

**FINAL**

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**Environmental Assessment for  
Disposal and Reuse of  
Umatilla Chemical Depot, Oregon**



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## **EXECUTIVE SUMMARY**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



# **EXECUTIVE SUMMARY**

## **INTRODUCTION**

Recommendations of the Defense Base Closure and Realignment (BRAC) Commission, also known as the BRAC Commission, made on 8 September 2005, in conformity with the provisions of the Defense Base Closure and Realignment Act of 1990 (Base Closure Act), Public Law (Pub. L.) 101-510, as amended, included the closure of Umatilla Chemical Depot (UMCD), Oregon. In the absence of Congressional disapproval, the BRAC Commission's recommendations became binding on 9 November 2005. The UMCD installation property has been determined to be surplus to Department of the Army (Army) needs. Although the BRAC Law states that closure actions normally must be completed by 15 September 2011, the BRAC Commission found that the International Chemical Weapons Convention Treaty requires completion of the chemical demilitarization mission prior to closure of UMCD, which was completed in 2011. Chemical surety (i.e., the process of cleaning and purging all facilities and equipment of chemical agents) ended in March 2012. On 1 August 2012, UMCD was closed and transferred to inactive operational status in accordance with the Defense Base Closure and Realignment Act of 1990, Pub. L. 101-510, as amended; and the National Defense Authorization Act for Fiscal Year 2012, Pub. L. 112-81 (2012 NDAA). The Army's excess real property interests at UMCD will be disposed of and transferred to new owners according to applicable laws, regulations, and national policy.

Pursuant to the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations, the Army has prepared this Environmental Assessment (EA) to evaluate the environmental and socioeconomic impacts of closing the installation and disposing of the federal fee-owned property and to consider reasonable reuse scenarios. The EA also considers the cumulative impacts of potential redevelopment and reuse of UMCD property by others.

## **BACKGROUND**

The historical mission of UMCD has been the storage, maintenance, and disposal of conventional and chemical munitions. No weapons manufacturing has ever occurred on the site, but ammunition storage, demolition, and minor renovation activities have taken place, as has the destruction (incineration) of chemical weapons. As part of the 1988 BRAC, the installation was realigned and lost its conventional storage mission. The installation remained active with just the storage, maintenance, and disposal of its chemical munitions stockpile. In 2005, the installation was placed on the BRAC closure list with the provision that the installation would close once it had completed the destruction of its chemical agent munitions stockpile.

UMCD included the former Umatilla Chemical Agent Disposal Facility (UMCDF), a multifurnace incineration facility designed to dispose of the stockpile of chemical warfare munitions stored at UMCD. The closed facility consisted of numerous buildings, each providing a specific function for process support, maintenance, utilities, munitions handling and disassembly, agent destruction, and management of residual waste. This facility was completed in 2001. Incineration of chemicals began in 2004 and was completed in 2011, with chemical surety

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



ending in March 2012. The law authorizing destruction of the chemical weapons required that the multifurnace incineration facility be demolished, and demolition is complete. The support buildings remain, however.

UMCD is located in northeastern Oregon approximately 25 miles south of the Tri-Cities area of Washington State; 188 miles east of Portland, Oregon; and 3 miles south of the Columbia River.

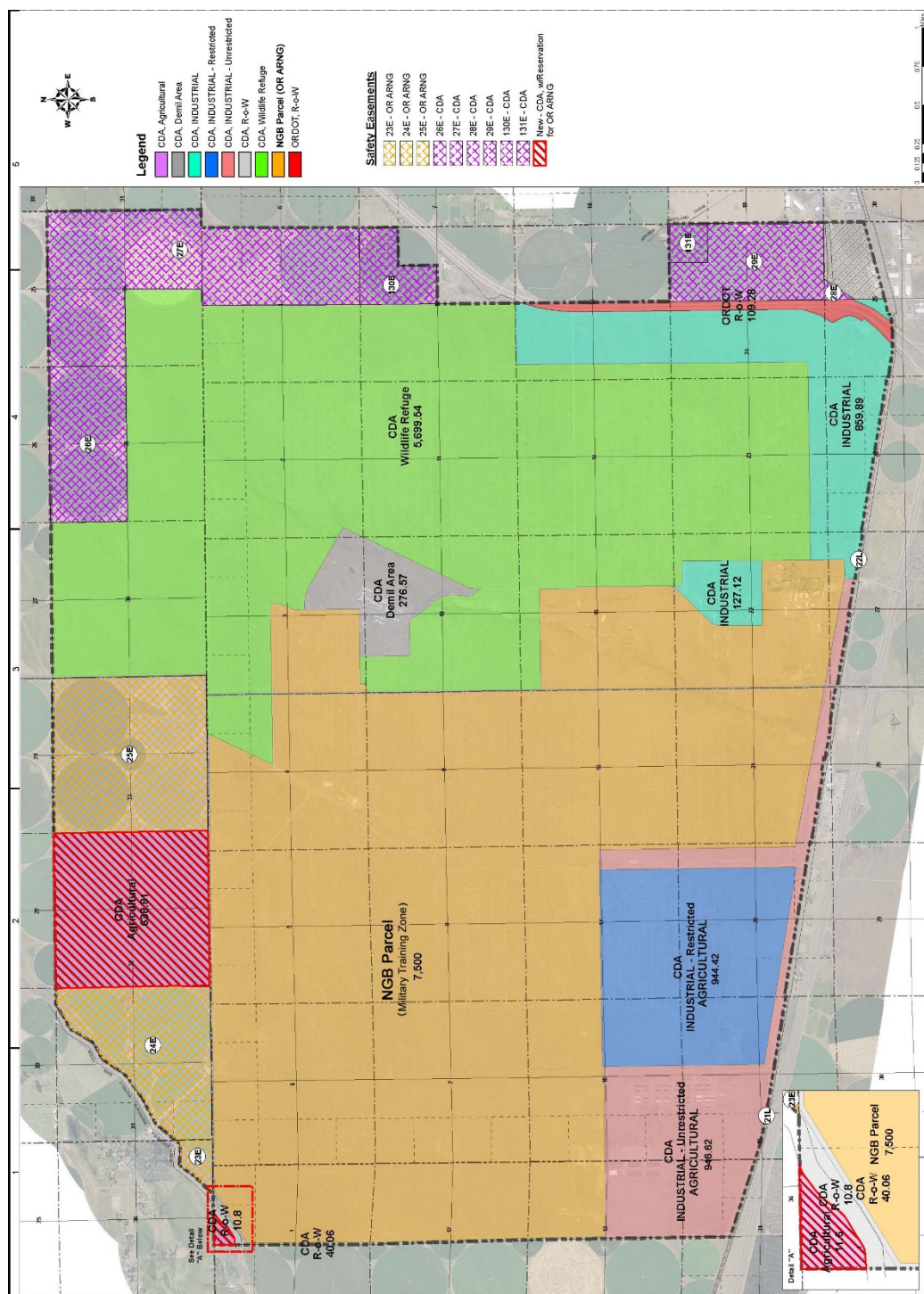
UMCD is bisected by Umatilla County and Morrow County. Irrigated and nonirrigated agriculture use dominates the landscape of the semiarid Columbia Basin; adjacent to UMCD, cottonwood trees, potatoes, onions, corn, wheat, and other crops are grown. There are no agricultural or grazing outleasements on UMCD.

## PROPOSED ACTION AND ALTERNATIVES

The proposed action is to dispose of 9,555 acres of surplus property (Army primary action) (see Figure ES-1) made available by closure mandated by the BRAC Commission and subsequent reuse of installation land and infrastructure by others (secondary action). The UMCD Redevelopment Plan (UMADRA 2010) is analyzed for potential environmental impacts that are likely to result from the transition from Army ownership to other federal agencies and private ownership. This action includes caretaker operations, cleanup of contaminated sites, and interim leasing. UMCD will be disposed in accordance with the UMCD Redevelopment Plan, which includes a Wildlife Refuge (5,700 acres) and parcels used for industrial redevelopment, agriculture, and transportation rights-of-way. As authorized by the 2012 NDAA, the remaining 7,500 acres of UMCD property will be transferred to the National Guard Bureau (NGB) and reassigned to the Oregon Army National Guard (ORARNG) for military training. ORARNG currently uses this property for training activities under a license issued by the Department of Army through the U.S. Army Corps of Engineers. Although the transfer of administrative control of the NGB Parcel to the ORARNG is not part of the federal action subject to environmental analysis, ORARNG's use of the property is evaluated as part of the cumulative effects analysis within this EA. Any new construction, land management, or training activities within the NGB Parcel would be considered under separate NEPA analyses by NGB.

As a secondary action, the EA evaluates the reuse of the remaining parcels, which consists of 9,555 acres and includes the Wildlife Refuge and several parcels allocated for industrial purposes, agriculture, and transportation rights-of-way. The Army proposes to dispose of the UMCD property to nonfederal entities for redevelopment consistent with the UMCD Redevelopment Plan. The Wildlife Refuge has been set aside for conservation purposes and limited economic development in the UMCD Redevelopment Plan. The Columbia Development Authority (CDA) would likely select a local land trust to manage the Wildlife Refuge for conservation purposes (UMADRA 2010).

# Environmental Assessment for Disposal and Reuse of Umatilla Chemical Depot, Oregon



**Figure ES-1: Land Parcelization Map with Current Boundary Refinements of the  
Redevelopment Plan**

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Laws and regulations applicable to the proposed action include the Base Closure Act and the Federal Property and Administrative Services Act of 1949. The latter is implemented by the Federal Property Management Regulations. Other regulations and programs governing the disposal and reuse of UMCD property include, but are not limited to, 32 Code of Federal Regulations (CFR) Part 174 (*Revitalizing Base Closure Communities and Addressing Impacts of Realignment*), 32 CFR Part 176 (*Revitalizing Base Closure Communities and Community Assistance*), regulations issued by the Department of Defense (DOD) to implement BRAC law, and the President's Program to Revitalize Base Closure Communities. Additional relevant federal statutes include the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act); Clean Air Act; Noise Control Act; Endangered Species Act; National Historic Preservation Act (NHPA); Archaeological Resources Protection Act; Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Community Environmental Response Facilitation Act (CERFA); and Toxic Substances Control Act.

The framework of these laws within the context of the NEPA analysis provides standards that guide environmental compliance and planning, and their consideration in the NEPA process helps ensure the preservation and promotion of environmental values in property transfer and reuse planning. Issues related to implementation actions consistent with several Executive Orders (EOs) relevant to this BRAC action are also considered in this EA.

Alternatives for the proposed action pertaining to property disposal and transfer include the following:

- early transfer disposal—transfer before environmental remediation is completed
- traditional disposal—transfer property once environmental remediation is completed
- caretaker status—secure property and continue environmental remediation
- no action—continue the mission as prior to November 2005

Inclusion of the no action alternative is prescribed by the Council on Environmental Quality regulations implementing NEPA and serves as a benchmark against which federal actions can be evaluated. Accordingly, the no action alternative is evaluated in this EA as a baseline for comparing the effects of the disposal and reuse alternative on the environment.

The Army considers the UMCD Redevelopment Plan as the primary source from which to determine reuse scenarios to be considered. The Umatilla Army Depot Reuse Authority (UMADRA) was the organization established to aid in the transfer of federal property for redevelopment and reuse by others, as further discussed in the following section. In August 2014, the UMADRA reorganized itself as an Implementation Local Redevelopment Authority (I-LRA). In September 2014, the I-LRA was recognized by DOD and was renamed the CDA. In this document, the term UMADRA is used only when referring to historical references of the organization; otherwise, it is referred to as the CDA. The reuse alternative for the UMCD property is analyzed in terms of two separate levels of development intensity based on the



## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMCD Redevelopment Plan, including a Low-Intensity Reuse (LIR) and Medium-Low-Intensity Reuse (MLIR) scenario. The LIR scenario is commensurate with current development intensity, while the MLIR scenario represents more than three times the current level of development intensity. The LIR and MLIR scenarios are intended to provide the boundaries for the lower and upper limits of the reasonable long-term redevelopment of UMCD as foreseen in the Redevelopment Plan.

## DISPOSAL PROCESS

Prior to disposal, the Army may find it necessary to maintain portions of UMCD for an undetermined period. Though it is the goal of this round of BRAC to dispose of federal properties for reuse quickly, if disposal of BRAC properties were delayed, the Army would employ initial maintenance from the time of operational closure until conveyance of the property. This procedure would preserve and protect those facilities and items of equipment needed for reuse in a manner that facilitates redevelopment and adheres to the terms of the Programmatic Agreement (PA) for the protection of historic buildings and structures. In the unlikely event that the property were not transferred, the Army would reduce maintenance levels to the minimum level for surplus government property required by 41 CFR 101-47.402, 41 CFR 101-47-4913, the PA, and by Army Regulation 420-70 (*Buildings and Structures*). Long-term maintenance would consist of minimal activities intended primarily to ensure security and to avoid deterioration and would continue indefinitely until disposal.

The real estate disposal screening process for the UMCD property invited expressions of interest from DOD and other federal agencies, then by the UMADRA, state and local authorities, and homeless assistance providers. ORARNG, U.S. Fish and Wildlife Service, Oregon Department of Transportation, the Ports of Umatilla and Morrow, and two homeless providers, specifically, Agape House and Community Action Program of East Central Oregon (CAPECO), expressed interest in this project in response to this screening. Agape House requested equipment, office furniture, and tools to better serve their clients. CAPECO requested any household goods appropriate for independent living quarters. The UMADRA voted unanimously to support these homeless service providers' requests (UMADRA 2010). With respect to UMCD real property interests, the UMCD Redevelopment Plan calls for a 7,500-acre Military Training Parcel for use by ORARNG. Ownership of the 5,700-acre Wildlife Refuge would be transferred to the CDA, which may select a local land trust to manage this land for conservation purposes in accordance with the UMCD Redevelopment Plan. The remaining 3,854 acres will be transferred to the CDA and/or other entities for industrial, commercial, agricultural, transportation, and other uses in accordance with the UMCD Redevelopment Plan. Methods available to the Army for property disposal at UMCD include economic development conveyance, public benefit conveyance (PBC), negotiated sale, competitive sale, exchanges for military construction, conservation conveyance, and conveyance for cost of environmental remediation. Ninety-six acres along highway 82 will be transferred via a PBC.

