LOW ACTIVITY WASTE PRETREATMENT SYSTEM
SITE PREPARATION

Project No. T5L01
CSI Section 01 73 00, Rev. 00

Execution Procedure

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Office of River Protection

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LAWPS Site Preparation Execution Procedure

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1.0 SUMMARY

This specification provides general administrative and procedural requirements governing Construction Execution for the Low Activity Waste Pretreatment System (LAWPS) construction period. The SUBCONTRACTOR shall execute the work in accordance with the general requirements described in this specification and other specifications and contract documents.

Hereinafter, the construction SUBCONTRACTOR (includes lower tier subcontractors and suppliers) shall be referred to as “SUBCONTRACTOR” and Washington River Protection Solutions LLC (WRPS) shall be referred to as “BUYER.

This specification includes, but is not limited to, the following work activities:

a. Cutting and patching.
b. Correction of Work
c. Foreign Material Exclusion (FME).
d. Progress cleaning and waste management.
e. Starting and Adjusting
f. Protection of Installed Construction.

2.0 QUALITY ASSURANCE

2.1 Cutting and Patching

The SUBCONTRACTOR shall comply with requirements for and limitations on cutting and patching of construction elements.

2.1.1 Structural Elements: When cutting and patching structural elements, notify The BUYER of locations and details of cutting and obtain approval from the BUYER before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2.1.2 Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational Elements include but are not limited to the following:

a. Primary operational systems and equipment.
b. Fire separation assemblies.
c. Air or smoke barriers.
d. Fire-suppression systems.
e. Mechanical systems piping and ducts.
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f. Control systems.
g. Communication systems.
h. Conveying systems.
i. Electrical wiring systems.
j. Operating systems of special construction.
k. Vendor provided skids

**2.1.3 Other Construction Elements:** Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Exterior curtain-wall construction.
d. Equipment supports.
e. Piping, ductwork, vessels, and equipment.
f. Noise- and vibration-control elements and systems.
g. Stainless steel liner systems.
h. Exterior panels

**2.1.4 Visual Elements:** Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in the BUYER’s opinion, reduce the building’s aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

**2.2 Oversight/Monitoring**

The SUBCONTRACTOR shall perform oversight, inspections, and verifications of lower tier subcontractors and suppliers Work in accordance with its Quality Assurance Program, specifications, drawings, and surveillance/supplier quality assurance programs.

**2.3 Manufacturer's Installation Instructions**

The SUBCONTRACTOR shall obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.
2.4 Existing Warranties

The SUBCONTRACTOR shall remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

3.0 MATERIALS

The SUBCONTRACTOR shall utilize products for patching/repair that comply with requirements of technical specifications, manufacturer’s recommendations, and general specification 01 35 43 Environmental Procedures.

3.1 In-Place Materials:

Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

3.1.1 If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the BUYER for the visual and functional performance of in-place materials. Substitutions shall be approved by the BUYER in accordance with specification 01 25 00 Substitution and Design Changes.

4.0 EXECUTION

4.1 Examination

4.1.1 Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, the SUBCONTRACTOR shall investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

a. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.

b. Furnish location data for work, related to Project that must be performed by other Hanford Prime Contractor.

4.1.2 Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
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4.1.3 Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other specifications, include the following:

a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

4.1.4 Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

4.1.5 Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

4.1.6 Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

4.2 Installation

4.2.1 The SUBCONTRACTOR shall locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

a. Make vertical work plumb and make horizontal work level.
b. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
c. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

4.2.2 The SUBCONTRACTOR shall comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

4.2.3 The SUBCONTRACTOR shall install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

4.2.4 The SUBCONTRACTOR shall conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

4.2.5 The SUBCONTRACTOR shall avoid using tools and equipment that produce harmful noise levels.
4.2.6 The SUBCONTRACTOR shall obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

4.2.7 The SUBCONTRACTOR shall provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

  a. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the BUYER.
  b. Allow for building movement, including thermal expansion and contraction.
  c. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project Site in time for installation.

4.2.8 The SUBCONTRACTOR shall make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

4.2.9 The SUBCONTRACTOR shall use products, cleaners, and installation materials that are not considered hazardous.

4.3 Cutting and Patching

4.3.1 The SUBCONTRACTOR shall employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

4.3.2 The SUBCONTRACTOR shall protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Work that might be exposed during cutting and patching operations.

4.3.3 Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

4.3.4 The SUBCONTRACTOR shall cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If
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possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

a. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

b. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

c. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

d. Excavating and Backfilling: Comply with requirements in applicable Hanford Site Excavation permit(s) and technical specifications.

e. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

f. Proceed with patching after construction operations requiring cutting are complete.

