

Exhibit C – Scope of Work and Schedule

PURPOSE

The work under this Enforcement Order with the United States Department of Army (Army) involves developing Remedial Investigation (RI) Work Plans, conducting a RI, conducting a Feasibility Study (FS), and preparing a preliminary Draft Cleanup Action Plan (DCAP). The purpose of the RI, FS, and preliminary DCAP for the Yakima Training Center Facility (Facility) is to provide sufficient data, analysis, and evaluations to enable Ecology to select a cleanup alternative for the Facility.

The Army shall coordinate with Ecology throughout the development of RI Work Plans and the RI, and shall keep Ecology informed of changes to any Work Plan or other project plans, and of any issues or problems as they develop as required by the Enforcement Order.

The Scope of Work (SOW) is divided into tasks as follows:

- Task 1. Remedial Investigation Work Plans
- Task 2. Remedial Investigation
- Task 3. Interim Action(s) (if required)
- Task 4. Feasibility Study
- Task 5. State Environmental Policy Act (SEPA) Compliance
- Task 6. Public Participation
- Task 7. Preliminary Draft Cleanup Action Plan
- Task 8. Quarterly Progress Reports

TASK 1. REMEDIAL INVESTIGATION WORK PLANS

The Army shall prepare Remedial Investigation (RI) Work Plans. The purpose of the RI for the facility is to provide sufficient data, analysis, and evaluations to enable Ecology to understand the nature, scope, and extent of hazardous substances in soil and groundwater at and originating from the facility.

Work Plans shall include an overall description and schedule of each RI/FS activity. The Work Plans shall clearly describe the project management strategy for implementing and reporting on RI/FS activities. The responsibility and authority of all organizations and key personnel involved in conducting the RI/FS will be outlined.

Work Plans shall describe general facility information; facility history and conditions, including previous operations; past field investigations, including any data collection and analysis of soils, groundwater, sediment, and surface water; a conceptual site model showing contaminants, migration pathways in all environmental media, potential receptors, and screening levels based on the conceptual site model; geology and groundwater system characteristics; past, current, and future land use; identification of natural resources and

ecological receptors; hazardous substances and their sources, etc., in compliance with WAC 173-340-350.

As part of the project background, the Army will compile and evaluate existing environmental data on facility soil, groundwater, sediment, and surface water for data gaps. The Army will use the data gaps for conducting additional investigations, as necessary.

The Army's Work Plans will also identify specific data collection procedures in Sampling and Analysis Plans (SAP) and Quality Assurance Project Plans (QAPP) as part of the Work Plans in compliance with WAC 173-340-820 for defining the nature and extent of contamination. The Work Plans will also contain a Health and Safety Plan (HSP) consistent with WAC 173-340-810 to be followed during conductance of the RI/FS.

A SAP identifies the proposed number and location of all environmental samples and methods, including soil borings; groundwater monitoring wells; soil and groundwater, samples; approximate depths of soil boring and monitoring wells; and includes a QAPP. Each SAP will describe the sampling objectives, the rationale for the sampling approach (based upon the identified data gaps), and plans for data use, and shall provide a detailed description of sampling tasks. Each SAP shall describe specifications for sample identifiers; sampling equipment; the type, number, and location of samples to be collected; the analyses to be performed; descriptions of sampling equipment and methods to be used; sample documentation; sample containers, collection, and handling; data and records management; and schedule.

The QAPPs will be prepared in accordance with the Guidance for Preparation of Quality Assurance Project Plans, EPA Region 10, Quality Data Management Program, QA/R-5 and requirements of the EPA Contract Laboratory Program. Each QAPP will also follow Ecology's Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (July 2004, <http://apps.ecology.wa.gov/publications/summarypages/0403030.html>). Laboratories must meet the accreditation standards established in WAC 173-50. Data quality objectives will reflect the criteria or threshold values used for the source control evaluation.

Each SAP, including the QAPP and HSP, will be submitted to Ecology for review and approval. As with all environmental work at the facility, work may not begin without written approval from Ecology. The plan shall provide seven (7) business days notice to Ecology prior to beginning sampling. Ecology may obtain split samples.

