. When the abandoned line is connected to a line that will continue to be used, the abandoned line shall be disconnected first and the in-use line shall be sealed before plugging the abandoned line. The Subcontractor shall remove all subsurface lines encountered in excavations and shall solidly plug the on-site ends with a concrete grout, unless otherwise

directed. Subsurface lines to be plugged or removed shall include mains shown on the Subcontract Drawings and all sub-mains and laterals connecting the buildings to the mains even though not specifically shown on the Subcontract Drawings.

7. The Contractor will obtain approval from the affected utility companies including, but not limited to, Utah Power and Light Co., Mountain Bell Telephone Co., and City of Green River before disturbing utilities. Utilities shall be protected from damage by demolition operations until they are removed from service. [The Subcontractor shall remove and dispose of all abandoned telephone and power poles in the tailings embankment excavation area.]*
8. All utility pipes, conduits and ducts shall be cut to sizes no greater than 20 feet in length. Solid metals, concrete, masonry and wooden members shall be broken or cut in pieces to be no greater than 3 feet in any dimension and no more than 27 cubic feet in volume. Metal objects with voids shall be crushed to sizes no greater than 27 cubic feet in volume with least dimension not exceeding 6 inches.
9. Underground tanks, vats, and the like shall be emptied of contents prior to removal and demolition. The contents will be identified by the Contractor for making a determination of safe handling and disposal procedures. The wastes will be disposed of as specified in Section 00800, Article SC-7.
10. After demolition of structures and removal of demolished materials and debris, the areas shall be backfilled with uncontaminated fill materials to provide positive drainage.

3.2 DISPOSAL OF DEMOLISHED MATERIALS AND DEBRIS

- A. Demolished materials and debris shall be disposed of in the tailings embankment as specified in Section 02200 and as required by the Contractor.
- B. Burning of materials will not be permitted.

* P.I.D. 10-S-01

- [C. Salvage: The Subcontractor will be permitted, at his option, to decontaminate and salvage as his property, economically salvageable materials such as large steel beams. Salvage of materials, equipment accessories and incidentals will not be allowed without prior approval of the Contractor as specified herein. Bid Schedule prices shall not reflect costs of such salvages. During the term of the Subcontract, the Subcontractor may propose a salvage operation for a particular material or equipment. No material or equipment will be allowed to leave the site until after the radiation surveying by the Contractor is complete and the Contractor is satisfied with the results of such surveying. The Subcontractor shall be responsible for all Contractor's costs for radiation surveying related to salvage of materials or equipment.]*

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Measurement for payment for the following will be on a lump sum basis:
1. Demolition and disposal of existing structures, facilities and utilities.
 2. Decontamination of existing structures, facilities and utilities.

4.2 PAYMENT

- A. Payment for demolition and disposal of existing structures, facilities and utilities will be by the lump sum price quoted therefor in the Bid Schedule. The price quoted shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for performing all work including all clearing, demolishing, breaking of the debris into small pieces, removal and decontamination of facilities where required, backfilling the areas with uncontaminated fill materials, and removal and disposal of demolished materials and debris as specified in this Section and in Section 02200.

* P.I.D. 10-S-01

B. Payment for decontamination of existing structures, facilities and utilities will be by the lump sum price quoted therefor in the Bid Schedule. The price quoted shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals, accessories, and for performing all work including clearing, dusting, washing, vacuuming, removal and reinstalling portions or fixtures, decontaminating, and removal and disposal of debris as specified in this Section and in Section 02200.

END OF SECTION 02051

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SECTION 02090

SEALING MONITOR WELLS

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section describes the requirements for sealing of existing test wells. The approximate locations of the known wells to be sealed are shown on the Subcontract Drawings.
- B. All known wells to be sealed are shown on the Subcontract Drawings. All other wells shall be protected, unless otherwise directed by the Contractor.

1.2 RELATED WORK

Section 02051 - Demolition and Decontamination

1.3 APPLICABLE PUBLICATIONS

- A. 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:
 - 1. Environmental Protection Agency (EPA): Manual of Water Well Construction Practices, EPA-570/9-75-001.
 - 2. American Society for Testing and Materials (ASTM): C150-85 Standard Specification for Portland Cement (Rev. A).
 - 3. Utah Administrative Rules for Water Well Drillers.