American Society for Testing and Materials (ASTM) D6008 establishes the criteria for evaluation within the Environmental Condition of Property (ECP). An ECP report was prepared for UMCD (U.S. Army 2010, 2013) that evaluated UMCD. ASTM D5746 establishes the criteria for assigning the ECP Type (1 through 7) following evaluations. Both are intended to comply with

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



CERFA (Pub. L. 102-426) and guidance established thereunder. CERFA directs federal agencies to evaluate all property on which federal government operations will be terminated to identify uncontaminated parcels. Areas that are designated as Type 1, 2, 3, or 4 are considered suitable for transfer or lease, subject to the applicable qualifiers. Areas that are designated as Type 5, 6, or 7 may not be suitable for transfer by deed under traditional disposal mechanisms, but may be eligible for early transfer under CERCLA 120(h)(3)(C). CERCLA allows the transfer of remediated parcels when the successful operation of an approved remedy has been demonstrated.

An ECP and supporting documentation summarizing CERFA designations for land at UMCD were prepared and submitted to the Oregon Department of Environmental Quality and U.S. Environmental Protection Agency (USEPA) on 14 December 2010, and the ECP acreages were updated in September 2013, November 2015, and July 2016 (U.S. Army 2010, 2013, 2015, 2016). As previously discussed, property containing Types 5, 6, or 7 may be eligible for early transfer, and these mechanisms need to be considered in the NEPA document. Within the CDA Parcel, all 9,555 acres are designated as Types 1, 2, 3, or 4 which includes sites that are either uncontaminated (Type 1) or contaminated with petroleum not regulated under CERCLA (Type 2), or that have been contaminated by hazardous substances but no further cleanup is required (Types 3 and 4). There are no Type 5, 6, or 7 areas on the CDA Parcel.

## ENVIRONMENTAL CONSEQUENCES

Resource areas evaluated in this EA include land use, aesthetics and visual resources, air quality, noise, soils, biological resources, hydrogeology/groundwater, cultural resources, socioeconomics, transportation, utilities, and hazardous and toxic substances. Direct, indirect, and cumulative impacts of each disposal and reuse alternative on the resource areas include a variety of short- and long-term impacts, both adverse and beneficial. Environmental effects are evaluated based on the Region of Influence (ROI). An ROI is a zone or area that is specific to the resource area (land use, air, biological, etc.) where a disposal, reuse, and/or mitigation action has a potential effect. Table ES-1 summarizes the range of environmental and socioeconomic effects associated with each alternative evaluated in the EA over time (e.g., short-term and long-term effects) and for different aspects of the resource (e.g., socioeconomics covers economic growth and quality of life, which may be affected differently by an alternative).

The 7,500 acres remaining in federal ownership is not evaluated as part of the Proposed Action within this EA because the transfer of administrative control to NGB falls under Categorical Exclusion (f)(3) of the Army NEPA Regulations (32 CFR Part 651). Future actions that constitute a separate federal action would require additional NEPA analysis. For this EA, analysis of military training conducted on the NGB Parcel is included as part of the cumulative effects analysis.

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table ES-1: Summary of Effects from Disposal and Reuse of Umatilla Chemical Depot**

Resource Areas	Early Transfer Disposal			Traditional Disposal			Caretaker Status			No Action			Medium-Low Intensity Reuse			Low Intensity Reuse		
	Direct	Indirect	Cumulative	Direct	Indirect	Cumulative	Direct	Indirect	Cumulative	Direct	Indirect	Cumulative	Direct	Indirect	Cumulative	Direct	Indirect	Cumulative
Land Use	◻	○	○	◻	○	○	○	◻	○				◻	○	○	◻	○	○
Aesthetic/Visual Resources	○	◻	○	○		○	◻		○				○	○	○	○	○	○
Air Quality	○	◻	◻	○	◻	◻	○		○				◻	◻	◻	◻		◻
Noise	◻		◻	◻		◻	○		○				◻		◻	◻		◻
Geology and Soils	◻			◻									◻			◻		
Water Resources	◻		◻	◻		◻	○		○				◻		○	◻		○
Biological Resources	◻	◻	◻	◻	◻	◻	○	○	◻				◻	◻	◻	◻	◻	◻
Cultural Resources	◻			◻			◻						◻			◻		
Socioeconomics	○	◻	○	○	○	○	◻	◻	◻				○	○	○	○	○	○
Transportation	○	◻	◻	○	◻	◻	○		○				○	◻	◻	○	◻	◻
Utilities	○			○			◻		○				○			○		
Hazardous/Toxic Substances	◻	◻		◻	◻		○	◻					○	◻	◻	○	◻	◻
<div> <div>○ Beneficial Effect (Minor)</div> <div>◻ Beneficial Effect (Moderate)</div> <div>● Beneficial Effect (Significant)</div> <div>[BLANK] No or Negligible Effects Expected</div> <div>◻ Adverse Effects (Minor)</div> <div>◻ Adverse Effects (Moderate)</div> <div>◻ Adverse Effects (Significant)</div> </div>																		

This table summarizes the range of effects to individual resources over time (e.g., short-term and long-term effects) and for different aspects of the resource (e.g., socioeconomics covers economic growth and quality of life, which may be affected differently by an alternative).

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## DISPOSAL ALTERNATIVES

**Early Transfer Disposal Alternative.** For early transfer disposal, the results of the analysis found that minor, adverse effects would occur for all resource areas. Most of these effects are considered short term. Minor-to-moderate, adverse effects would occur for biological resources and cultural resources. Minor, beneficial effects would occur for land use, aesthetics and visual resources, air quality, noise, utilities, and transportation. Minor-to-moderate, beneficial effects are expected for socioeconomics. Adverse effects may be reduced if mitigation measures are incorporated when the UMCD Redevelopment Plan is implemented, as outlined further below and in Section 4.15.

**Traditional Disposal Alternative.** For traditional disposal, similar effects described for the early transfer disposal alternative would occur, but may occur further into the future as transfer and redevelopment may be delayed due to remediation activities.

**Caretaker Status Alternative.** For the caretaker status alternative, minor, adverse impacts were found for land use, aesthetics and visual resources, biological resources, cultural resources, socioeconomics, transportation, utilities, and hazardous and toxic substances. Some minor, beneficial effects would also occur for land use, air quality, noise, groundwater, biological resources, transportation, and hazardous and toxic substances. Soils would have negligible, adverse effects.

**No Action Alternative.** Implementation of this alternative would result in no beneficial or adverse effects.

## REUSE ALTERNATIVE

Direct, indirect, and cumulative effects of the two reuse scenarios evaluated also have the potential for a variety of adverse and beneficial, short-term and long-term effects. Parcels designated for reuse (9,555 acres) in the UMCD Redevelopment Plan, and their associated acreages are outlined as follows:

- Agriculture (650 acres)
- Highway Commercial/Industrial/Rights-of-Way (1,036 acres)
- Industrial/Restricted (944 acres)
- Industrial/Unrestricted (947 acres)
- Industrial/CDA Demil Area (277 acres)
- Wildlife Refuge (5,700 acres)



## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



It should be noted that the Industrial/CDA Demil Area is the location of the UMCDF, which is now closed.

Within the Redevelopment Plan, the following four goals were developed with public involvement:

- achieving the highest and best use of UMCD's industrial areas including the former UMCDF
- enhancing military training activities by ORARNG
- preserving (and possibly restoring) UMCD's extensive shrub-steppe plant and animal communities
- protecting Native American sacred sites and significant historical sites, if present at UMCD

Present development intensity on the CDA Parcel alone (not including the NGB Parcel), includes a total floor area of all buildings of approximately 1.5 million square feet (SF) over 3,854 acres. After property transfer and full buildout, development intensity outlined in the UMCD Redevelopment Plan was assumed to result in a development density that is similar to current conditions or up to three times the current development density. The LIR and MLIR scenarios are intended to provide the boundaries for the reasonable long-term redevelopment of UMCD as foreseen in the Redevelopment Plan.

**Medium-Low-Intensity Reuse.** Effects related to reuse are more noticeable under the MLIR scenario than under the LIR scenario. This represents development intensity up to three times the current site development density. Reuse of the installation for the MLIR scenario would result in effects similar to and more intense than under the LIR scenario, given the increase in development density. Minor, adverse effects are expected on all resource areas. For biological resources and cultural resources, minor-to-moderate, adverse effects are expected. Minor, beneficial effects would also occur for land use, aesthetics and visual resources, noise, transportation, utilities, and hazardous and toxic substances. In addition, minor-to-moderate, beneficial impacts are expected for socioeconomics.

**Low-Intensity Reuse.** The LIR scenario for UMCD represents a development intensity that is commensurate with the existing density at the installation. It represents a mixture of conservation, industrial, commercial, storage, and agricultural uses. The results of the analysis of environmental and socioeconomic effects generally found overall minor, adverse impacts on all resource areas. Minor-to-moderate, adverse impacts would occur in the context of cultural resources. Beneficial effects on land use, aesthetic and visual resources, noise, socioeconomics, transportation, utilities, and hazardous and toxic substances would also occur.

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## MITIGATION AND RECOMMENDATIONS FOR PLANNING AND MANAGEMENT

Other than adherence to the mitigation terms specified in the PA for the protection of cultural resources, no mitigation is required of the Army to reduce or avoid effects below levels of significance for environmental resources. Federal, state, and local regulations and policies applying to entities that receive properties at UMCD will govern to a large extent the appropriate use and conservation of the environment, including air quality, water resources, cultural resources, and other resources. Beyond such regulations and policies, mitigation and management measures may be implemented by the Army or other entities in order to manage the disposal and redevelopment of the 9,555-acre surplus property successfully at UMCD, according to the principles of sound and sustainable planning as outlined below.

Specific deed notification and restrictions may be required of the Army and other entities in keeping with the assumptions of this EA, along with mitigation and management measures that will ensure successful management of environmental resources according to the principles of sound environmental planning. These are outlined below for each disposal alternative.

## ARMY OBLIGATIONS IN THE PROGRAMMATIC AGREEMENT

Army obligations fully described in the PA are considered mitigations required under the NHPA. These mitigation measures are as follows:

- Consistent with the NHPA and PA, complete an architectural inventory and a Properties of Religious and Cultural Significance survey for the entire installation, and conduct an archaeological survey on the parcels that are leaving federal control. These surveys were completed. Two historic period archaeological sites were identified and recommended as eligible for listing on the National Register of Historic Places (NRHP). These are historic wagon routes that are significant cut-off routes from Cottonwood Bend on the Umatilla River to Irrigon and Boardman, Oregon. Two isolated finds were also located and are likely NRHP-eligible. Additional archaeological investigations at these two finds were recommended. The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) conducted a survey for areas of religious and cultural significance. The architectural inventory was completed and identified as an historic district with a period of significance of 1941-1965. The CTUIR survey identified Traditional First Foods within the project area in particular within the Coyote Coulee area. The Coyote Coulee area and resources are perceived as an individual historic property considered NRHP eligible. Other sacred locations are also identified within the CDA Parcel project area especially in the northeast corner.
- In accordance with the PA, if any archaeological sites eligible for the NRHP are to be transferred out of federal control, the Army shall consult with the State Historic Preservation Officer (SHPO) and the CTUIR to determine appropriate measures to avoid, minimize, or mitigate adverse effects on those historic properties. Further, if any NRHP-eligible Properties of Religious and Cultural Significance are identified within the property to be transferred out of federal control, the Army shall consult with the CTUIR and SHPO to determine appropriate measures to avoid, minimize, or mitigate adverse

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



effects to those properties. Adverse effects on aboveground properties transferring out of federal control shall be mitigated in accordance with the steps outlined in the PA.

Future NHPA compliance for UMCD lands transferred to another federal agency will be the responsibility of the receiving agency.

## EARLY TRANSFER/TRADITIONAL DISPOSAL ALTERNATIVES

Beyond the mitigation requirements specified in the PA, the Army will implement appropriate management measures to fulfill obligations pertaining to Army policy and regulations for the disposal of property, and may implement additional mitigation to avoid, reduce, or compensate for adverse effects that might occur as a result of early transfer or traditional disposal, as outlined below.

- Develop sample conveyance documents that would notify future owners of particular notification requirements concerning natural and cultural resources in accordance with Army regulations and guidance. These documents would also identify past hazardous substance activities at each site, as required by CERCLA and CERFA, including restrictions on land use.
- Continue remediation actions as prioritized by the Army and complete all required remediation prior to traditional disposal.
- Until final disposal, maintain installation buildings, infrastructure, and natural resources to the extent provided by Army policy and regulations.
- Manage the property to ensure that the federal facility remains in compliance with federal laws and regulations.
- The RCRA permit and the Federal Facility Agreement (FFA) will impose additional mitigations designed to protect human health. As a component of remedy implementation, the Army may restrict certain types of future land use, impose institutional controls, or take other actions affecting land use to protect human health and the environment. Such restriction would be included in conveyance documents for federal property on future land use. Besides including the UMCDF and at least some of the lands upon which the storage igloos are situated, it will also include the Active Landfill OUs, and that portion of the RDX groundwater plume that crosses from the Explosives Washout Lagoons (EWL) across Coyote Road onto the CDA Parcel. In addition, the Army will be required to conduct 5-year reviews on the Active Landfill operable unit (OU) and on the RDX groundwater plume until it achieves cleanup both on the CDA Parcel and the NGB Parcel.

## CARETAKER STATUS ALTERNATIVE

Beyond the mitigation requirements specified in the PA, the Army will implement appropriate management measures to fulfill obligations pertaining to Army policy and regulations for the

## EXECUTIVE SUMMARY

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



disposal of property, and may implement additional mitigation to avoid, reduce, or compensate for adverse effects that might occur, as outlined below.

- Conduct installation security and maintenance operations to the extent provided by federal policies and regulations.
- Continue to identify clean or remediated portions of the installation excess properties and prioritize restoration and cleanup activities.
- Recycle solid waste and debris, where practicable.
- Continue remediation actions as prioritized by the Army.
- Maintain necessary natural and cultural resources management measures, including continued close coordination with other agencies.
- Actively support the leasing of property over the interim period between closure and redevelopment, where environmental restoration efforts permit, to provide for job creation, habitation and maintenance of structures, and rapid reuse of the installation.
- Continue maintenance of wildlife water devices to minimize potential impacts on wildlife.

**No Action Alternative.** Under the no action alternative, the Army would continue operations at UMCD at the level similar to that occurring prior to the 2005 BRAC Commission's recommendations for closure. Thus, no new increased adverse effects would occur relative to continuation of the Army's mission relative to conditions in November 2005.

**Reuse.** This EA outlines a number of mitigation measures that may be applied by other entities as part of redevelopment of the property to reduce adverse effects identified by this environmental analysis. These measures are summarized in Section 4.15 of this EA.