The Army or their contractors shall submit all new sampling data generated under SAPs and any other collected data to Ecology for entry into the Environmental Information Management System (EIM) in accordance with WAC 173-340-840(5) and Ecology's Toxics Cleanup Program 840 (Data Submittal Requirements). All validated data will be entered into the EIM database within 30 days of submittal.

RI/FS tasks and subtasks may include, but are not limited to the following, as necessary to address data gaps identified in Work Plans:

- Sampling and analysis of soil, sediment, groundwater, seeps/springs, and surface water;
- Sampling and analysis of stormwater and catch basin solids;
- Developing a conceptual site model for the facility, including evaluation of all potential pathways and potential receptors that exist for contaminants of concern at the facility;
- Defining the nature and extent of contamination based on screening levels protective of all receptors at and down gradient of the facility.

Work Plans shall not be implemented until approved by Ecology. The Army shall coordinate with Ecology throughout the development of the RI/FS and DCAP (as appropriate) and shall keep Ecology informed of changes to Work Plans and other project plans and of issues and problems as they develop.

The RI shall identify appropriate preliminary cleanup levels (e.g., levels established under MTCA (*see* WAC 173-340-700 through 173-340-760)). Note that the preliminary cleanup levels must consider all applicable pathways including direct contact, media transfer pathways (e.g., leaching to groundwater, groundwater migration to surface water, etc.), and exposure to terrestrial and/or aquatic ecological receptors.

As part of the RI, the Army must plot existing analytical data (as accurately as possible) on both historical and current aerial photographs using geo-referencing techniques. The Army shall review all sample locations with respect to identified sources and areas where suspected releases (e.g., discharges, spills, dumping, leaks, etc.) have occurred. The Army shall evaluate all of the existing analytical data collected at the Facility in terms of data usability (analytical methods used to evaluate the effectiveness of a cleanup action shall comply with the requirements in WAC 173-340-830) and screened against the most protective preliminary cleanup levels identified under an unrestricted land use scenario. Both non-detect and detected data should be included in the screening. The Army shall identify sample points containing exceedances on a map and also discuss the adequateness of the reporting limits in terms of achieving the preliminary cleanup levels. Chemicals exceeding the preliminary cleanup levels should be identified as contaminants of potential concern.

The Army shall prepare draft Work Plans and submit them electronically, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and comment. After resolving Ecology's comments on draft Work Plans and after Ecology approval, the Army shall prepare Final Work Plans and submit them electronically, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology.

TASK 2. REMEDIAL INVESTIGATION

The Army shall conduct a RI that meets the requirements of WAC 173-340-350(7). The RI will determine the nature and extent of contamination exceeding Model Toxics Control

Act (MTCA) cleanup levels and other regulatory requirements. The RI must provide sufficient data and information to define the nature and extent of contamination.

Field sampling and analysis will be completed in general accordance with SAPs and QAPPs. Deviation(s) from approved SAPs and QAPPs must be communicated to Ecology immediately and documented in the RI Report as required by Ecology.

The Army shall provide interim data reports and updates to Ecology as new facility data and information become available. Laboratory analysis data shall also be provided in electronic format when it has been validated. Raw laboratory data will be provided to Ecology upon request. Analytical data shall be uploaded into EIM within 30 calendar days of receipt.

The Army shall compile the results of facility investigations into an **Agency Review Draft RI Report**. The Army shall prepare the Agency Review Draft RI Report and submit it electronically, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and comment.

After addressing and resolving Ecology's comments on the Agency Review Draft RI Report and obtaining Ecology approval, the Army shall prepare five (5) copies of a **Public Review Draft RI Report** and submit them, including one electronic copy of each in Word (.doc) and Adobe (.pdf) formats, to Ecology for distribution and public comment.

After addressing and resolving Ecology's comments on the Public Review Draft RI Report, The Army shall submit a **Final Remedial Investigation Report** and submit it electronically, including one electronic copy of each in Word (.doc) and Adobe (.pdf) formats, to Ecology. Electronic survey data for monitoring locations, electronic lab data, and electronic GIS and drawing files including maps shall also be provided for all Draft and Final Reports.