1.4 SITE CONDITIONS

Subcontract Drawings show all known wells on and in the vicinity of the site and work areas. Wells not designated to be sealed shall be protected to prevent damage or contamination with foreign substances during construction. Such wells, if damaged, shall be reconstructed by the Subcontractor at no cost to the Contractor.

1.5 QUALITY CONTROL

Well sealing operations shall be performed by a well drilling contractor licensed by the State of Utah.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Approved sealing materials are as follows:

1. Cement used for sealing mixtures shall meet the requirements of ASTM C150 "Standard Specification for Portland Cement," type V (high sulfate resistance).
2. Cement grout shall be composed of one sack of Portland Cement (94 pounds), with 3 to 5 percent, by weight, of commercially processed sodium bentonite, to not more than 6 gallons of potable water in order to achieve a weight of not less than 15 pounds per gallon. The weight of the neat cement shall be sufficient to prevent flow of water into the well from any aquifer penetrated. Calcium chloride may be added to a Portland cement grout to accelerate the set, but it shall not exceed two (2) pounds per sack of dry cement.

PART 3 - EXECUTION

3.1 GENERAL

A. Wells shall be sealed in a manner that is compatible with the well design and so as not to act as a conduit for future contamination of groundwater. Detailed well sealing criterion are outlined in the Environmental Protection Agency (EPA) Manual of Water Well Construction Practices, EPA-570/9-75-001, Article 56, pages 133-142. The basic premise of the EPA criteria is to seal abandoned wells and to restore, as much as possible, the geohydrologic regime in existence before the well was constructed. The following criteria shall apply to all wells to be sealed on and in the vicinity of the site:

1. All wells shall be sealed in such a manner that they will not act as a conduit for fluids to flow from the

specific strata in which they were originally encountered.

2. All wells shall be located in the field and sealed by the Subcontractor prior to the beginning of stripping, grading or other surface-disturbing activities that will hinder the detection and sealing of wells. If any well cannot be located after a reasonable search, the Subcontractor shall, prior to the commencement of the well sealing operations, submit to the Contractor a written report documenting the well number, the areas covered and the effort spent in the search.
3. Upon discovery of any unknown wells during the earthwork operations, the Subcontractor shall give the Site Manager immediate verbal notice followed by written confirmation within 24 hours.
4. Wells shall be sealed according to the following procedures:
 - a. The Subcontractor shall check each well to be sealed for obstructions that may interfere with the sealing operation and shall remove any such obstructions prior to starting filling operations.
 - b. In order to seal the well properly it is preferable to remove the well casings by methods approved by the Contractor as outlined in Article 56 of the EPA Manual of Water Well Construction Practices. Upon removal, if the casings or the materials are found to be contaminated, they shall be decontaminated as required by the Contractor, or disposed of in the tailings embankment as specified in Section 02051. If casing removal is not feasible, the casing shall be perforated, ripped or otherwise disintegrated by methods outlined in Article 56, to ensure grouting of the entire annular space between the casing and the borehole.
 - c. The approved methods for the placement of a grout seal shall be as follows:
 - 1) In wells where casing is removed, the cement grout shall be introduced at the bottom of the well or interval to be sealed (or filled) and placed progressively upward to the top of the well. The grout shall be placed by the use of grout pipe, drop pipe, tremie, cement bucket

or dump bailer, in such a way as to avoid segregation or dilution of the sealing materials. Dumping grout material from the top of the well shall not be permitted.

- 2) In wells where casing is not removed, the calculated amount of cement grout required to fill the well interval plus the annular space outside the lining shall be placed within the space to be grouted, running the grout through a special cementing packer manufactured for this purpose and installed immediately above the perforated or ripped zone. The grout shall be injected at a pressure calculated to be at least 50 psi greater than the normal hydrostatic pressure within the well at the point of injection.
- d. For all wells located in areas where the construction grade elevation will be greater than or equal to the existing grade surface, existing casings and cement grout seals shall be removed to a minimum depth of 2 feet below the existing grade surface, or as required by the Contractor. Grouting shall extend from the bottom of the hole to 2 feet below the existing grade. The interval from the top of the grout to the existing grade surface shall be filled with a mixture of uncontaminated fine-grained (ML or CL) soil and a minimum of 25 percent by weight of commercially processed sodium bentonite and shall be hand-tamped, as required.
 - e. For all wells located in areas where the construction grade surface will be less than the existing grade surface (i.e. in areas of proposed cut), the existing casings and cement grout seals shall be removed to a minimum of 2 feet below the grade cut elevation as shown on the Subcontract Drawings or as required by the Contractor. Grouting shall extend from the bottom of the hole to 2 feet below the grade cut elevation. The interval from the top of the grout to the existing surface shall be filled with a mixture of uncontaminated fine-grained (ML or CL) soil and a minimum of 25 percent by weight of commercially processed sodium bentonite and shall be handtamped, as required.
5. The Subcontractor shall provide the following notification of the well sealing operation:

- a. The Subcontractor shall notify the Contractor one week prior to commencement of well sealing operations.
- b. Upon completion of well sealings, the Subcontractor shall submit a Report of Permanent Well Abandonment for each abandoned well to the Utah Engineer's Office, Division of Water Rights. These reports shall be filed on the applicable State form and within the time period required by the Utah Administrative Rules for Water Well Drillers. A copy of the reports shall be submitted to the Contractor.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Measurement for payment for sealing of monitor wells will be by the linear feet of wells sealed. The measurement will be from bottom of well to the top of seal.

4.2 PAYMENT

Payment for sealing of monitor wells will be by the unit price per linear foot quoted therefor in the Bid Schedule. The price quoted shall include full compensation for furnishing all materials, equipment, tools, accessories, incidentals, labor, and for performing the work specified in this Section including decontamination and disposal of materials and equipment.

END OF SECTION 02090

SECTION 02110

SITE CLEARING

PART 1 - GENERAL

1.1 SCOPE

A. This Specification Section describes the requirements for the following:

1. Clearing and cleaning of vegetation, stripping of topsoil, and disposal of cleared and stripped materials from Work areas.
2. Clearing and cleaning of vegetation, soil and debris from the Brown's Wash Area.

1.2 DEFINITIONS

- A. Clearing and Cleaning: Clearing is defined as removing brush, other vegetation and trees. All such vegetation and trees shall be cleared down to the natural ground surface. For the Brown's Wash Area, clearing and cleaning shall also include removal of soil and debris from the culverts.
- B. Stripping of Topsoil: This shall consist of the removal of uncontaminated topsoil, including all roots, organic materials, vegetation, and other unsuitable material, by blading with a bulldozer or other equivalent means. Depth of stripping shall be minimum 6 inches.

1.3 RELATED WORK

- A. Section 02200 - Earthwork: Disposal of Contaminated Materials
- B. Section 02935 - Seeding

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 PRESERVATION OF PROPERTY

Existing improvements, adjacent property, utility and other facilities, and trees and plants that are not to be removed shall be protected from injury or damage.

3.2 CLEARING

- A. Clearing shall be performed on all areas of construction activities including Brown's Wash channel on the upstream and downstream of the existing culvert as shown on the Subcontract Drawings. Contaminated cleared materials shall be kept separate from uncontaminated cleared materials.
- B. Uncontaminated cleared materials shall be disposed of as Subcontractor's property.
- C. Contaminated cleared material shall be reduced in size as required by the Contractor and disposed of in the tailings embankment as specified in Section 02200.
- D. Clearing and Cleaning from Brown's Wash Area:
 - 1. Clearing and cleaning from the Brown's Wash Area shall include clearing of all vegetation upstream and downstream of the existing culvert crossing, removal of soil and debris from the culverts, and removal and disposal of the cleared soil and debris offsite as Subcontractor's property.
 - 2. The area shall consist of a 75-foot wide strip of Brown's Wash, 300 feet upstream and 100 feet downstream of the existing culvert crossing including the four (4) 10-foot diameter culverts.

3.3 STRIPPING

- A. Uncontaminated Areas: Stripping will be required in the following areas:
 - 1. Beneath all fills in areas where excavation is not otherwise required;
 - 2. Beneath areas of riprap protection where excavation is not otherwise required.

3. In areas of excavation where excavated materials are to be used as fill.

B. Contaminated Areas: In areas of excavation where the contaminated surfaces are covered by vegetation, the removal of topsoil may be carried out together with the excavation in one operation.