## CONCLUSIONS

Analyses in this EA show that implementation of the proposed action, disposal, and redevelopment of federal property at UMCD, and the alternatives would not result in significant adverse environmental effects. Redevelopment of UMCD would also result in minor, adverse and beneficial effects on socioeconomics. Thus, an Environmental Impact Statement is not required prior to implementation of the proposed action, and issuance of a Finding of No Significant Impact is appropriate.

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



# Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>INTRODUCTION .....</b>	<b>ES-1</b>
<b>BACKGROUND.....</b>	<b>ES-1</b>
<b>PROPOSED ACTION AND ALTERNATIVES .....</b>	<b>ES-2</b>
<b>DISPOSAL PROCESS .....</b>	<b>ES-5</b>
<b>ENVIRONMENTAL CONSEQUENCES.....</b>	<b>ES-6</b>
<b>DISPOSAL ALTERNATIVES .....</b>	<b>ES-8</b>
<b>REUSE ALTERNATIVE.....</b>	<b>ES-8</b>
<b>MITIGATION AND RECOMMENDATIONS FOR PLANNING AND MANAGEMENT .....</b>	<b>ES-10</b>
<b>ARMY OBLIGATIONS IN THE PROGRAMMATIC AGREEMENT .....</b>	<b>ES-10</b>
<b>EARLY TRANSFER/TRADITIONAL DISPOSAL ALTERNATIVES .....</b>	<b>ES-11</b>
<b>CARETAKER STATUS ALTERNATIVE.....</b>	<b>ES-11</b>
<b>CONCLUSIONS .....</b>	<b>ES-12</b>
<b>1 PURPOSE, NEED, AND SCOPE.....</b>	<b>1-1</b>
1.1 PURPOSE AND NEED .....	1-1
1.2 SCOPE.....	1-1
1.3 PUBLIC INVOLVEMENT .....	1-2
1.4 FRAMEWORK FOR ANALYSIS .....	1-3
1.4.1 BRAC Procedural Requirements.....	1-3
1.4.2 Relevant Statutes and Executive Orders.....	1-5
1.4.3 Other Reuse Regulations and Guidance .....	1-5
<b>2 DESCRIPTION OF THE PROPOSED ACTION .....</b>	<b>2-1</b>
2.1 INTRODUCTION .....	2-1
2.1.1 Site History and Legacy.....	2-1
2.1.2 Site Context and Conditions.....	2-3
2.2 IMPLEMENTATION PROPOSED .....	2-4
2.2.1 Army Disposal Action .....	2-4
2.2.2 Community Reuse.....	2-5
2.2.3 Implementation.....	2-6

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



2.3	DISPOSAL PROCESS.....	2-6
2.3.1	Maintenance of Property until Disposal.....	2-6
2.3.2	Contaminated Sites.....	2-7
2.3.3	Areas that are Designated as Interim Uses .....	2-7
2.3.4	Real Estate Disposal Process .....	2-7
3	ALTERNATIVES.....	3-1
3.1	INTRODUCTION.....	3-1
3.2	DISPOSAL ALTERNATIVES.....	3-2
3.2.1	No Action Alternative.....	3-2
3.2.2	Early Transfer Alternative.....	3-2
3.2.3	Traditional Disposal Alternative.....	3-3
3.2.4	Caretaker Status Alternative.....	3-4
3.2.5	Encumbrances Applicable to Either Disposal Alternative .....	3-4
3.3	REUSE ALTERNATIVE .....	3-8
3.3.1	Development of Reuse Scenarios.....	3-8
3.3.2	Reuse Intensity Categories Described .....	3-9
3.3.3	Baseline Land Use Intensity.....	3-11
3.3.4	Local Redevelopment Plan.....	3-11
3.3.5	Reuse Scenarios Evaluated in Detail.....	3-13
3.3.6	Reuse Scenarios Not to Be Evaluated in Detail .....	3-19
4	AFFECTED ENVIRONMENT AND CONSEQUENCES .....	4-1
4.1	INTRODUCTION.....	4-1
4.1.1	Resource Category Evaluations.....	4-2
4.1.2	Resource Categories that are not Present .....	4-4
4.1.3	Resource Categories that are Present but not Retained for Further Detailed Analysis .....	4-4
4.1.4	Resource Categories that are Present and Selected for More Detailed Analysis 4-5	
4.2	LAND USE .....	4-7
4.2.1	Affected Environment .....	4-7
4.2.1.1	Regional Geographic Setting and Location.....	4-7
4.2.1.2	UMCD and CDA Parcel Land Use .....	4-8
4.2.1.3	Airspace Use.....	4-10
4.2.1.4	Current and Future Development in the Region of Influence.....	4-11

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



4.2.2	Consequences.....	4-11
4.2.2.1	Early Transfer Disposal Alternative.....	4-11
4.2.2.2	Traditional Disposal Alternative .....	4-12
4.2.2.3	Caretaker Status Alternative .....	4-12
4.2.2.4	No Action Alternative .....	4-13
4.2.2.5	Reuse.....	4-13
4.3	AESTHETICS AND VISUAL RESOURCES.....	4-17
4.3.1	Affected Environment .....	4-17
4.3.2	Consequences.....	4-19
4.3.2.1	Early Transfer Disposal Alternative.....	4-19
4.3.2.2	Traditional Disposal Alternative .....	4-19
4.3.2.3	Caretaker Status Alternative .....	4-19
4.3.2.4	No Action Alternative .....	4-19
4.3.2.5	Reuse.....	4-20
4.4	AIR QUALITY .....	4-21
4.4.1	Affected Environment .....	4-21
4.4.1.1	Regulatory Authorities and Air Quality Attainment Status.....	4-21
4.4.1.2	Air Pollutant Emissions at UMCD.....	4-23
4.4.1.3	Regional Air Pollutant Emissions Summary.....	4-24
4.4.2	Consequences.....	4-24
4.4.2.1	Early Transfer Disposal Alternative.....	4-24
4.4.2.2	Traditional Disposal Alternative .....	4-25
4.4.2.3	Caretaker Status Alternative .....	4-25
4.4.2.4	No Action Alternative .....	4-25
4.4.2.5	Reuse.....	4-25
4.5	NOISE .....	4-29
4.5.1	Affected Environment .....	4-29
4.5.2	Consequences.....	4-31
4.5.2.1	Early Transfer Disposal Alternative.....	4-31
4.5.2.2	Traditional Disposal Alternative .....	4-32
4.5.2.3	Caretaker Status Alternative .....	4-32
4.5.2.4	No Action Alternative .....	4-32
4.5.2.5	Reuse.....	4-32



## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



<b>4.6</b>	<b>GEOLOGY AND SOILS</b>	<b>4-33</b>
4.6.1	Affected Environment	4-33
4.6.1.1	Physiography and Topography	4-33
4.6.1.2	Structure and Subsurface Strata	4-33
4.6.1.3	Soils	4-34
4.6.1.4	Seismic Activity	4-34
4.6.2	Consequences	4-35
4.6.2.1	Early Transfer Disposal Alternative	4-35
4.6.2.2	Traditional Disposal Alternative	4-35
4.6.2.3	Caretaker Status Alternative	4-35
4.6.2.4	No Action Alternative	4-35
4.6.2.5	Reuse	4-35
<b>4.7</b>	<b>WATER RESOURCES</b>	<b>4-37</b>
4.7.1	Affected Environment	4-37
4.7.1.1	Surface Water Features and Quality	4-37
4.7.1.2	Groundwater Resources and Quality	4-39
4.7.1.3	Floodplains and Wetlands	4-40
4.7.2	Consequences	4-40
4.7.2.1	Early Transfer Disposal Alternative	4-40
4.7.2.2	Traditional Disposal Alternative	4-41
4.7.2.3	Caretaker Status Alternative	4-41
4.7.2.4	No Action Alternative	4-42
4.7.2.5	Reuse	4-42
<b>4.8</b>	<b>BIOLOGICAL RESOURCES</b>	<b>4-45</b>
4.8.1	Affected Environment	4-45
4.8.1.1	Flora	4-45
4.8.1.2	Fauna	4-46
4.8.1.3	Wetlands	4-50
4.8.2	Consequences	4-50
4.8.2.1	Early Transfer Disposal Alternative	4-50
4.8.2.2	Traditional Disposal Alternative	4-52
4.8.2.3	Caretaker Status Alternative	4-52
4.8.2.4	No Action Alternative	4-52
4.8.2.5	Reuse	4-52



## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



<b>4.9</b>	<b>CULTURAL RESOURCES.....</b>	<b>4-57</b>
4.9.1	Affected Environment .....	4-57
4.9.1.1	Prehistoric and Historic Background .....	4-57
4.9.1.2	Status of Cultural Resource Inventories and Section 106 Consultations 4-60	
4.9.2	Consequences.....	4-64
4.9.2.1	Early Transfer Disposal Alternative.....	4-64
4.9.2.2	Traditional Disposal Alternative .....	4-65
4.9.2.3	Caretaker Status Alternative .....	4-65
4.9.2.4	No Action Alternative .....	4-65
4.9.2.5	Reuse.....	4-65
<b>4.10</b>	<b>SOCIOECONOMICS.....</b>	<b>4-67</b>
4.10.1	Affected Environment .....	4-67
4.10.1.1	Economic Development .....	4-67
4.10.1.2	Regional Demographics .....	4-70
4.10.1.3	Housing .....	4-71
4.10.1.4	Personnel Housing .....	4-71
4.10.1.5	Quality of Life.....	4-72
4.10.1.6	Environmental Justice.....	4-76
4.10.1.7	Protection of Children .....	4-77
4.10.1.8	Homeless, Special Concerns .....	4-78
4.10.2	Consequences.....	4-78
4.10.2.1	Early Transfer Disposal Alternative.....	4-78
4.10.2.1.1	Economic Development.....	4-78
4.10.2.1.2	Sociological Environment (Including Environmental Justice and Protection of Children).....	4-79
4.10.2.1.3	Quality of Life .....	4-79
4.10.2.1.4	Installation Agreements .....	4-80
4.10.2.2	Traditional Disposal Alternative .....	4-80
4.10.2.2.1	Economic Development.....	4-80
4.10.2.2.2	Sociological Environment (Including Environmental Justice and Protection of Children).....	4-80
4.10.2.2.3	Quality of Life .....	4-81
4.10.2.2.4	Installation Agreements.....	4-81

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



4.10.2.3	Caretaker Status Alternative .....	4-81
4.10.2.3.1	Economic Development .....	4-81
4.10.2.3.2	Sociological Environment (Including Environmental Justice and Protection of Children) .....	4-82
4.10.2.3.3	Quality of Life .....	4-82
4.10.2.3.4	Installation Agreements .....	4-82
4.10.2.4	No Action Alternative .....	4-83
4.10.2.5	Reuse .....	4-83
4.10.2.5.1	Socioeconomic Impact Assessment Method of Analysis .....	4-83
4.10.2.5.2	Economic Development .....	4-85
4.10.2.5.3	Sociological Environment (Including Environmental Justice and Protection of Children) .....	4-87
4.10.2.5.4	Quality of Life .....	4-88
4.10.2.5.5	Installation Agreements .....	4-89
4.11	TRANSPORTATION .....	4-91
4.11.1	Affected Environment .....	4-91
4.11.1.1	Roadways and Traffic .....	4-91
4.11.1.2	Installation Transportation .....	4-91
4.11.1.3	Public Transportation .....	4-92
4.11.1.4	Rail .....	4-92
4.11.1.5	Air Traffic and Airspace .....	4-93
4.11.2	Consequences .....	4-93
4.11.2.1	Early Transfer Disposal Alternative .....	4-93
4.11.2.2	Traditional Disposal Alternative .....	4-93
4.11.2.3	Caretaker Status Alternative .....	4-94
4.11.2.4	No Action Alternative .....	4-94
4.11.2.5	Reuse .....	4-94
4.12	UTILITIES .....	4-97
4.12.1	Affected Environment .....	4-97
4.12.1.1	Potable Water Supply .....	4-97
4.12.1.2	Stormwater System .....	4-97
4.12.1.3	Wastewater Treatment .....	4-98
4.12.1.4	Energy Sources .....	4-98
4.12.1.5	Communications .....	4-99

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



4.12.2 Consequences.....	4-99
4.12.2.1 Early Transfer Disposal Alternative.....	4-99
4.12.2.2 Traditional Disposal Alternative .....	4-99
4.12.2.3 Caretaker Status Alternative .....	4-99
4.12.2.4 No Action Alternative .....	4-99
4.12.2.5 Reuse.....	4-100
4.13 HAZARDOUS AND TOXIC SUBSTANCES.....	4-103
4.13.1 Affected Environment .....	4-103
4.13.1.1 CERFA Designation .....	4-103
4.13.1.2 Storage and Handling Areas .....	4-106
4.13.1.3 Hazardous Waste Storage and Disposal.....	4-106
4.13.1.4 Site Contamination and Cleanup.....	4-107
4.13.1.5 Special Hazards .....	4-109
4.13.1.6 Ongoing Remedial Actions .....	4-111
4.13.2 Consequences.....	4-111
4.13.2.1 Early Transfer Disposal Alternative.....	4-111
4.13.2.2 Traditional Disposal Alternative .....	4-112
4.13.2.3 Caretaker Status Alternative .....	4-112
4.13.2.4 No Action Alternative .....	4-112
4.13.2.5 Reuse.....	4-113
4.14 CUMULATIVE EFFECTS.....	4-115
4.14.1 Introduction .....	4-115
4.14.2 Cumulative Actions.....	4-116
4.14.3 Alternatives Overview .....	4-117
4.14.3.1 Early Transfer Disposal Alternative.....	4-117
4.14.3.2 Traditional Disposal Alternative .....	4-120
4.14.3.3 Caretaker Status .....	4-120
4.14.3.4 No Action Alternative .....	4-120
4.14.3.5 Reuse.....	4-121
4.14.4 Greenhouse Gases and Global Climate Change.....	4-123
4.15 MITIGATION AND MANAGEMENT MEASURES .....	4-127
4.15.1 Army Obligations in the Programmatic Agreement.....	4-127
4.15.2 Early Transfer/Traditional Transfer Alternatives.....	4-128
4.15.3 Caretaker Status Alternative.....	4-129
4.15.4 No Action Alternative.....	4-129
4.15.5 Reuse .....	4-129