If the data collected during this investigation is insufficient to define the full nature and extent of contamination, Ecology shall request additional investigation to define the extent of contamination.

TASK 3. INTERIM ACTIONS (if required)

The following remedial actions may be implemented prior to completion of the RI/FS, including those that:

- are technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance;
- correct a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed; or
- are needed to provide for completion of the RI/FS or design of the cleanup action.

These actions will be implemented in accordance with WAC 173-340-430 and the Enforcement Order, and will be designed in a manner that will not foreclose reasonable alternatives for any final cleanup action that may be required.

If required by Ecology, or if proposed by the Army and approved by Ecology, the Army will implement an interim action. Based upon information in the RI reports, interim action(s) may be needed to expedite control of releases to environmental media pursuant to WAC 173-340-430.

The scope of the interim actions may include, but not be limited to, typical source control or containment elements such as:

- Soil or sediment removal
- Groundwater remediation
- Provision or treatment of water supplies for public or private wells
- Repair, slip lining, replacement, or closure of stormwater conveyances or other structures such as conduit, vaults, catch basins, etc.
- Removal of underground storage tanks and pipes
- Proper abandonment of old wells
- Removal of contaminated building or other structural material
- Construction of a treatment facility

If an interim action is to be performed, the Army will prepare and submit for Ecology approval an **Agency Review Draft Interim Action Work Plan** (IAWP) with detail commensurate with the work to be performed. The Agency Review Draft IAWP shall include, as appropriate:

- Description of the interim action, including its purpose, general requirements, and relationship to the (final) cleanup action (to the extent known);
- Summary of relevant RI/FS information, including at a minimum existing site conditions and alternative interim actions considered;
- Information regarding design and construction requirements, including a proposed schedule, personnel roles, and responsibilities;
- Compliance Monitoring Plan in compliance with WAC 173-340-410;
- SAP, QAPP, and HSP;
- Permits required;
- Schedule.

The Army shall prepare two (2) copies of the Agency Review Draft Interim Action Work Plan and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and approval. The Army shall incorporate Ecology's comments and then prepare two (2) copies of the **Public Review Draft IAWP** and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology. After a public notice and comment period for the Public Review Draft IAWP (and SEPA determination), Ecology will approve the IAWP (if appropriate) and the document will be considered final. The Army shall prepare five (5) copies of the **Final**

Interim Action Work Plan submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

Once Ecology approves the Final IAWP, the Army will implement the interim action according to the schedule contained in the Final IAWP.

Upon successful completion of the work, the Army will prepare an **Agency Review Draft Interim Action Report** as a separate deliverable. The Army shall prepare two (2) copies of the Agency Review Draft Interim Action Report and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and approval. After incorporating Ecology's comments on the Agency Review Draft Interim Action Report and after Ecology approval of a revised Report, the Army shall prepare three (3) copies of the **Final Interim Action Report** and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology. Electronic GIS and drawing files shall also be provided for all Final Reports.

TASK 4. FEASIBILITY STUDY

The Army shall use the information contained in the RI to prepare an **Agency Review Draft FS** for the facility that meets the applicable requirements of WAC 173-340-350(8) according to the Schedule in this exhibit.

The FS shall and a reasonable number and type of cleanup option alternatives for the cleanup action. The Agency Review Draft FS will evaluate remedial alternatives for site cleanup, consistent with MTCA to ensure protection of human health and the environment by eliminating, reducing, or otherwise controlling risk posed through each exposure pathway and migration route.

Prior to beginning the FS, a Key Project Meeting with Ecology and the Army will be held to review Applicable or Relevant and Appropriate Requirements (ARARs), potential remedial alternatives, and establish points of compliance.