C. Stripped material shall be disposed of as specified in Article 3.4.

3.4 DISPOSAL OF UNCONTAMINATED TOPSOIL

Stockpiling of uncontaminated topsoil shall be performed only when required by the Contractor upon his determination that there is sufficient uncontaminated organic topsoil in the area to justify the operation; otherwise the materials shall be disposed of in an approved spoil area or as Subcontractor's property. The stockpile area shall be on the Site as designated by the Contractor. Stockpiled topsoil shall be used in finish grading and seeding of the site. Seeding is specified in Section 02935.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. With the exception of the following item, separate measurement for payment will not be made for work specified in this Section. All such other work will be considered incidental to the applicable related items of work specified elsewhere in this Subcontract.

1. Clearing and Cleaning from Brown's Wash Area.

B. Measurement for payment for clearing and cleaning from Brown's Wash Area will be by square yards of the area cleared and cleaned.

4.2 PAYMENT

A. Payment for clearing and cleaning from Brown's Wash Area will be by the unit price per square yard quoted therefor in the Bid Schedule. The price quoted shall include full

compensation for furnishing all labor, materials, equipment, tools, accessories and incidentals and for performing all work including, but not limited to, all clearing on the upstream and downstream sides of the culverts, removal of soil and debris from the pipes and restoring roadways and the like.

- B. With the exception of clearing and cleaning from Brown's Wash Area, separate payment will not be made for work specified in this Section. Full compensation for such other work will be considered incidental to the applicable related items of work specified elsewhere in this Subcontract.

END OF SECTION 02110

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SECTION 02141

DEWATERING AND DRAINAGE

PART 1 - GENERAL

1.1 SCOPE

- A. This Specification Section describes the requirements for dewatering and drainage of work areas and disposal of surface water.
- B. If the groundwater level is higher than the bottom of excavation, the Subcontractor shall dewater the excavation, as required, for performance of work in the dry. Stormwater shall be removed from the excavation to maintain dry conditions.
- C. A dewatering scheme for work in uncontaminated areas is not shown on the Subcontract Drawings. The Subcontractor shall, as required, design and construct additional gravity or pump systems or a combination of both systems for dewatering of uncontaminated water from work areas.
- D. A gravity dewatering scheme for work in contaminated areas is limited to the temporary drainage ditch as shown on the Subcontract Drawings. The Subcontractor shall, as required, design and provide additional gravity or pump system or a combination of both systems for dewatering of water from contaminated work areas. Dewatering from wind-blown tailings and off-pile areas shall be accomplished incrementally as removal of contaminated materials proceeds.
- E. The Subcontractor shall furnish, install and maintain drainage pipes (includes culvert pipes) shown on the Subcontract Drawings.

1.2 DESCRIPTION

- A. The work of this Section includes, but is not limited to: dewatering the excavations by installing sump pumps in the excavations and disposal of water by providing drainage facilities including swales, ditches, interceptor dikes, collection ditches, diversion ditches, pipes, and other drainage structures. Water from uncontaminated areas shall be pumped, or allowed to flow by gravity, to drainage ditches leading to existing drainage courses that flow

offsite. Water from contaminated areas shall be pumped, or allowed to flow by gravity, to drainage ditches leading to the wastewater retention basin. Wastewater from decontamination pad shall be collected into the sump and excess water shall be allowed to flow into the wastewater retention basin [and may be used for dust control in contaminated excavation areas and haul roads.]* [Text Deleted]*

- B. The Subcontractor shall be responsible for designing, scheduling, utilizing, providing, and maintaining any dikes, ditches, channels, flumes, drains, sumps, pumping equipment, monitoring wells, other subsurface dewatering devices, and other temporary diversion and protective work necessary to ensure that construction shall be performed in areas free from water.

1.3 WORK NOT INCLUDED

Drainage work related to the construction of temporary facilities specified in Section 01500 is not included in the scope of work of this Section.

1.4 RELATED WORK

- A. Section 01300 - Submittals
- B. Section 02200 - Earthwork
- C. Section 02771 - Membrane Liner
- D. Section 02935 - Seeding

1.5 APPLICABLE PUBLICATIONS

- A. 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:

- 1. American Association of State Highway and Transportation Officials (AASHTO):

M36-86 Corrugated Steel Pipe, Metallic Coated for
 Sewers and Drains

- 2. National Corrugated Steel Pipe Association (NCSPA):

Installation Manual for Corrugated Steel Pipe

* P.I.D. 10-S-03, Rev. 3

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. The Subcontractor shall furnish all materials, equipment and appurtenances required for furnishing, installing and removing dewatering facilities, and shall also supply sufficient standby pumping and auxiliary equipment to preclude any interference to pumping operations during periods of breakdown and maintenance.
- B. Drainage Pipes shown on Subcontract Drawings:
 1. Drainage pipes: Drainage pipes (CSP) shown on the Subcontract Drawings shall be corrugated steel pipe conforming to AASHTO M36, Type I (circular section), and shall be provided complete with fittings, coupling bands, and all required accessories.
 2. Diameters of pipes shall be as shown on the Subcontract Drawings. Unless otherwise indicated on the Subcontract Drawings the thickness of the pipe shall be 16 gage minimum.