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



---

<b>5</b>	<b>FINDINGS AND CONCLUSIONS .....</b>	<b>5-1</b>
5.1	INTRODUCTION .....	5-1
5.2	FINDINGS .....	5-1
5.2.1	Consequences of the Early Transfer Disposal Alternative.....	5-1
5.2.2	Consequences of the Traditional Disposal Alternative .....	5-2
5.2.3	Consequences of the Caretaker Status Alternative .....	5-2
5.2.4	Consequences of the No Action Alternative .....	5-2
5.2.5	Consequences of the Reuse.....	5-2
5.3	CONCLUSIONS .....	5-3
<b>6</b>	<b>LIST OF PREPARERS .....</b>	<b>6-1</b>
<b>7</b>	<b>DISTRIBUTION LIST .....</b>	<b>7-1</b>
<b>8</b>	<b>REFERENCES.....</b>	<b>8-1</b>
<b>9</b>	<b>PERSONS CONSULTED.....</b>	<b>9-1</b>
<b>10</b>	<b>ACRONYMS .....</b>	<b>10-1</b>
<b>APPENDIX A</b>	<b>SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN.A-1</b>	
<b>APPENDIX B</b>	<b>PROGRAMMATIC AGREEMENT.....</b>	<b>B-1</b>
<b>APPENDIX C</b>	<b>AGENCY CONSULTATION.....</b>	<b>C-1</b>
<b>APPENDIX D</b>	<b>LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS.....</b>	<b>D-1</b>
<b>APPENDIX E</b>	<b>ECONOMIC IMPACT FORECAST SYSTEM REPORT .....</b>	<b>E-1</b>

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## Figures

Figure ES-1: Land Parcelization Map with Current Boundary Refinements of the Redevelopment Plan .....	ES-3
Figure 2.1-1: Umatilla Chemical Depot Vicinity Map.....	2-2
Figure 2.2-1: Representative Buildings, Wildlife, and Vistas on Umatilla Chemical Depot .. .....	2-5
Figure 3.3-1: Land Parcelization Map with Current Boundary Refinements of the Redevelopment Plan .....	3-12
Figure 4.2-1: Location Map of Umatilla Chemical Depot, Oregon.....	4-7
Figure 4.2-2: Warehouse and Storage Buildings at Umatilla Chemical Depot.....	4-9
Figure 4.3-1: Representative View of the CDA Parcel .....	4-18
Figure 4.7-1: Water Resources in the Vicinity of Umatilla Chemical Depot .....	4-37
Figure 4.7-2: Surface Water Quality with Impaired Streams Shown in Red .....	4-39
Figure 4.11-1: Roadway Map of Umatilla Chemical Depot and Surrounding Areas .....	4-91
Figure 4.11-2: Rail Yard on Umatilla Chemical Depot.....	4-92
Figure 4.13-1: Environmental Condition of Property Types.....	4-105
Figure 4.13-2: EWL Groundwater OU Parcel .....	4-108

## TABLE OF CONTENTS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## Tables

Table ES-1: Summary of Effects from Disposal and Reuse of Umatilla Chemical Depot .....	ES-7
Table 3.3-1: Land Use Intensity Parameters.....	3-10
Table 3.3-2: Reuse Scenarios to be Evaluated in the Environmental Assessment .....	3-13
Table 3.3-3: Permits and/or Reviews Potentially Associated with Solar Energy Facility Development on Wildlife Refuge Parcel, Umatilla County .....	3-18
Table 4.1-1: Summary of Resources Evaluated in this Environmental Assessment .....	4-3
Table 4.2-1: Umatilla Chemical Depot Land Use Descriptions and Acreages .....	4-8
Table 4.2-2: Existing Land Use in CDA Area .....	4-8
Table 4.4-1: National Ambient Air Quality Standards .....	4-22
Table 4.4-2: Umatilla Chemical Depot Plant Site Emission Limits in Tons Per Year .....	4-23
Table 4.4-3: Air Quality Monitor Data, Highest Value .....	4-24
Table 4.4-4: Air Quality Permits .....	4-26
Table 4.5-1: Percentages of County Areas in which Transportation Noise is Noticeable during the Day .....	4-30
Table 4.8-1: Flora and Fauna Special Status Species Potentially Found on Umatilla Chemical Depot.....	4-47
Table 4.10-1: County of Residence of Umatilla Chemical Depot Employees.....	4-67
Table 4.10-2: Labor Force, Unemployment, and Personal Income in the Region of Influence .....	4-68
Table 4.10-3: Employment by Industry (2005).....	4-69
Table 4.10-4: Umatilla Chemical Depot Expenditures (Fiscal Year 2005).....	4-69
Table 4.10-5: Population Growth in the Umatilla Chemical Depot Region of Influence .	4-70
Table 4.10-6: Selected Region of Influence and State Population Characteristics (2005) .....	4-71
Table 4.10-7: Selected Housing Characteristics, Umatilla Chemical Depot Region of Influence (2005).....	4-72
Table 4.10-8: Selected School Characteristics, Umatilla Chemical Depot Region of Influence (2005–2006 School Year).....	4-73
Table 4.10-9: Minority and Low-Income Populations (2005) .....	4-77
Table 4.10-10: Economic Impact Forecast System Model Output, Umatilla Chemical Depot Reuse Intensity Scenarios for the Peak Annual Change in Economic Activity ...	4-84
Table 4.13-1: Umatilla Chemical Depot CERFA Designations on CDA Properties .....	4-104

## PURPOSE, NEED, AND SCOPE

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



# 1 PURPOSE, NEED, AND SCOPE

## 1.1 PURPOSE AND NEED

Recommendations of the Defense Base Closure and Realignment (BRAC) Commission, made on 8 September 2005, in conformity with the provisions of the Defense Base Closure and Realignment Act of 1990 (Base Closure Act), Public Law (Pub. L.) 101-510, as amended, included the closure of Umatilla Chemical Depot (UMCD), Oregon. In the absence of Congressional disapproval, the BRAC Commission's recommendations became binding on 9 November 2005. The UMCD installation property has been determined to be surplus to Department of the Army (Army) needs. Although the BRAC Law states that closure actions normally must be completed by 15 September 2011, the BRAC Commission found that the International Chemical Weapons Convention Treaty requires completion of the chemical demilitarization mission prior to closure of UMCD, which was completed in March 2011. Chemical surety (i.e., the process of cleaning and purging all facilities and equipment of chemical agents) ended in March 2012. On 1 August 2012, UMCD was closed and transferred to inactive operational status in accordance with the Defense Base Closure and Realignment Act of 1990, Pub. L. 101-510, as amended; and the National Defense Authorization Act for fiscal year 2012, Pub. L. 112-81 (2012 NDAA). The Army's excess real property interests at UMCD will be disposed of and transferred to new owners according to applicable laws, regulations, and national policy. The purpose of the proposed action is to carry out the 2005 BRAC Commission's recommendations.

Pursuant to the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations, the Army has prepared this Environmental Assessment (EA) to evaluate the environmental and socioeconomic impacts of closing the installation and disposing 9,555 acres of the federal fee-owned property by transfer to the Columbia Development Authority (CDA) and/or other entities and the secondary action of redevelopment, which includes industrial, commercial, transportation, and other uses in accordance with the UMCD Redevelopment Plan. The EA also considers the cumulative impacts of the continued use of the remaining 7,500 acres of UMCD for military training by the Oregon Army National Guard (ORARNG).

## 1.2 SCOPE

This EA has been developed in accordance with NEPA and associated implementing regulations issued by the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) 1500–1508, and the Army's implementing regulation, *Environmental Analysis of Army's Actions* (32 CFR Part 651). Its purpose is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives. This EA identifies, documents, and evaluates the potential environmental effects of federal property disposal and the effects of reasonably foreseeable reuses of the UMCD property as a secondary action.

The Base Closure Act specifies that NEPA does not apply to actions of the President, the BRAC Commission, or the Department of Defense (DOD) except "(1) during the process of property disposal, and (2) during the process of relocating functions from a military installation being



## **PURPOSE, NEED, AND SCOPE**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated.” The Base Closure Act specifies in Section 2905(c)(2) that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider (1) the need for closing or realigning the military installation that has been recommended for closure or realignment by the BRAC Commission, (2) the need for transferring functions to any military installation, or (3) alternative military installations to those recommended or selected for closure. Accordingly, this EA does not address the need for closure or realignment. However, NEPA does apply to the disposal of excess federal property as a direct Army action and the reuse of such property as a secondary effect of disposal; therefore, those actions are addressed in this document.

For this EA, the proposed action is to dispose of approximately 9,555 acres of surplus property (Army primary action) made available by closure mandated by the BRAC Commission, and to consider the subsequent reuse of installation land and infrastructure by others (secondary action).

Two disposal alternatives (early transfer and traditional) are identified and analyzed in the EA for the Army property, as well as a caretaker status alternative, which might arise prior to disposal, and the no action alternative. In addition to disposal alternatives for the proposed action, the reuse alternative that is based on the UMCD Redevelopment Plan (UMADRA 2010) (see Section 3.3) is also evaluated in this EA. The reuse alternative evaluates a range of reuse intensity scenarios encompassing the UMCD Redevelopment Plan, which is evaluated as a secondary action on federal property to be disposed. These alternatives and scenarios, and the rationale for their selection, are further described in Section 3. It should be noted that a portion of UMCD (7,500 acres) will remain under federal ownership and be transferred to the National Guard Bureau (NGB) for military use by the ORARNG. Future military use of this portion of the installation, referred to as the NGB Parcel, is not part of the proposed action, but it is evaluated as part of the cumulative effects analysis within this EA. Any new construction, land management, or training activities within the NGB Parcel would be considered under separate NEPA analyses by NGB.

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians performed the baseline assessment and impact analysis. The team identified the affected resources, analyzed the proposed action against the existing conditions, and determined the relevant beneficial and adverse effects associated with the action. Section 4 describes the baseline conditions of the affected resources at UMCD as of November 2005. The environmental and socioeconomic consequences of disposal and reuse are also described in Section 4.

### **1.3 PUBLIC INVOLVEMENT**

The Army invites full public participation in the UMCD BRAC NEPA process to promote open communication and better decision making. All persons and organizations that have a potential interest in the proposed action including minority, low-income, disadvantaged, and Native American groups are urged to participate in the NEPA environmental analysis process.



## PURPOSE, NEED, AND SCOPE

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Although not part of the NEPA process, public input on the reuse scenarios was solicited by the Umatilla Army Depot Reuse Authority (UMADRA) in 2009 with seven UMCD public meetings, including two public workshops, two public forums, and three focus group sessions. Additional discussion on the UMCD Redevelopment Plan and the outreach process are discussed in Section 3.3.1 (Development of Reuse Scenarios), and in the UMCD Redevelopment Plan (Section C Public Outreach: The UMADRA Public Outreach and Communication Summary). In August 2014, the UMADRA reorganized itself as an Implementation Local Redevelopment Authority (I-LRA). In September 2014, the I-LRA was recognized by DOD and was renamed the Columbia Development Authority (CDA).

Public participation opportunities with respect to the proposed action and this EA are guided by the provisions of 32 CFR Part 651, *Environmental Analysis of Army Actions*. If the EA concludes that the impacts from the proposed action are less than significant, then a short public document called a Finding of No Significant Impact (FNSI) is prepared to document these findings and explain that an Environmental Impact Statement (EIS) is not required. The final EA and a draft FNSI, if appropriate, will be made available for a 30-day comment period. The EA are available for review on the Web at [http://www.hqda.pentagon.mil/acsimweb/brac/public\\_reviews.html](http://www.hqda.pentagon.mil/acsimweb/brac/public_reviews.html). The Final EA and draft FNSI were also delivered to various agencies, organizations, and public officials outlined in the distribution list presented in Section 7.

During the public comment period, the Army will consider all comments submitted by federal, state, and local agencies; tribes; organizations; and members of the public on the proposed action, the EA, and the draft FNSI. Following consideration of all comments received, the Army may, if appropriate, sign the FNSI and proceed with the proposed action. If it is determined that implementation of the proposed action would result in significant environmental impacts, the Army will publish a Notice of Intent to prepare an EIS in the *Federal Register*.

## 1.4 FRAMEWORK FOR ANALYSIS

Numerous factors contribute to Army decisions relating to disposal of surplus property. The Base Closure Act triggers action under several other federal statutes and regulations. In addition, the Army must adhere to specific rules and procedures pertaining to transfer of federal property, as well as executive branch policies. There are also practical concerns, such as identifying installation assets to allow for disposal in a manner most consistent with statutory and regulatory guidance. These matters are further discussed below.

### 1.4.1 BRAC Procedural Requirements

**Statutory Provisions.** The two laws that govern real property disposal in BRAC are the Base Closure Act and the Federal Property and Administrative Services Act of 1949 (FPASA) (Title 40 of the United States Code [U.S.C.], Sections 101 and following, as amended). The disposal process is also governed by 32 CFR Part 174 (*Revitalizing Base Closure Communities*), 32 CFR Part 176 (*Revitalizing Base Closure Communities and Base Closure Community Assistance*), the President's Program to Revitalize Base Closure Communities, the Pryor Amendment that gives legal authority to the President's Program (discussed below), and regulations issued by DOD to implement BRAC law.

## PURPOSE, NEED, AND SCOPE

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Screening Process.** Having been recommended for closure, the UMCD property has been determined to be excess to Army needs and, therefore, subject to specific procedures to identify potential subsequent public-sector users. The property has been offered to a hierarchy of potential users through procedures called the screening process. This process and its results to date are discussed in Section 2.3.4 (Real Estate Disposal Process).

**The President's Program to Revitalize Base Closure Communities.** On 2 July 1993, President Clinton announced a major new revitalization program to speed the economic recovery of communities near closing military installations. The President pledged to give top priority to early use of each closing installation's most valuable assets. A principal goal of the initiative was to provide for rapid redevelopment and creation of new jobs. In announcing the program, the president outlined the following five parts of his community revitalization plan:

- job-centered property disposal that puts local economic redevelopment first
- fast-track environmental cleanup that removes delays while protecting human health and the environment<sup>1</sup>
- appointment of transition coordinators at installations slated for closure
- easy access to transition and redevelopment help for workers and communities
- larger economic development planning grants to base closure communities

The Army is fully committed to the President's Program to Revitalize Base Closure Communities. A BRAC Environmental Coordinator and Base Transition Coordinator have been appointed for the UMCD property, and the Army has taken an active role in assisting local officials in the community.