The Agency Review Draft FS must include a detailed analysis of each remedial alternative according to the applicable requirements of WAC 173-340-350. The remedial alternatives will be evaluated for compliance with the applicable requirements of WAC 173-340-360 including a detailed evaluation of remedial alternatives relative to the following criteria:

- Compliance with cleanup standards and applicable laws
- Protection of human health
- Protection of the environment
- Provision for a reasonable restoration time frame
- Use of permanent solutions to the maximum extent practicable
- The degree to which recycling, reuse, and waste minimization are employed
- Short-term effectiveness
- Long-term effectiveness
- Net environmental benefit

- Implementability
- Provision for compliance monitoring
- Cost-effectiveness
- Prospective community acceptance

The remedial alternative that is judged to best satisfy the evaluation criteria will be identified. Justification for the selection will be provided, and the recommended remedial alternative further developed, in the FS Report.

The Army shall prepare two (2) copies of the Agency Review Draft FS and submit, including one electronic copy in Word (.doc) and Adobe (.pdf) formats, to Ecology for review. After incorporating Ecology's comments on the Agency Review Draft FS sections, the Army shall prepare five (5) hard copies of the Public Review Draft RI/FS and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for distribution and public comment. The RI/FS shall include data from all rounds of groundwater monitoring. The RI/FS submittal to Ecology shall include electronic survey data for monitoring locations, electronic lab data, and electronic GIS and drawing files including maps. The RI/FS will not be considered Final until after a public review and comment period.

TASK 5. SEPA COMPLIANCE

The Army shall be responsible for complying with the State Environmental Policy Act (SEPA) Rules under WAC 197-11, including preparing and submitting an environmental checklist. The SEPA checklist shall include the environmental components of the cleanup action. The SEPA checklist will be provided to Ecology for review as a requirement of this Enforcement Order.

If, after completion of the Preliminary DCAP, additional remedial actions are necessary that require permits and which trigger an additional SEPA review, an additional SEPA checklist will be completed as required by the permitting agency.

If the result of the threshold determination is a determination of significance, the Army shall be responsible for the preparation of draft and final environmental impact statements. The Army shall assist Ecology with coordinating SEPA public involvement requirements with MTCA public involvement requirements whenever possible, such that public comment periods and meetings or hearings can be held concurrently.

TASK 6. PUBLIC PARTICIPATION

The Army shall prepare a **Draft Public Participation Plan** that complies with the provisions of WAC 173-340-600(9). Ecology shall review, finalize, and implement the Final Public Participation Plan.

Separate public comment periods will be held for 1) the RI/FS Report, and 2) the Draft CAP and SEPA evaluation. After each public comment period is completed, the Army shall

prepare an **Agency Review Draft Responsiveness Summary** that addresses public comments. The Army shall prepare two (2) copies of the Agency Review Draft Responsiveness Summary and submit them to Ecology for review and approval, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology.

For each public comment period, after addressing Ecology's comments and after Ecology approval, the Army shall prepare five (5) hard copies of the **Final Responsiveness Summary** and final technical documents (RI/FS Report; DCAP and SEPA) after public comments are incorporated and submit them to Ecology for distribution, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

TASK 7. PRELIMINARY DRAFT CLEANUP ACTION PLAN

Upon Ecology approval of the Public Review Draft RI/FS Report, a Key Project Meeting with Ecology and the Army will be held regarding the Cleanup Action Plan. The Cleanup Action Plan Meeting will be used to review the approach for developing the **Agency Review Draft Preliminary Draft Cleanup Action Plan (DCAP)**.

The Army shall prepare an Agency Review Draft Preliminary DCAP in accordance with WAC 173-340-380 that provides a proposed remedial action to address the contamination present at or originating from the facility. The Preliminary DCAP shall include a general description of the proposed remedial actions, cleanup standards developed from the RI/FS and rationale regarding their selection, a schedule for implementation, description of any institutional controls proposed, and a summary of applicable local, state, and federal laws pertinent to the proposed cleanup actions.

The Army shall submit an Agency Review Draft Preliminary DCAP electronically, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and approval. The Agency Review Draft Preliminary DCAP will include, but not be limited to, the information listed under WAC 173-340-380.