PART 3 - EXECUTION

3.1 DEWATERING PROCEDURES

- A. Water from uncontaminated areas shall be pumped, or allowed to flow by gravity to natural drainage courses. Erosion protection features including, but not limited to, silt fences, check dams, temporary detention ponds and the like shall be provided by the Subcontractor, if required, to minimize off-site siltation in the receiving stream. Subcontractor shall submit to the Contractor, for review, his design, layout and calculations, fifteen days prior to the construction of such features.
- B. Water from contaminated areas shall be pumped or allowed to flow by gravity to drainage ditches leading to the wastewater retention basin. [Water from the wastewater retention basin may only be used for dust control on contaminated excavation areas and on contaminated haul roads.]* Silt fences may be required in some areas during excavation. [Water shall not be permitted to pond in the tailings embankment area.]*
- C. The water level in excavation shall be maintained below the lowest point in the excavation until the backfilling

* P.I.D. 10-S-03, Rev. 3

of the excavation has been completed, unless otherwise approved by the Contractor.

3.2 SEEDING AND MULCHING

Sides and inverts of ditches, not finished with membrane liner or riprap protection, shall be seeded and mulched as specified in Section 02935.

3.3 WASTEWATER RETENTION BASIN AND DRAINAGE DITCHES

Wastewater retention basin and drainage ditches shown on the Subcontract Drawings shall be constructed as specified in Sections 02200 and 02771.

3.4 DRAINAGE PIPES SHOWN ON SUBCONTRACT DRAWINGS

- A. Unless otherwise shown on the Subcontract Drawings, excavation, installation, backfilling and compaction for drainage pipes shown on the Subcontract Drawings shall conform to the requirements of the National Corrugated Steel Pipe Association (NCSPA). All pipes utilized for temporary drainage during construction shall be removed by the Subcontractor at the completion of site work.
- B. The Subcontractor shall be responsible for the maintenance and repair of the drainage pipes and for restoration of the roadways disturbed during installation of drainage pipes. The restoration of roadways shall include furnishing and placing aggregate base and asphalt concrete pavement to match with existing structural section of the roadway.

3.5 MAINTENANCE

The Subcontractor shall be responsible for the maintenance of drainage facilities during construction. Drainage ditches and pipes may require periodic cleaning. Pipes and ditches shall be kept free of sediment deposits, debris and other materials that may restrict or prevent drainage. The Subcontractor, when directed by the Contractor, shall remove and replace all items not functioning properly, including membrane liner, because of clogging, damage, or deterioration.

3.6 REMOVAL

- A. When no longer required for water control and as determined by the Contractor:
1. Dewatering equipment shall be removed and disposed of as Subcontractor's property.
 2. Contaminated sediments deposited in ditches and the wastewater retention basin shall be removed and placed in the tailings embankment as specified in Section 02200 and as required by the Contractor.
 3. Areas occupied by the wastewater retention basin, dike, spillway, and temporary drainage ditches shall be restored and graded as specified in Section 02200.
 4. Culverts designated for removal and disposal shall be removed and disposed of as Subcontractor's property.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Separate measurement for payment will not be made for dewatering and drainage.

4.2 PAYMENT

- A. Separate payment will not be made for dewatering and drainage. Full compensation for furnishing all materials, equipment, labor, tools, accessories, incidentals, and for performing all work as specified in this Section including, but not limited to, the construction of additional lined and unlined temporary drainage ditches, construction of silt fences, check dams, temporary detention ponds or other facilities, the provision of pumps, sumps, other accessories and incidentals, pipes, pipe supports, excavation and backfill of pipes and pipe supports, etc., if required, will be considered to be included in the applicable related item/s of Work specified in this Subcontract.

END OF SECTION 02141

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