

**Statement of Work**  
**Old Town Phase 1 Deactivation and Demolition (D&D) Construction Services**  
**July 2, 2014**

Lawrence Berkeley National Laboratory (LBNL) is a multi-program research facility managed by the DOE Office of Science (SC). It was founded in 1940 when the Radiation Laboratory (LBNL's predecessor) outgrew its main campus facilities. "Old Town" is a cluster of buildings built across approximately 15 acres within LBNL. Over the years, the Old Town buildings were cleaned and repurposed, but they are not constructed to current seismic standards. Some of these buildings have since been demolished and most of the remaining facilities are scheduled to be removed. The facilities also partially overlay a groundwater plume with Volatile Organic Compound (VOC) contamination that is being remediated by a pump-and-treat system subject to regulation by state (California Department of Toxic Substance Control (DTSC)) and local environmental agencies.

The Old Town buildings were erected in the 1940s and 1950s; as such, asbestos and lead paint are still present in some locations despite heavy renovation over the years. Most of the buildings have been radiologically and chemically surveyed to support office-use occupancy, but all buildings have some inaccessible areas.

The Old Town Demolition Project Phase 1 (Project) will result in the cleanup and removal of roughly 19,000 gross square feet (gsf) of excess facilities and roughly 28,000 gsf of concrete slabs and the remediation of contaminated soil. The Project includes the demolition of Buildings 5, 16, and 16A and adjacent electrical pad, and the removal of the slabs, contaminated soil clean up and site restoration of the areas of Buildings 5, 16, 16A and adjacent electrical pad, 40, 41, 52 and 52A.

The buildings have previously hosted radioactive isotopes, beryllium, or hazardous chemicals. An extensive characterization campaign to better understand the extent of radiological and hazardous material contamination in the buildings, slabs and soils has been completed. This reconnaissance level characterization has shown that there are distributed radiological contaminants in the concrete and soil in and adjacent to Building 5. Offerors shall assume for the purposes of this solicitation that Building 16, Building 16A and the adjacent electrical pad, are free of radiological material. Essentially all buildings have enough asbestos in siding, roof and floor tiles and lead paint to require special handling for occupational protection and for prevention of emissions or releases to the environment. The quantities of waste that will be generated by the Project have been estimated; the estimates are provided in the Waste Management Plan and the Demolition Plans included with the Reference Documents.

The terrain at LBNL is very steep, and was terraced to place the buildings. The buildings have slab foundations with the bottom-level-floors' back walls doubling as retaining walls. The floor slab and west foundation of Building 5 work in concert with the east retaining wall in the building. Some Building 5 surfaces attached to the east retaining wall are known to be radiologically contaminated; Offeror shall ensure the retaining wall is restored if its integrity is affected during removal of the contamination.

All occupants have been vacated from the buildings. The buildings have been brought to a "cold and dark" configuration with operational utilities being deactivated except for the fire

suppression and fire alarm systems which are to remain active until the building is ready to be demolished. The electrical pad adjacent to Building 16A will be brought to a cold and dark configuration by LBNL prior to start of contractor field work.

The end state of the site shall be as described in the Demolition Plans (Drawings) included in the Reference Documents. The Project objectives, which are expounded in the Reference Documents, follow:

1. Conduct all operations in accordance with the Project Reference Documents.
2. Remove fixed equipment and Buildings 5, 16, and 16A and the adjacent electrical pad, to slab on grade.
3. Characterize slab and soil under de-energized electrical pad.
4. Remove slabs and footings for Building 5, 16, 16A and the adjacent electrical pad, 40, 41, 52, and 52A slabs and surrounding contaminated soil.
5. Reinforce or construct new retaining walls.
6. Conduct all demolition and excavation so as not to impact LBNL research operations.
7. Manage all waste and recycled materials generated by the Project in accordance with approved procedures drawings and plans, obtain net weight of waste shipments, and dispose of the waste at appropriate disposal facilities.
8. Conduct verification sampling to ensure that cleanup has met the DTSC Industrial Use Standard (if required).
9. Provide a suitable MARSSIM final status survey of the Building 5 site and yard.
10. Restore the Project sites to a safe, clean stable state.

The work associated with the Project encompasses myriad tasks and deliverables. Generally the work activities include the following:

- Project management, support, and oversight
- Training
- Work control planning, and document and program preparation
- Work control implementation and readiness demonstration
- Utility isolation and removal
- Hazardous material abatement
- Radiological material removal
- Building, slab, and foundation demolition
- Retaining wall reinforcement or replacement
- Waste and debris characterization, removal, and disposal
- Recyclable and salvageable material removal
- Contaminated soil cleanup, including removal and disposal
- Site restoration and stabilization

Stabilization of the site includes relocation of Groundwater Treatment System, reinforcement or replacement of retaining walls, paving, striping, drainage, lighting, safety barriers, railings, signage, pedestrian access etc. A description of the end state for the Project is shown in the table below.