4.3.5 The SUBCONTRACTOR shall patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections of the Subcontract, where applicable.

a. Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

b. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

c. Patch components in a manner that restores enclosure to a weather-tight condition.

4.3.6 Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
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4.4 Correction of the Work

4.4.1 Correction of Work shall be documented in accordance with the SUBCONTRACTOR’S Quality Assurance Program. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

a. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

b. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

4.5 Foreign Material Exclusion (FME)

SUBCONTRACTOR shall have a program in place to prevent the uncontrolled introduction of foreign material in to open systems and manufactured components to ensure that those systems and components can function fully and reliably as per their design intent.

SUBCONTRACTOR shall provide procedures for the fabrication, installation, and inspection of piping systems, vessels, tanks, mechanical equipment, and vessels to demonstrate/maintain cleanliness, flushing, and compliance with codes and requirements.

SUBCONTRACTOR shall ensure the cleanliness criteria and inspections are utilized for shop fabrications.

4.6 Progress Cleaning

4.6.1 The SUBCONTRACTOR shall clean project site and Work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.


b. Dispose hazardous and unsanitary waste materials according to waste management plan identified in approved SUBCONTRACTOR submitted Environmental Compliance Plan. Per 01 35 43 Environmental Procedures.

c. Coordinate progress cleaning for joint-use areas where more than one installer has worked.

d. SUBCONTRACTOR shall provide janitorial services for the entire construction site including BUYER facilities.
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4.6.2 The SUBCONTRACTOR shall keep the building and premises free from all surplus material, waste material, dirt and rubbish caused by BUYERS’s, SUBCONTRACTOR’s employees or Work, and at the completion shall remove such surplus material, waste material, dirt and rubbish, as well as tools, equipment and scaffolding, and shall leave the work area clean and spotless, unless more exact requirements are specified. The SUBCONTRACTOR shall perform clean-up daily and shall transport rubbish to an approved disposal location/facility.

4.6.3 The SUBCONTRACTOR shall clean work areas to the level of cleanliness necessary for proper execution of the Work.

a. Remove liquid spills promptly. Notification to the BUYER of spills to the environment is required.
b. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
c. Weekly, and more often if necessary, sweep and mop interior places clean. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from dust, mud, and other material capable of being removed by reasonable diligence using a hand-held broom and mop.

4.6.4 The SUBCONTRACTOR shall keep installed work clean. Clean installed surfaces according to written instructions of manufacturer, specifications, or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

4.6.5 The SUBCONTRACTOR shall clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

a. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
b. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
c. Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
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4.7 Final Cleaning

4.7.1 Prior to completion of the work the SUBCONTRACTOR shall, remove from the job site SUBCONTRACTOR’s tools, temporary structures, surplus materials and equipment, dispose of scrap, debris, and waste.

4.7.2 The SUBCONTRACTOR shall visually inspect interior surfaces and remove traces of soil, waste material, smudges, and other foreign matter. Remove traces of splashed materials from adjacent surfaces. Remove paint droppings, overspray, spots, stains, and dirt from finished surfaces.

4.7.3 Use only the specified cleaning materials and equipment.

4.7.4 Schedule final cleaning as approved by BUYER’s Representative to enable the BUYER to accept a completely clean project.

4.8 Construction Acceptance Testing

4.8.1 SUBCONTRACTOR shall conduct acceptance testing of the temporary systems to verify proper operation.

4.9 Protection of Installed Construction

4.9.1 Any Component / System that is damaged by the SUBCONTRACTOR, including but not limited to accidents or misuse, shall be repaired back to “like new condition”, otherwise the same equipment shall be replaced with new equipment prior to “Final Acceptance” to the satisfaction of the BUYER’s Construction Management Team (CMT). This applies to installed construction, including general, mechanical and electrical devices, equipment and systems, regardless of acceptance for use for or during Construction.

4.9.2 During the construction process, the SUBCONTRACTOR shall provide a quality assurance program, procedures, and processes outlining conformance with Subcontract requirements and shall ensure that installed devices, equipment and systems are not exposed to construction environments that are likely to hinder their proper operation/performance or shorten their useful life regardless of desire by SUBCONTRACTOR for use prior to “Final Acceptance.”

4.9.3 The SUBCONTRACTOR shall protect components containing fluid(s) from freezing. Ensure related safeties and necessary controls are active and functioning.

4.9.4 Under no circumstance shall any system in whole or part be allowed to operate beyond the design parameters of this project or the respective manufacturer’s limits.