**The Pryor Amendment.** Congress endorsed the President's program by enacting the Base Closure Communities Assistance Act (contained in Title XXIX, Pub. L. 103-160), popularly known as the "Pryor Amendment" in recognition of its principal legislative sponsor. This act, as amended, provides legal authority to carry out the President's plan by granting conveyances of real and personal property to a Local Redevelopment Authority (LRA). In the case of UMCD, in August 2014, the UMADRA reorganized itself as an I-LRA. In September 2014, the I-LRA was recognized by the DOD, and was renamed the CDA. Specifically, the act created a new federal property mechanism, the Economic Development Conveyance (EDC). An EDC can help induce a market for the property, thereby enhancing economic recovery and generating jobs. The Army is required to seek fair-market-value consideration for EDC of property on installations that were approved for closure or realignment after 1 January 2005. Some flexibility is given to the military departments and the communities to negotiate the terms and conditions of the EDC. A detailed application, including an approved community redevelopment plan, serves as the basis for determining an LRA's eligibility for an EDC. DOD's regulations implementing the Pryor

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<sup>1</sup> Fast-track cleanup per the President's Program to Revitalize Base Closure Communities is no longer being exercised by the Army.

## PURPOSE, NEED, AND SCOPE

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Amendment appear at 32 CFR Parts 174 and 176. The EDC is further described in Section 2.3.4 (Real Estate Disposal Process).

### 1.4.2 Relevant Statutes and Executive Orders

Numerous factors contribute to Army decisions relating to disposal of installation property including mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, the Army is guided by several relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include, but are not limited to, the Clean Air Act; Clean Water Act (CWA); Coastal Zone Management Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Noise Control Act; Endangered Species Act (ESA); National Historic Preservation Act (NHPA); Archaeological Resources Protection Act; Migratory Bird Treaty Act; Native American Graves Protection and Repatriation Act; American Indian Religious Freedom Act; Resource Conservation and Recovery Act (RCRA); Community Environmental Response Facilitation Act (CERFA); Toxic Substances Control Act; EO 11988 (*Floodplain Management*); EO 11990 (*Protection of Wetlands*); EO 12088 (*Federal Compliance with Pollution Control Standards*); EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*); EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*); and EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*). Key provisions of these statutes and EOs are described in more detail, as needed, in the text of this EA.

### 1.4.3 Other Reuse Regulations and Guidance

The DOD's Office of Economic Adjustment published its Community Guide to Base Reuse in May 1995. The guide describes the base closure and reuse processes that have been designed to help with local economic recovery, and summarizes the many assistance programs administered by the DOD and other agencies. In 2006, DOD published its DOD Base Redevelopment and Realignment Manual (BRRM) (DOD 4165.66-M) to prescribe the procedures on how to reuse and redevelop bases. The BRRM is a DOD instruction manual prepared for DOD agencies. In part, it describes procedures for use by DOD to transfer property in a manner that facilitates reuse and redevelopment. Private entities are not constrained by the BRRM with regard to redevelopment of excess BRAC property. DOD and the U.S. Department of Housing and Urban Development (HUD) have published guidance (32 CFR Part 176) required by Title XXIX of the National Defense Authorization Act for Fiscal Year 1994. The guidance establishes policy and procedures, assigns responsibilities, and delegates authority to implement the President's Program to Revitalize Base Closure Communities (2 July 1993), as endorsed through congressional enactment of the Pryor Amendment.

## **PURPOSE, NEED, AND SCOPE**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## 2 DESCRIPTION OF THE PROPOSED ACTION

### 2.1 INTRODUCTION

The proposed action (Army primary action) is to dispose of the excess property (9,555 acres of land), and to consider subsequent reuse of installation land and infrastructure by others (secondary action).

UMCD is located in northeastern Oregon approximately 25 miles south of the Tri-Cities area of Washington State; 188 miles east of Portland, Oregon; and 3 miles south of the Columbia River (see Figure 2.1-1).

The UMCD Redevelopment Plan (Appendix A) is analyzed for potential environmental impacts that are likely to result from the transition from Army ownership to private ownership.

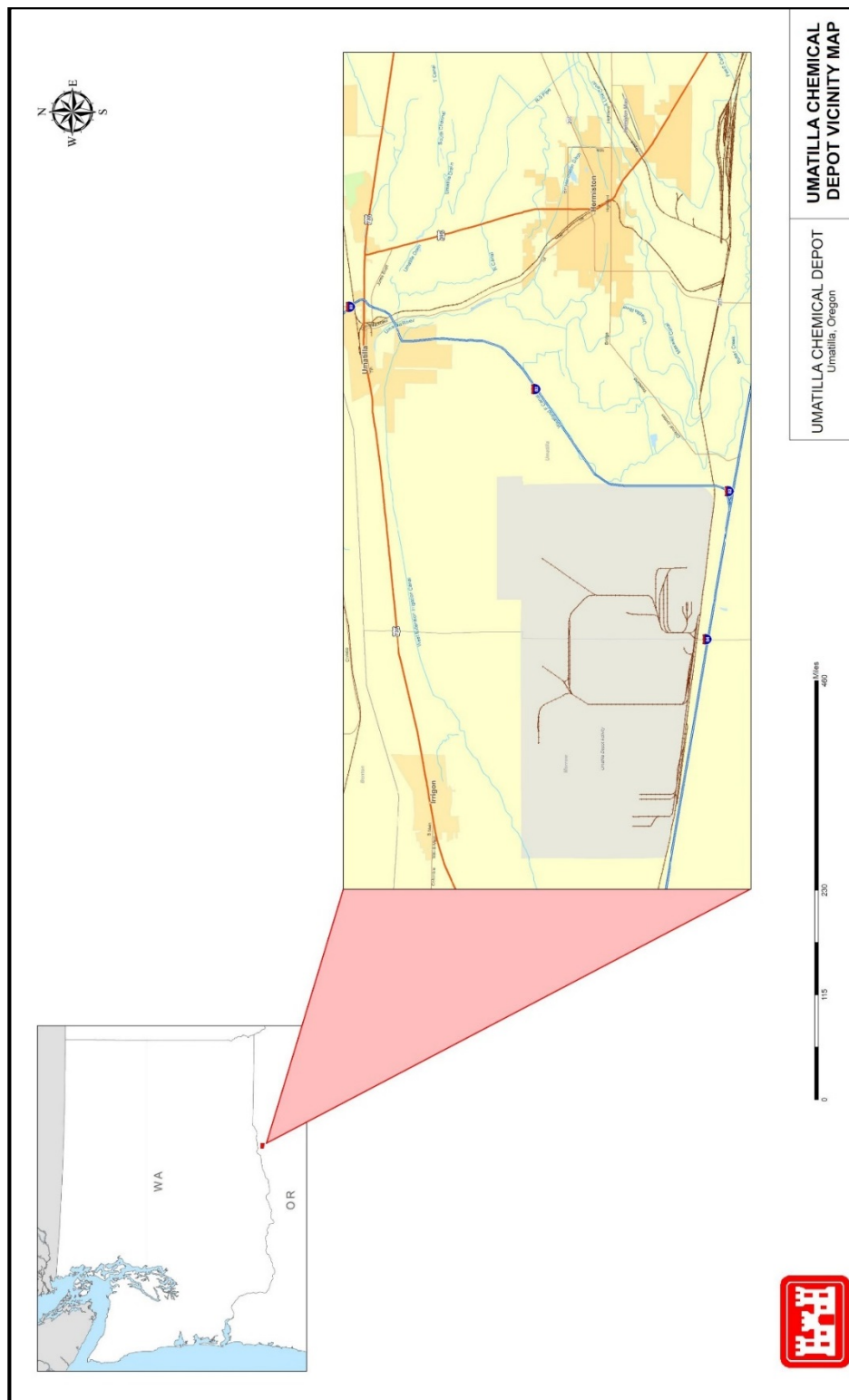
The ORARNG is currently conducting training activities under a license issued by Department of Army through the U.S. Army Corps of Engineers (USACE). The ARNG has validated the ORARNG's need for continued use of 7,500 acres within the NGB Parcel under a licensing agreement commensurate with current use. Although the transfer of administrative control to the NGB is not part of this federal action subject to environmental analysis, ORARNG's use of the property for military training is evaluated as part of the cumulative effects analysis within this EA. Any new construction, land management, or training activities on the NGB Parcel may require additional consideration under a separate NEPA analysis conducted by NGB.

As a secondary action, the EA evaluates reuse of the remaining CDA parcels, which consists of 9,555 acres and includes the Wildlife Refuge and several parcels allocated for industrial purposes, agriculture, and transportation rights-of-way (see Section 3.3.5 for location and further discussion). The Wildlife Refuge consists of 5,700 acres and has been set aside for conservation and economic development purposes in the UMCD Redevelopment Plan. Ownership of the 5,700-acre Wildlife Refuge would be transferred to the CDA, which may select a local land trust to manage the land for conservation purposes in accordance with the UMCD Redevelopment Plan. The Army proposes to dispose of the remaining 3,854 acres of UMCD property to nonfederal entities for redevelopment consistent with the UMCD Redevelopment Plan, which is further discussed in Sections 2.2.2 (Community Reuse) and 3.3.4 (Local Redevelopment Plan), as well as Appendix A.

#### 2.1.1 Site History and Legacy

The site of UMCD was historically inhabited by the Sahaptin-speaking Umatilla Indians. Settlement by Euro-Americans began in the mid-nineteenth century, when mining and grazing opportunities developed. In 1941, a 16,000-acre tract of land was designated as a military reservation in support of World War II. The installation was responsible for the storage and maintenance of various munitions and the storage of nonmunitions supplies.

# Environmental Assessment for Disposal and Reuse of Umatilla Chemical Depot, Oregon



**Figure 2.1-1: Umatilla Chemical Depot Vicinity Map**



## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



In addition to its conventional ammunition and general supply missions, the depot received a new mission in 1962: receiving and storing chemical ammunition. Between 1962 and 1969, the depot received various types of ammunition with the chemical nerve agents VX and GB (sarin), and the mustard blister agent (HD), including 155MM and 8-inch projectiles, M55 rockets, M23 mines, 500- and 750-pound bombs, spray tanks, and one-ton containers.

No weapons manufacturing has ever occurred on the site, but ammunition storage, demolition, and minor renovation activities have taken place, as well as the destruction (incineration) of chemical weapons. As part of the 1988 BRAC, the installation was realigned and lost its conventional storage mission. The installation remained active with just the storage, maintenance, and disposal of its chemical munitions stockpile. In 2005, the installation was placed on the BRAC closure list with the provision that the installation would close once it had completed the destruction of its chemical agent munitions stockpile.

### 2.1.2 Site Context and Conditions

The closest urban concentrations to UMCD are Hermiston, Oregon (5.8 miles, population 14,953); Umatilla, Oregon (11.5 miles, population 6,280); and Irrigon, Oregon (2 miles, population 1,755) (see Figure 2.1-1).

UMCD is bisected by Umatilla County and Morrow County. Irrigated and nonirrigated agriculture use dominates the landscape of the semiarid Columbia Basin. Adjacent to UMCD, potatoes, onions, corn, wheat, and other crops are grown. There are no agricultural or grazing outleases on UMCD.

The land cover outside of UMCD's administrative area is largely a drought-adapted steppe with a native shrub-steppe vegetation type. Elevations on UMCD range from 400 to 677 feet above sea level. The topography, with the exception of Coyote Coulee cutting across the facility along a north 30-degree east axis, is largely flat to gently rolling terrain with slopes ranging from 0 to 7 percent. In general, topography does not represent a land use constraint on UMCD for any major land use with the exception of Coyote Coulee. The slopes in Coyote Coulee range from 5 to 10 percent along the western edge, to 30 to 45 percent along the eastern edge of the escarpment (UMCD 2002).

UMCD has excellent access to road, rail, and river transport. The installation contains approximately 196 miles of internal roadway, of which 160 miles are paved. The southeastern corner of UMCD is adjacent to the intersection of Interstate (I-) 84 and I-82. Immediately adjacent to UMCD, the Union Pacific Railroad (UP) operates one of the principal east-west rail line networks, which was a major factor in base location in 1941. UMCD also has an internal rail network of approximately 50 miles of railroad track.

UMCD encompasses about 17,054 acres of fee-simple ownership. In addition, approximately 2,674 acres of restrictive easements that prevent development on privately owned land serves as a buffer to UMCD to the north and east. These restrictive easements were acquired by the

## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Army in the late 1950s. In total, UMCD has real property interests in approximately 19,728 acres (U.S. Army 2013).

UMCD has 1,222 buildings, including 1,000 storage igloos that were built between 1941 and the end of World War II. In total, there are approximately 3.6 million square feet (SF) of Army-owned facilities on the installation. UMCD also contains six closed landfills. All of these landfills have been studied and certified by the Army, U.S. Environmental Protection Agency (USEPA), and Oregon Department of Environmental Quality (ODEQ) as posing no unacceptable risk to human health or the environment. In addition, the installation has seven water wells with established water rights. Only the administrative area is served by a piped sanitary sewer system.

Representative buildings, wildlife, and vistas of UMCD are presented in Figure 2.2-1.

## 2.2 IMPLEMENTATION PROPOSED

### 2.2.1 Army Disposal Action

The Army proposes to implement the BRAC recommendations for the closure of UMCD. Under provisions of the Base Closure Act, Pub. L. 101-510 mandates the initiation of closures and realignments no later than 2 years after the President transmits the recommendation to Congress, and closures no later than 6 years after the President transmits the recommendation to Congress. In the case of UMCD, BRAC actions recommended by the BRAC Commission specify that "on completion of the chemical demilitarization mission in accordance with Treaty obligations, close Umatilla Chemical Depot, OR" (BRAC Commission 2005). Although the BRAC Law states that these actions normally must be completed by 15 September 2011, the BRAC Commission found that the International Chemical Weapons Convention Treaty requires completion of the chemical demilitarization mission prior to closure of UMCD, which was completed in October 2011. Chemical surety ended in March 2012. On 1 August 2012, UMCD was closed and transferred to inactive operational status in accordance with the Defense Base Closure and Realignment Act of 1990, Pub. L. 101-510, as amended; and the National Defense Authorization Act for Fiscal Year 2012, Pub. L. 112-81 (2012 NDAA). As of 1 August 2012, UMCD was reassigned to the U.S. Army Installation Management Command for management. The U.S. Army Garrison Commander, Joint Base Lewis-McChord (JBLM) assumed command authority for UMCD and property accountability, pending disposal of excess property. The U.S. Army BRAC division manages the installation and oversees a caretaker contractor who maintains the facility. Other related actions that would occur on the installation as a result of the BRAC action but that are not specifically written within the BRAC Commission's recommendation are addressed in the NEPA document.



## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Pronghorn Antelope near Disposal Facility\***



**Semi-Arid Desert Landscape**



**Burrowing Owl**



**Storage Igloo**



**Maintenance Shop Building**



**Administrative Headquarters**

\* Pronghorn antelope herds, which belonged to the Oregon Department of Fish and Wildlife (ODFW), were removed from UMCD in 2013.

**Figure 2.2-1: Representative Buildings, Wildlife, and Vistas on Umatilla Chemical Depot**

### 2.2.2 Community Reuse

In August 2014, the UMADRA reorganized itself as an I-LRA. In September 2014, the I-LRA was recognized by the DOD, and renamed the CDA. Therefore, the terms CDA and LRA are, in this case, interchangeable. The CDA is officially composed of five public bodies: Umatilla County, Morrow County, the Port of Umatilla, the Port of Morrow, and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). The five-member CDA is supported by two ex-

## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



officio members, both representing state government: the governor's office and the Oregon Military Department. Within the UMCD Redevelopment Plan are three basic elements that emerged as a result of the public input received at the UMADRA public workshops held in 2009. (The Army does not plan reuse or solicit comments on reuse and, therefore, did not participate in these workshops.) The following are three basic elements:

- military reuse—accommodating the needs and plans of the ORARNG
- environmental preservation—with a special emphasis on the shrub-steppe habitat
- economic development—job creation and tax base

Selected components of the UMCD Redevelopment Plan are presented in Appendix A of this EA.

### 2.2.3 Implementation

The BRAC process of property disposal includes predisposal activities and real estate disposal, which allow for subsequent reuse and redevelopment. Predisposal activities may include, but are not limited to, NEPA compliance, Section 106 coordination in accordance with the NHPA, property inventories and title reviews, completion of environmental remediation (unless early transfer is negotiated), interim uses, and caretaking of vacated facilities until disposal. In transferring or conveying federally owned property at UMCD, the Army would identify encumbrances consistent with requirements of law, or that would arise through the implementation of environmental remedies. Section 3.2.5 provides details on the encumbrances expected to exist at the time of transfer.

## 2.3 DISPOSAL PROCESS

### 2.3.1 Maintenance of Property until Disposal

Prior to disposal, the Army may find it necessary to maintain portions of UMCD for an undetermined period. If disposal of BRAC properties were delayed, the Army would employ two levels of maintenance: initial maintenance and long-term maintenance.

**Initial Maintenance.** From the time of operational closure until conveyance of the property, the Army would provide for maintenance procedures to preserve and protect those facilities and items of equipment needed for reuse in a manner that facilitates redevelopment in accordance with Army regulations and the Programmatic Agreement (PA). The levels of maintenance during this initial period would not exceed maintenance standards in effect before approval of the closure decision or as required by the PA. Maintenance would not include any property improvements, such as construction, alteration, or demolition. In an appropriate case, however, demolition of nonhistoric buildings could occur, if required for health, safety, or environmental reasons.

**Long-Term Maintenance.** In the unlikely event that the property were not transferred, the Army would reduce maintenance levels to the minimum level for surplus government property required by 41 CFR 101-47.402, 41 CFR 101-47-4913, the PA, and Army Regulation 420-1

## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



(*Buildings and Structures*). Long-term maintenance would not be focused on keeping the facilities in a state of repair to permit rapid reuse. Rather, maintenance during this period would consist of minimal activities intended primarily to ensure security and to avoid deterioration. This reduced level of maintenance would continue indefinitely until disposal.

### 2.3.2 Contaminated Sites

The CERFA publication directs federal agencies to evaluate all property on which federal government operations will be terminated to identify uncontaminated parcels. To determine the baseline nature of contamination on UMCD as a result of past activities, the U.S. Army prepared an Environmental Condition of Property (ECP) report (U.S. Army 2010, 2013). To conduct this study, the property was divided into 100 parcels by type of use to facilitate analysis of site data and reporting the findings. The findings of the ECP are presented in Section 4.13 (Hazardous and Toxic Substances).

### 2.3.3 Areas that are Designated as Interim Uses

During the period of transition preceding property transfer, the Army may enter into an interim lease that would terminate, transfer, or be assigned at the time the property conveys or reverts to its new owner. In such a case, the Army will consult with the CDA before entering into such a lease.

### 2.3.4 Real Estate Disposal Process

The Army may dispose of the UMCD federal property as a single entity or in parcels. After identification of parcels, disposal may occur to meet objectives related to reuse goals, tax revenue generation, and job creation. Methods available to the Army for property disposal include EDC, public benefit disposal conveyance, negotiated sale, competitive sale, and exchanges for military construction.

***Economic Development Conveyance.*** The 1994 Defense Authorization Act provides for conveyance of property through an LRA process to promote economic development and job creation in the local community. An EDC is not intended to supplant other federal property disposal authorities. The Army is required to seek fair-market-value consideration for EDC at property on installations that were approved for closure or realignment after 1 January 2005. To qualify for an EDC, the LRA must submit a request to the Army describing its proposed economic development and job creation program.

***Public Benefit Disposal Conveyance.*** State or local government entities may obtain property when sponsored by a federal agency for uses that would benefit the public, such as education, parks and recreation, wildlife conservation, or public health.

***Negotiated Sale.*** The Army would negotiate the sale of the property to state or local governmental entities, tribal governments, or to private parties at fair market value.

***Competitive Sale.*** Sale to the public would occur, generally through a sealed bid or auction.

## DESCRIPTION OF THE PROPOSED ACTION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



***Exchanges for Military Construction.*** Title 10 U.S.C. Section 2869 of provides an alternative authority for disposal of real property at a closing or realigning installation. This authority allows any federal real property not subject to reversion at such an installation to be exchanged for military construction on that or another location.

***Conservation Conveyance.*** Title 10 U.S.C. Section 2694a allows the military to convey property to state or local government agencies, as well as nonprofit organizations, to conserve natural resources. The deed of the property must include a reversion clause in the event that the property is no longer used for conservation purposes.

***Conveyance for Cost of Environmental Remediation.*** Pub. L. 101-510 stipulates that the military department may convey property to an entity that agrees to undertake the responsibility for a portion or all of remaining environmental actions on the property, such as environmental cleanup actions. Under this provision, the military department would pay the entity the difference between the fair market value of the property and the total remediation costs, if such costs exceed the fair market value. Otherwise, if the environmental costs were below the fair market value of the property, then the entity would pay the military department the difference.

***Local Redevelopment Authority Screening.*** Pursuant to the Base Closure Community Redevelopment and Homeless Assistance Act of 1994, federal property not subject to reversion that is surplus to the federal government's needs must be screened through an LRA by soliciting notices of interest from state and local governments, representatives of the homeless, and other interested parties. An LRA's outreach efforts to potential users or recipients of the property include working with HUD and other federal agencies that sponsor public benefit transfers under the federal FPASA. The UMCD Redevelopment Plan incorporates the notices of interest submitted to the LRA and reflects an overall reuse strategy for the installation.

***Public Agency Screening.*** Consistent with the FPASA, screening notices were sent to federal agencies that approve or sponsor public benefit conveyances and appropriate state and local agencies near the property.



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## 3 ALTERNATIVES

### 3.1 INTRODUCTION

This section addresses alternatives to the Army's primary action of disposal of federal property and the secondary action of property reuse by other entities for portions of the installation, as further described below. Pursuant to the Base Closure Act and the 2005 BRAC Commission's recommendation pertaining to UMCD, continuation of Army operations at UMCD is not feasible. There is no alternative to closure, as described by the BRAC Commission's recommendation, without further legislative action. For federal property, the Army has identified two disposal alternatives (early transfer and traditional), a caretaker status alternative, and the no action alternative. Two reuse scenarios, based on a range of redevelopment intensity, encompass the community's redevelopment plan. Future reuse of UMCD property is analyzed in the context of land-use-intensity categories, as described in Section 3.3.2.

The UMCD Redevelopment Plan is the primary factor in development of the reuse scenarios and effects analysis in the Army's NEPA process for the disposal action. Consideration of the UMCD Redevelopment Plan along with the proposed federal action aids both the community and the Army in achieving informed decision making and consensus on reuse at UMCD.

As of 1 August 2012, UMCD is being administered and maintained by JBLM until final property disposal occurs. This federal property is surplus, and the Army will dispose of it. Predisposal activities may include, but are not limited to, NEPA compliance, Section 106 coordination in accordance with the NHPA, property inventories and title reviews, identifying and cleaning up hazardous substance contamination, caring for vacated facilities, and, as circumstances may require, making interim leasing arrangements.

For the primary action of property disposal, the following alternatives were evaluated as part of the proposed action:

- early transfer disposal—transfer before environmental remediation is completed
- traditional disposal—transfer property once environmental remediation is completed
- caretaker status—secure property and continue environmental remediation
- no action—continue the mission as prior to November 2005

These disposal alternatives are discussed further in Section 3.2. For the secondary action of property reuse, a range of reuse scenarios that bound the intensity of reuse envisioned in the UMCD Redevelopment Plan were used to evaluate the potential impacts associated with redevelopment. The reuse scenarios are discussed in Section 3.3. Although the transfer of administrative control to the NGB is not part of this federal action subject to environmental analysis, ORARNG's use of the property for military training is evaluated as part of the cumulative effects analysis within this EA. Any new construction, land management, or training

## **ALTERNATIVES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



activities on the NGB Parcel may require additional consideration under a separate NEPA analysis by NGB.

### **3.2 DISPOSAL ALTERNATIVES**

#### **3.2.1 No Action Alternative**

Under the no action alternative, it is assumed that the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendation for closure (such as the Explosives Washout Lagoons [EWL] groundwater recovery system). However, implementation of this alternative is not possible due to congressional law. Inclusion of the no action alternative is prescribed by the CEQ regulations implementing NEPA and serves as a benchmark against which federal actions can be evaluated. Accordingly, the no action alternative is evaluated in this EA.

#### **3.2.2 Early Transfer Alternative**

Under the early transfer alternative, the Army has available various property transfer and disposal methods that allow the reuse of the property to occur before environmental remedial actions have been completed. This method of early disposal, allowable under the provision of Section 120(h)(3)(C) of CERCLA, would be to defer the requirement to complete all necessary environmental cleanup prior to the transfer of the property. Parcels could become available for redevelopment and reuse sooner under this disposal alternative than under any other. This provision, known as early transfer authority (ETA), authorizes the deferral of the CERCLA covenant that requires remedial actions to be completed before federal property is transferred.

The ETA is not an actual conveyance mechanism, just a deferral of the CERCLA covenant based on the following findings:

- The property is suitable for transfer for the use intended by the transferee, and the intended use is consistent with protection of human health and the environment.
- The deed or other agreement proposed to govern the transfer between the United States and the transferee of the property contains specified assurances.
- The federal agency requesting the deferral has provided notice (by publication in a newspaper of general circulation in the vicinity of the property) of the proposed transfer, and has provided the opportunity for the public to submit written comments on the suitability of the property for the transfer (within a period of not less than 30 days after the date of the notice).
- The deferral and the transfer of the property would not substantially delay any necessary response action at the property.

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 3.2.3 Traditional Disposal Alternative

Under this alternative, the Army would transfer or dispose of property once environmental remediation is completed for individual parcels of the installation. Under traditional disposal, if a particular long-term environmental remedy is deemed to be working and approved, the Army may transfer the land while holding continuing obligations for limited environmental actions, such as continued monitoring, 5-year review, and continued operation of remedy systems (such as a groundwater recovery system).

The Army is required under CERCLA, as amended by CERFA, to identify uncontaminated property within 18 months of the date the property is selected for closure. The Army has categorized parcels through the analysis documented in the ECP report for UMCD (U.S. Army 2010, 2013). For the purposes of CERFA, uncontaminated property is defined as areas where no release or disposal of hazardous substances or petroleum products has occurred, including any migration of these substances from adjacent areas.

If a portion of a property has been contaminated and the Army opts for traditional disposal, then it must be able to certify that actions necessary to protect human health or the environment have been taken before the transfer or disposal. Traditional disposal may include land use restrictions to preclude, limit, or reduce the duration of contact with environmental media. These restrictions can take the form of general use restrictions, such as prohibiting residential use, or more specific restrictions, such as prohibiting the use of groundwater. Transfer of property not fully remediated is allowed if a long-term environmental remedy is shown to be operating properly and successfully.

Specifically, under traditional disposal, properties that have been classified as Type 1, 2, 3, or 4, per the American Society for Testing and Materials (ASTM) D5746-98 (*Standard Classification of Environmental Conditions of Property Area Types for Defense Base Realignment and Closure Facilities*), would be suitable for transfer. For Type 1 parcels, there is no evidence that a release or disposal of hazardous substances or petroleum products has occurred, including no migration of these substances from adjacent areas. The Type 2 designation is limited to releases of petroleum products, even if those releases have been cleaned up. Type 3 describes releases of hazardous substances below an amount that poses an unacceptable risk to human health or the environment. Because of the nature of the release, cleanup action is not required. A Type 4 parcel had at one time been contaminated by a release of hazardous substances at levels that posed an unacceptable risk to human health or the environment, but is currently remediated to an acceptable level of risk, or by long-term remedy that is considered to be operating properly and successfully. For properties classified as Type 5, 6, or 7, transfer of property is not allowed under traditional disposal. These properties would need to undergo continued environmental actions until these can be reclassified (such as ensuring that a long-term environmental remedy is shown to be operating properly and successfully, and the parcel has been reclassified from Type 5 or 6 to a Type 4). For Type 7 parcels, there is insufficient information to place the area into one of the other property types.

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Some environmental remedial actions may take a long time to be selected, approved, and implemented. Therefore, there may be a prolonged period under this alternative that parcels are not available for transfer or disposal. Furthermore, it is possible that an installation would be moved to long-term caretaker status during this period, as discussed further in Section 3.2.4 below.

### 3.2.4 Caretaker Status Alternative

The caretaker status alternative would arise in the event the Army is unable to dispose of any or all portions of the fee-owned federal property within the period of initial maintenance. Once the time period for initial maintenance elapses, and if the Army has not yet disposed of its property, the Army would then reduce maintenance to levels consistent with federal government standards for excess and surplus properties (i.e., 41 CFR 101-47.402 and 101-47.4913), with Army Regulation 420-1 (*Buildings and Structures*), and with the PA. This long-term maintenance, or "caretaker status" stage, would no longer be focused on keeping the facilities in a state of repair to facilitate rapid reuse. Rather, maintenance during this period would consist of activities intended primarily to ensure security, health, and safety and to avoid physical deterioration. Caretaker status would also include continuation of planned remediation activities. Active natural resource management activities would continue in accordance with federal law.