After incorporating Ecology's comments on the Agency Review Draft Preliminary DCAP, if any, the Army shall revise the Preliminary DCAP and submit five (5) hard copies of the **Public Review DCAP** including one electronic copy each in Word (.doc) and Adobe (.pdf) formats. Electronic GIS and drawing files shall also be provided.

TASK 8. Quarterly Progress Reports

As required by the Enforcement Order, the Army shall submit Progress Reports on a quarterly basis to Ecology electronically; this submittal frequency may be revised in accordance with Section VII.E. of the Enforcement Order. Progress Reports will be submitted to the Ecology project coordinator every third month by the 10th of the month following the reporting period. If this day is a weekend or holiday, Progress Reports will

be submitted to Ecology on the next business day. At a minimum, Progress Reports will contain the following information regarding the preceding reporting period:

- A list of remedial activities that have taken place during the quarter.
- Detailed descriptions of any deviation from required tasks not otherwise documented in project plans or amendment requests.
- Description of all deviations from the Scope of Work and Schedule during the quarter and any planned or necessary deviations in the upcoming quarter.
- For deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule.
- A list of deliverables for the upcoming quarter if different from the schedule.

Schedule of Deliverables

The schedule for deliverables described in the Enforcement Order and the Scope of Work is presented below. If the date for submission of any item or notification required by this Schedule of Deliverables occurs on a weekend, state or federal holiday, the date for submission of that item or notification is extended to the next business day following the weekend or holiday. Nothing shall limit the Army's ability to submit documents prior to the completion times listed below. Where a deliverable due date is triggered by Ecology notification, comments, or approval, the starting date for the period shown is the date the Army received such notification, comments, or approval, unless otherwise noted below. Where triggered by Ecology receipt of a deliverable, the starting date for the period shown is the date Ecology receives the deliverable by certified mail, return receipt requested, or the date of Ecology signature on a hand-delivery form.

Deliverables	Completion Times
Quarterly Progress Reports	Due the 10 th of every third month, beginning after the first full month following the effective date of the Order
Agency Review Draft Remedial Investigation (RI) Work Plan (Work Plan)	90 calendar days following effective date of the Enforcement Order
Final RI Work Plan	90 calendar days following receipt of Ecology comments on the Agency Review Draft RI Work Plan
Agency Review Draft FS Report	180 calendar days following completion of Agency Review Draft Revised RI Report
Agency Review Draft Revised FS Report	45 calendar days following receipt of Ecology comments on Agency Review Draft FS Report
Public Review Draft RI/FS Report 1	45 calendar days following receipt of Ecology comments on Agency Review Draft Revised FS Report
Public Review for Draft RI/FS Report	Scheduled by Ecology following submittal of Public Review Draft RI/FS Report
Agency Review Draft Responsiveness Summary (RI/FS Report)	30 calendar days following close of public comment period
Final RI/FS Report and Final Responsiveness Summary (RI/FS Report)	45 calendar days following receipt of Ecology's comments on the Agency

¹ Includes data from all required quarters of groundwater monitoring.

	Review Draft Responsiveness Summary (RI/FS Report)
Agency Review Draft Preliminary DCAP	90 calendar days following receipt of Ecology's comments on the Agency Review Draft Revised FS Report
Agency Review Draft Revised Preliminary DCAP	45 calendar days following completion of Final RI/FS Report or 30 days following Ecology's comments on the Agency Review Draft Preliminary DCAP, whichever is later.
Agency Review Draft SEPA	Concurrent with Agency Review Draft Revised Preliminary DCAP
Public Review Draft DCAP and SEPA	45 calendar days following receipt of Ecology's comments on the Agency Review Revised Preliminary DCAP and Agency Review Draft SEPA
Public Review of Draft DCAP and SEPA	Scheduled by Ecology following submittal of Public Review Draft DCAP and SEPA
Agency Review Draft Responsiveness Summary (DCAP and SEPA)	30 calendar days following close of public comment period
Final DCAP, SEPA and Responsiveness Summary (DCAP and SEPA)	45 calendar days following receipt of Ecology's comments on the Agency Review Draft Responsiveness Summary (DCAP and SEPA)