End State Categories	End State Description and Completion Criteria
1. Equipment and structures	<p>Equipment within the buildings and electrical pad have been characterized, removed and dispositioned in accordance with DOE Order 458.1.</p> <p>Buildings and/or pads 5, 16, 16A, 40, 41, 52, 52A, and the Old Town electrical pad are demolished, removed and disposed at appropriately licensed facilities, including floor slabs, foundations, and footings down to approximately 3 feet below grade and 3 feet around the building perimeters and including incidental soil cleanup.</p>
2. Service and Utility Systems and Equipment	<p>Inactive and abandoned utility systems, equipment and waste process piping are air-gapped and capped at logical locations, removed as necessary, and properly disposed.</p> <p>The existing groundwater treatment system has been relocated to allow cleanup of remaining contaminated groundwater.</p> <p>Active utilities running through the site, e.g., 12kV electrical above ground lines, foundation drains, ground water monitoring wells are protected and remain active.</p>
3. Radiological Materials	<p>Radioactively-induced/activated and surface-contaminated materials have been characterized and disposed of in accordance with regulatory requirements to NNSS or other appropriate facility.</p>
4. Hazardous Items and Materials	<p>Hazardous materials and chemicals have been characterized, removed and abated in accordance with environmental regulations and disposed at appropriately licensed facilities.</p>
5. Non-Hazardous Materials	<p>Clean demolition scrap, salvage, and wastes are removed and dispositioned to approved locations and recycled to the extent practical.</p>
6. Site	<p>Retaining walls, paving, drainage, lighting, signage, pedestrian access, safety barriers, hand and guard rails, hydroseeding, etc. have been installed to stabilize former building footprints and render a safe site.</p>

Specific documents and programs to be prepared by the Subcontractor are described in the Reference Documents. Document and program preparation shall include time for review, comment resolution, re-review and approval. Subcontractor support during LBNL review and approval of Subcontractor-prepared documents and programs shall be provided as needed.

Reviews of the Subcontractor's submittals and other deliverables will be performed by LBNL and DOE. A work planning and control readiness review will be conducted with the Subcontractor prior to field work; Notice to Proceed will be contingent on passing the review. The readiness review will be performed subsequent to subcontractor document preparation and will include review of subcontractor's implementation of programs and plans including initial

work control documents (also called work plans or work packages). The review may result in findings requiring subcontractor resolution prior to LBNL issuance of a Notice to Proceed.

Additional Project reviews to be supported by the subcontractor may include biannual Project performance reviews focusing on cost and schedule performance and bi-annual ES&H reviews focusing on compliance with ES&H program requirements. Any stand-down called by LBNL resulting from subcontractor's safety violation will be conducted at no cost to the University.

Contractor requirements are contained within numerous documents including those flowed down from DOE and LBNL, and the within named Reference Documents, such as the Quality Assurance Project Plan. These requirements include, but are not limited to, areas such as training, reporting, records management, procurement, and quality control.

## **REFERENCE DOCUMENTS**

The Documents listed below are provided on Compact Disk (CD) and need not be returned with the proposal. Inconsistencies among Project documents will be resolved by LBNL. Document hierarchy will be resolved on a case-by-case basis and will generally be, from highest to lowest, Federal and State laws, DOE Orders, LBNL policies, LBNL programs, Project plans, Project procedures, and then Project guidance documents.

### Documents containing Project requirements

The following Reference Documents provide additional Project details and requirements:

- Demolition Plans (Drawings)
- Project Manual (Specifications)
- Mechanical Deactivation Plan
- Underground Piping Removal Plan
- Hazard Analysis Report
- Soil Management Plan
- Mitigation Monitoring Plan
- Vibration Study
- Waste Management Plan
- Storm Water Pollution Prevention Plan
- Staging & Logistics Plan
- Quality Assurance Project Plan [Document to be issued in separate transmittal]
- Sub-Slab Soil Characterization and Soil Cleanup Plan [Document to be issued in separate transmittal]

### Documents containing useful Project information

The following Reference Documents provide information deemed applicable to the Project and provided for the Offeror to use in the development of their proposal:

- Reconnaissance Level Characterization Reports
- Geotechnical Investigation Report
- HVAC Removal Plan
- Structural Calculations
- Electrical Deenergization Plans
- Existing Building Reference Drawings