### 3.2.5 Encumbrances Applicable to Either Disposal Alternative

The Army's methodology for promoting environmentally sustainable redevelopment of BRAC disposal property includes identifying natural and man-made resources that should be protected after ownership transfers out of federal control. The Army develops this information from the environmental baseline information early in the planning process and provides it to the LRA with the recommendation that redevelopment considers protecting these valuable resources and any other conditions that might influence reuse. Using this methodology, the Army hopes to promote sustainable redevelopment and protection of valuable resources.

Encumbrances are legal constraints imposed to protect environmental values, to implement results from Army negotiations with regulatory agencies, or to address specific Army needs. Encumbrances can also arise on all of the property from the nature of the property or as a result of past use of the property. The presence of hazardous building materials or conditions, such as asbestos-containing materials (ACM) and lead-based paint (LBP) are examples of legal encumbrances that might require specific management strategies. In most cases, these conditions would not have material or adverse effects on redevelopment.

The Army's general policy is to impose use restrictions to protect specific resources only when required by a specific statute. For property transfers by deed, there will be a statutorily required clause in the deed allowing the United States access to the property to take environmental remedial or corrective action (see 42 U.S.C. Section 9620[h][3][A][iii]). Such a clause constitutes an encumbrance.



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Use restrictions that the Army would consider include restrictions protecting and preserving cultural resources, and restrictions to protect public health and safety and access to remediation sites. Encumbrances generally are not imposed for other facets of environmental protection and conservation, such as endangered species protection and wetlands protection, because these concerns are already regulated by local, state, and/or federal statutes and must be complied with regardless of property ownership. Furthermore, easements, rights-of-way, and leases may continue on portions of the land.

As part of the disposal process, the Army will also meet all applicable requirements of federal law necessary to carry out agreements with regulatory agencies or to address specific Army needs.

***Types of Encumbrances.*** Major categories of encumbrances, outlined below, can be identified on federal properties.

*Easements, Rights-of-way, and Other Rights.* Real estate might be burdened with utility system, infrastructure-related, roadway, or access easements; rights-of-way; and other rights (e.g., water rights).

*Use Restrictions.* Activities on property might be limited by existing conditions or in recognition of adjacent land uses. For example, use of a former landfill site would preclude ground disturbance of a clay cap but could permit passive uses, such as recreation. The presence of munitions and explosives of concern might preclude some uses of a parcel because of potential safety hazards. Use restrictions might also require that transferees of property take certain actions (e.g., remediate ACM or LBP prior to use of buildings for residential purposes) or refrain from certain actions (e.g., prohibit use of on-site groundwater pending completion of cleanup activities).

*Historic Building or Archaeological Site Protection.* Negotiated terms of transfer or conveyance would result in requirements for new owners to maintain the status quo of historic buildings or archaeological sites or might impose a requirement for consultation with the State Historic Preservation Officer (SHPO) before any actions affecting such resources take place.

***Encumbrances Identified at Umatilla Chemical Depot.*** The following specific encumbrances would be expected to apply at the time of transfer or conveyance of the federal property at UMCD.

*Land Use Restrictions.* The Army's environmental restoration efforts at UMCD will facilitate the land use and reuse needs stated by the UMCD Redevelopment Plan except where such use will be restricted due to environmental conditions. As a component of remedy implementation, the Army may restrict certain types of future land use, impose institutional controls, or take other actions affecting land use to protect human health and the environment. Such restriction would be included in conveyance documents for federal property on future land use.

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



*Protection of Cultural Resources.* To date there are no archaeological sites or properties of religious and cultural significance identified at UMCD. Two standing structures, Building 1 (Headquarters, built in 1941) and Building 2 (Firehouse, built in 1941), were identified as potentially eligible for listing on the National Register of Historic Places (NRHP).

As part of the Section 106 consultation process, a PA concerning cultural resources at UMCD was completed and signed by the Army, the Oregon SHPO, and the Advisory Council on Historic Preservation (ACHP) (see Appendix B). Coordination with all affiliated federally recognized tribes with an interest in UMCD was also completed as part of the Section 106 process (see Appendix C for agency correspondence letters). The CTUIR were invited to sign the PA; however, they declined to do so. The PA requires cultural resource surveys to be completed as follows: the architectural inventory and the Properties of Religious and Cultural Significance survey will be conducted on the entire installation; and the archaeology inventory will be conducted only on the parcels being transferred out of federal government control. If any NRHP-eligible properties are found to be present at UMCD, the PA outlines the mitigation measures that are to be taken. For archaeological sites, the PA requires that the Army consult with the SHPO and the CTUIR to determine appropriate measures to avoid, minimize, or mitigate adverse effects on those historic properties. For properties of religious and cultural significance, the Army will consult with the SHPO and affected tribes to determine appropriate measures to avoid, minimize, or mitigate any adverse impacts. For aboveground historic properties, the PA outlines mitigation measures, including completing digital photographic documentation, public exhibits, and brochures. In the case of historic properties destroyed under international treaty, the PA requires mitigation by completion of Historic American Buildings Survey/Historic American Engineering Record Survey Level II documentation. Should any aboveground properties pass out of Army ownership prior to completion of any investigation, the Army will ensure it has unencumbered site access to complete historic property identification, and any necessary mitigation efforts, as a condition of the transfer.

*Native American Access.* In accordance with federal laws (NHPA of 1966 [as amended], Archaeological Resources Protection Act of 1979, Native American Graves Protection and Repatriation Act of 1990, and the American Indian Religious Freedom Act of 1978), UMCD provides the CTUIR access to all areas of UMCD that are not restricted due to reasons of safety and/or security. The CTUIR has certain rights to natural resources on UMCD through the Treaty of 1855, such as collecting plants needed for ceremonial purposes (UMCD 2007). Privately owned lands are exempt from tribal claims for application of usual and accustomed rights, except for protection of Indian burials; therefore, tribal access to UMCD now afforded by the Army would no longer apply once the lands become transferred to private ownership, unless specified through a deed restriction or other agreement.

*Asbestos-Containing Materials.* An asbestos survey was completed in 1992 (Dames and Moore 1992). Many of the buildings and igloos were found to have ACM. Most of the friable asbestos was abated, especially in buildings that were in use. Much of the nonfriable asbestos has been replaced with non-ACMs during maintenance activities, such as reroofing. Asbestos siding debris that had fallen on the ground was removed from the warehouse Area 100 buildings in October 2011. Twenty asbestos-clad buildings and three metal buildings in the 100 area were demolished in 2015.

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The Army will place a covenant into the deed requiring that the transferee comply with all applicable laws relating to asbestos prior to use of structures containing ACM. The Army will provide notice in the transfer and conveyance documents for those buildings that are known or suspected to contain ACM. Appendix D outlines ACM provisions the Army would typically provide in property transfer documents.

*Lead and Lead-Based Paint.* Most facilities and buildings at UMCD were constructed before the ban on the use of LBP in 1978 and, if painted, are likely to contain one or more coats of such paint. Residential buildings have been abated for LBP, although most have since been demolished. An LBP survey was conducted by the UMCD Safety Office in 1995 and 1996 (USACE 1996). Storage igloos, safety shelters (700 series), and loading piers (800 series) on UMCD were excluded from the analysis because these structures were not painted. In September 2009, a visual site inspection was conducted and representative buildings from each series of buildings were inspected for the condition of exterior paint. Cracked and peeling paint was observed on buildings in the 100 and 200 series. No abatement has occurred, except that the 100-area buildings have been demolished. Appendix D outlines LBP provisions the Army will provide in property transfer documents.

*Water Rights.* In Oregon, water rights are appurtenant (i.e., attached) to the land where the water use is authorized. When a landowner conveys land, water rights attached to that land are also conveyed to the new owner, unless the rights are specifically excluded. The water right can be exercised only on the specific land identified in the water right certificate unless an application to transfer the water right to a different land parcel is approved. There are seven on-site deep wells installed at UMCD that draw from the basalt aquifers. Four of the seven wells provide potable water at UMCD. Wells 6 and 7 are located in the NGB Parcel, but provide water to the Demil Area on the CDA parcel. Wells 4 and 5 are located adjacent to the 100 and 200 series warehouses in the southwest corner of UMCD; the water rights state that this water is for fire protection purposes. Each well has a water right of 1.11 cubic feet per second; these currently supply water to the administrative area and fire hydrants (Lanigan 2015; UMADRA 2010).

*Easements, Rights-of-Way, and Other Rights.* Existing easements, rights-of-way, and other rights (e.g., mineral rights) benefiting or burdening UMCD property would continue after transfer or conveyance. An example of such easements is one held by Umatilla Electric Cooperative (UEC) for a 115-kilovolt electric transmission line through Tracts 26E and 27E in the northeast section of UMCD. Mineral rights may also be transferred to the property recipient. The intent of this transfer would be to enable property owners to recover aggregate for use on-site (Duncan 2015; UMADRA 2010).

*Groundwater Use Restrictions.* As indicated in the ECP (U.S. Army 2010, 2013), nitrate and selenium at concentrations above what are believed to be safe for drinking water are found in the vicinity of the now closed Active Landfill. The presence of these chemicals at elevated concentrations is typical of groundwater found in irrigated areas and are not contaminants from the landfill. RDX, an explosive used in munitions, is also migrating from the adjacent EWL located west of the property. Army has installed and is operating extraction wells to remove this contaminant plume from the transferring property. The deed will include a restriction on the use

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



of these affected groundwaters until such time as it is shown that these chemicals are reduced to levels suitable for residential drinking water. This encumbrance on the property would extend until the Army and state regulators deem appropriate.

### 3.3 REUSE ALTERNATIVE

Consistent with Congress's mandate, the Army ceased performance of its active Army missions at UMCD. As of 1 August 2012, administration and maintenance of UMCD is being managed by JBLM until final property disposal. Depending on numerous factors, including information presented in this EA, disposal might occur as a single event involving transfer of all surplus property within the facility to one or more subsequent owners, or it might occur over time with multiple transactions involving the same or several new owners. Regardless of the method of disposal, timing, or identity of new owners, reuse of UMCD is reasonably foreseeable. Consistent with statutory requirements, this EA analyzes the impacts of closing UMCD and disposing and reusing installation property. Reuse of surplus property is evaluated in this EA as a secondary action, following the Army's primary action of disposal.

CEQ regulations require evaluation of reasonably foreseeable actions, without limitation on the party conducting them, and evaluation of resulting environmental impacts. Furthermore, reuse of both surplus property and the cumulative effects of continued military training on the adjacent NGB Parcel will be evaluated in this EA.

The following subsections discuss the methodology used to define the reuse scenarios to be considered. The Army considers the UMCD Redevelopment Plan for UMCD and subsequent clarifications to this plan, as the primary factor in defining the reuse scenarios to be considered, and evaluates the Redevelopment Plan for potential environmental effects. There were two clarifications to the Redevelopment Plan. The first clarification was changes to the NGB Parcel (Military Training zone) and CDA boundaries due to ORARNG requirements. Figure 3.3-1 presents CDA's current general plan for reuse of UMCD property.

The second change involved the Wildlife Refuge. The disposition of the wildlife refuge has yet to be determined. The CDA will accept the wildlife refuge and it could go to a government agency or a non-profit or could be held by the CDA over the long term for wildlife benefits.

#### 3.3.1 Development of Reuse Scenarios

The reuse planning process is dynamic and often dependent on market and general economic conditions beyond the control of the reuse planning authority. In recognition of the complexities attending reuse planning, the Army uses intensity-based probable reuse scenarios to identify the range of reasonable reuse scenarios, as required by NEPA and by DOD directives. That is, instead of speculatively predicting exactly what will occur at a site, the Army establishes ranges or levels of activity that reasonably might occur. These levels of activity, referred to as intensities, provide a flexible framework capable of reflecting the different kinds of uses that could result at a location. Reuse intensity levels also take into account the effects that any encumbrances may exert on reuse.

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Due to the general nature of the UMCD Redevelopment Plan and the type of redevelopment envisioned by the CDA, several approaches were used to describe reuse intensity, including metrics typically used for Army BRAC NEPA documents. Descriptions of the nature of certain types of activities were also important in formulating reuse scenarios for UMCD for the EA. This process was further informed by an assessment of current development intensity, surrounding land use, and consideration of reasonably foreseeable development.

### 3.3.2 Reuse Intensity Categories Described

Five intensity-based levels of reuse can be evaluated for their potential environmental and socioeconomic impacts as outlined in the *Base Realignment and Closure Manual for Compliance with the National Environmental Policy Act* (USACE 2006). These are low-intensity reuse (LIR), medium-low-intensity reuse (MLIR), medium-intensity reuse (MIR), medium-high-intensity reuse (MHIR), and high-intensity reuse (HIR) (see Table 3.3-1). At any given installation, however, analysis of all five levels of intensity may not be appropriate due to historical usage, physical limitations, or other compelling factors.

Levels of reuse intensity can be viewed as a continuum. At UMCD, an LIR level could be represented by demolition, conversion, or replacement of existing modern era and older buildings not eligible for consideration under the NHPA; the establishment of some new industrial, light industrial, or commercial uses; and continued use of some existing facilities for industrial uses and storage.

Indicators of levels of intensity can be quantified by counting the number of people at a location (i.e., employees) or the potential number of vehicle trips generated because of the nature of the activity. Other indicators of the intensity of use are the rates of resource consumption (e.g., electricity, natural gas, water) and the amount of building floor space per acre (identified as the Floor Area Ratio [FAR], and expressed as the amount of square feet of built space per total parcel size in square feet).

Development of intensity parameters is based on several sources, including existing land use plans for various types of projects and planning jurisdictions, land use planning reference materials, and prior Army BRAC land use planning experience (UMADRA 2010; USACE 2006). Private-sector reuse of property subject to BRAC action, on the other hand, seeks different objectives and uses somewhat different planning concepts in that it focuses on the creation of jobs and capital investment costs and typically uses traditional community zoning categories (e.g., residential, industrial).

Upon evaluating various types of indicators and their applicability to Army lands subject to BRAC action, the Army has selected four representative, illustrative intensity parameters: residential density, employee density (general spaces), employee density (warehouse spaces), and FAR (USACE 2006). These intensity parameters aid in evaluating environmental effects at various levels of reuse. The residential density metric is not relevant for current and future potential use of UMCD, so it was not considered further in this EA (see Table 3.3-1, Land Use Intensity Parameters).



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 3.3-1: Land Use Intensity Parameters**

Intensity Level	Employee Density (General Space; square feet per employee)	Employee Density (Warehouse Space; square feet per employee)	Floor Area Ratio (FAR)
Low (LIR)	> 800	> 15,000	< 0.05
Medium-Low (MLIR)	601–800	8,001–15,000	0.05–0.10
Medium (MIR)	401–600	4,000–8,000	0.10–0.30
Medium-High (MHIR)	200–400	1,000–4,000	0.30–0.70
High (HIR)	< 200	< 1,000	> 0.70

Land use intensity parameters used in Table 3.3-1 are defined as follows:

- *Employee Density (general space)*. This parameter indicates the number of square feet available per employee in all types of facilities at an installation, except family housing and warehouses or storage structures.
- *Employee Density (warehouse and storage space)*. This parameter indicates the number of square feet available per employee engaged in warehouse or storage activities at an installation. Only built, fully enclosed, and covered storage space is calculated; sheds or open storage areas are excluded from computation. In describing uses of facilities, estimates of the number of employees engaged in warehouse or storage operations are used to determine the portion of the installation workforce in this employee density category.
- *Floor Area Ratio*. This ratio reflects how much building development occurs at a site or across an area. For example, a three-story building having a 7,500-SF footprint (i.e., 22,500 SF of floor space) on a 4-acre site (i.e., 174,240-SF site) would represent a FAR of 0.13 in the medium-intensity range.

Employee density (general and warehouse space) and FAR are appropriate to describe intensity levels for reuse planning at UMCD. The intensity parameters shown in Table 3.3-1 reflect generalized values or ranges appropriate to describe the variety of installations subject to Army management, as well as the variety of reuse situations. The intensity parameters should be considered together in evaluating the intensity of reuse of a site to provide full context. Use of any single parameter in isolation might unduly emphasize certain aspects of a site or preclude broader consideration when classifying a reuse scenario into one of the five intensity levels presented in Table 3.3-1. Because these metrics are scale-dependent, average metrics are typically used for the entire installation for the purposes of classifying current and potential future reuse scenarios for a closing installation. These metrics are principally used to develop a conceptual framework for bracketing and defining the intensity of reuse for a site based on current conditions and reuse concepts developed and presented as part of the UMCD Redevelopment Plan. The details presented in the Redevelopment Plan for specific areas and



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



more detailed resource-specific metrics, models, and analyses, are used to estimate effects in Section 4 (as further discussed for each resource in Section 4).

### 3.3.3 Baseline Land Use Intensity

Use of UMCD as of November 2005 was characterized as low intensity. The total floor area of buildings on all parcels, except the proposed Wildlife Refuge and NGB parcels, was approximately 1.5 million SF over 3,854 acres, resulting in a FAR of 0.01, which is very low intensity. Even when evaluating the FAR on the most developed former parcel, the Demil area going to the CDA, the FAR was only 0.02, which is also low intensity. Furthermore, the employee density in general space (over 7,500 SF per employee, even while excluding all ammunition storage and warehousing areas) also yields a very low intensity value. Thus, the baseline intensity for UMCD is considered low intensity (i.e., LIR).

### 3.3.4 Local Redevelopment Plan

Key portions of the UMCD Redevelopment Plan are provided in Appendix A. Figure 3.3-1 presents CDA's current general plan for reuse of UMCD property.

The UMCD Redevelopment Plan contains the following four goals that were developed with public involvement:

- achieving the highest and best use of UMCD's industrial areas (including the former UMCDF)
- enhancing ORARNG military training activities
- preserving (and possibly restoring) UMCD's extensive shrub-steppe plant and animal communities
- protecting Native American sacred sites and significant historical sites present at UMCD

# Environmental Assessment for Disposal and Reuse of Umatilla Chemical Depot, Oregon



**Figure 3.3-1: Land Parcelization Map with Current Boundary Refinements of the  
Redevelopment Plan**

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 3.3.5 Reuse Scenarios Evaluated in Detail

This section presents various metrics and descriptions of reuse scenarios evaluated in the EA. It should be noted that the UMCD Redevelopment Plan does not provide specific redevelopment metrics, such as employment projections and building square footages, that describe reuse in detail. Rather the plan utilizes a master planning approach that only generally characterizes intended land uses of specific parcels. These parcel descriptions, acreages, and land uses were used in formulating the specific reuse scenarios outlined below, which are further discussed in Appendix A. In order to develop specific employment statistics and building sizes to analyze in the EA, intensity-based reuse scenarios were developed using accepted methods outlined in the *Base Realignment and Closure Manual for Compliance with the National Environmental Policy Act* (USACE 2006), as discussed in detail in Section 3.3.2. Development-intensity levels were selected that would provide the boundaries for potential future long-term development. Employment density metrics for industrial and warehouse uses and the FAR metrics, presented in Table 3.3-1, were then utilized to derive total building square footage and employment projections for each reuse scenario. Therefore, the reuse intensity scenarios described below and further analyzed in this EA provide the boundaries of the reasonably foreseeable outcome of redevelopment envisioned in the UMCD Redevelopment Plan.

**Low-Intensity Reuse.** Redevelopment intensity metrics, such as proposed square footage of facilities for each land use type and employment projections, are not specified in the UMCD Redevelopment Plan. Rather, the plan uses a master planning approach that allocates particular land uses to specific parcels within the boundaries of the UMCD property. To assign specific intensity levels to be analyzed in this EA, a range of redevelopment intensities were assumed for selected parcels based on consideration of current and surrounding land use. Currently, UMCD facility infrastructure represents a very low intensity of redevelopment, and the adjacent land use, which is principally agricultural or open undeveloped land, is even more rural. Even if the entire UMCD complex were at full operational capacity commensurate with historic levels, the facility would still only be operating at a low intensity. Therefore, given the present state of conditions at UMCD and the region, the LIR scenario is considered a reasonable redevelopment alternative to consider in this EA (presented in Table 3.3-2, Reuse Scenarios to be Evaluated in the EA)

**Table 3.3-2: Reuse Scenarios to be Evaluated in the Environmental Assessment**

Intensity Level	Employees	Employee Density (General; square feet per employee)	Employee Density (Warehouse; square feet per employee)	Building Space (square feet)	Floor Area Ratio (FAR) (Mid-point)
Low (LIR)	1,100	900	18,500	1,700,000	0.025
Medium-Low (MLIR)	4,300	700	11,500	5,100,000	0.075

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The LIR scenario assumes that some of the existing facilities and storage areas would be redeveloped through renovation, demolition, or construction. Overall, the LIR scenario calls for approximately 1.7 million SF of facilities, representing a FAR of 0.025, which is half the FAR metric for the low land-use-intensity category presented in Table 3.3-1. These statistics were calculated using the acreage estimates allocated to specific land use types specified in the UMCD Redevelopment Plan targeted for development. In addition, the LIR scenario assumes that a solar-energy-generating facility (see discussion at the end of Section 3.3.5 for more information) would eventually be constructed and operated within the Wildlife Refuge to provide needed financial support for the management of natural and cultural resources within this area.

Development would be concentrated in areas as outlined in the CDA's parcelization map for UMCD, shown in Figure 3.3-1, (approximately one-quarter of the acreage of the installation). Parcels designated for particular land use types described in the UMCD Redevelopment Plan (see Appendix A), and their associated acreages are outlined as follows:

- Agriculture (650 acres)
- Highway Commercial/Industrial/Rights-of-Way (1,036 acres)
- Industrial/Restricted (944 acres)
- Industrial/Unrestricted (947 acres)
- Industrial/CDA Demil Area (277 acres)

It should be noted that agriculture areas lack the potential for irrigation, due to insufficient water rights to support such activities. Industrial/Restricted is defined in the UMCD Redevelopment Plan as industrial use that is limited to the utilization of igloos for storage. Industrial/Unrestricted is defined as general industrial uses of the land. The Industrial/CDA Demil Area would also be utilized as an unrestricted industrial area, and is named as such only because of its use prior to chemical demilitarization activities, which ceased in 2012. The estimated total square footage was derived by applying the FAR metric for LIR (0.025) to a portion of the acreage that would potentially be developed (i.e., 50 percent of parcels, excluding the agriculture parcel and Oregon Department of Transportation [ODOT] corridor buffer [109 acres]), which is commensurate with current land use intensity. It was assumed that all facilities would eventually be redeveloped and operational by a wider range of tenants, as outlined above and further described in Appendix A.

Based on the planning metrics presented in Table 3.3-1, it is estimated that this level of development would generate approximately 1,100 jobs for the local economy. This statistic was derived by calculating the estimated total square footage of warehouse and general employee space (based on the FAR metric and land use specified in the UMCD Redevelopment Plan) by the square feet per employee metrics presented in Table 3.3-2, using Army BRAC NEPA guidance (USACE 2006). This employment estimate is also commensurate with employment levels in 2005 at UMCD, when the former UMCDF was fully operational. The total number of jobs generated per square foot of total warehouse and total general space were derived using



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



the midpoints of the reuse statistics presented in Table 3.3-1. In addition to the redevelopment described above, the LIR scenario would include the establishment of an ODOT interstate corridor and agricultural areas as presented in the UMCD Redevelopment Plan.

**Medium-Low Intensity Reuse.** To capture, or “bracket,” the higher end of the potential reuse of UMCD property accurately, an MLIR scenario is also evaluated in this EA. Although it is less likely that this level of reuse intensity would ultimately be established at the UMCD property, this scenario is included to ensure that potential impacts resulting from reuse are not underestimated. Overall, the MLIR scenario calls for approximately 5.1 million SF of facilities, representing a FAR of 0.075, as shown in Table 3.3-2 (which is the midpoint of the FAR metric for the MLIR scenario as presented in Table 3.3-1). By using the planning metrics presented in Table 3.3-1, it is estimated that this level of development would generate approximately 4,300 jobs for the local economy. This level of intensity is more than three times the levels of development and jobs at UMCD under full operation of the former UMCDF. Furthermore, this direct employment projection is commensurate with the upper estimate of direct employment cited in the *Economic Development Conveyance Application* (CDA 2015) of 4,530 employees for redevelopment of CDA parcels.

**Umatilla Chemical Depot Reuse Alternative.** The LIR and MLIR reuse scenarios are formulated to define a reasonable range of reuse planned for the UMCD property after closure, for the purposes of the analysis in the EA. Specific assumptions relative to the UMCD property are discussed in the following text.

The primary land uses at UMCD may include the following (acreages were presented above; see also Figure 3.3-1):

- Agriculture (e.g., irrigated agriculture or grazing lands)
- Highway Commercial/Industrial (e.g., retail highway-oriented businesses, such as automotive fueling and truck stops; restaurants and convenience stores; lodging; warehouse, manufacturing, and freight distribution)
- Industrial/Manufacturing (e.g., redevelopment of the former UMCDF for new industry/manufacturing; warehouse and distribution uses including reuse of igloos for storage)

The former UMCDF incinerator buildings have been demolished per the closure requirements of the RCRA permit. Limited buildings within the former UMCDF Parcel may be retained for reuse. Although the only requirement for demolition was the UMCDF incinerator, the majority of existing buildings outside of the Industrial/CDA Demil area would likely be demolished and new buildings constructed to support new uses at the site as part of UMCD redevelopment. Existing roads remain to serve the new uses at the site, and some would need to be upgraded.

At full build-out, which may occur 20 years into the future (CDA 2015), the above general types of land uses envisioned in the UMCD Redevelopment Plan were assumed. The LIR scenario is commensurate with current facility square footage available at UMCD (1.7 million SF used

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



under the LIR scenario versus 1.5 million SF of current space). It was assumed, however, that these facilities would include portions of new development and renovation, and that these would be used at full operational capacity after build-out (including portions of the former UMCD infrastructure that are not demolished). Depending on their structural condition, some buildings would be demolished or renovated and new facilities constructed to meet the needs of new tenants. At full operational levels, the LIR scenario would generate 1,100 jobs, which is commensurate with the past level of employment during full operation of former UMCD. In the end, the LIR scenario will generate a landscape that would appear similar to current use and intensity, but will be modernized and fully utilized. The MLIR scenario is intended to bracket the higher end of possible reuse intensity at UMCD, which represents more than three times the current facility infrastructure and level of employment (including former UMCD operations). In addition, the MLIR scenario represents three times the intensity of reuse envisioned for the LIR scenario.

The Industrial Redevelopment zone consists of 1,891 acres, of which 944 acres are designated as Restricted Industrial and the remaining 947 acres are designated Unrestricted Industrial (USACE 2014). Restricted Industrial is limited to using the existing igloos for storage, with all traffic restricted to the existing roads to preserve the shrub-steppe habitat. The General Industrial Zone includes existing industrial warehouses (many of which would need remediation prior to reuse) along with certain buildings within the Industrial/CDA Demil area (former UMCD). Also included is the Highway Commercial Industrial Zone with 987 acres. This was designed to take advantage of its key location at the nexus of two major interstate highways (I-84 and I-82). Uses envisioned here include lodging, restaurants, gas stations, truck stops, and other industrial uses similar to those located in the cities of Umatilla and Pendleton.

The Wildlife Refuge, consisting of 5,700 acres, has been set aside for economic development and conservation purposes in the UMCD Redevelopment Plan. The property would be transferred to the CDA for ownership, who may select a local land trust as the contract-management entity to manage this land for conservation purposes. It is the intent of the UMCD Redevelopment Plan for the area to be actively managed for conservation and preservation of natural resources on the site, including preservation of the shrub-steppe habitat and associated plant and wildlife species at UMCD, as well as for limited economic development, environmental education, and public uses. In order to provide funding to support management of this conservation effort, an economic development component is also included in this parcel. The specific type of economic development envisioned is a solar energy facility for a portion of the Wildlife Refuge (100 to 200 acres); however, there are no firm development plans at this time relative to the exact size and location of this proposed solar facility. Both Morrow and Umatilla Counties have adopted identical zoning district regulations for the Wildlife Refuge that allow for solar energy development. The zoning district, developed in conjunction with the CTUIR, has been adopted and certified by the state of Oregon.

The conservation effort for the Wildlife Refuge would most likely involve application of active habitat and range management activities to preserve the unique, intact bitterbrush shrub-steppe and grassland habitats in the Umatilla Basin within the Columbia Basin Ecoregional Province. The UMCD Redevelopment Plan also calls for active management for the protection of at-risk species (e.g., long-billed curlew [*Numenius americanus*], western burrowing owl [*Athene*



## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



*cunicularia hypugaea*], and other migratory birds). The CTUIR would be allowed access to and use of the Wildlife Refuge for plant gathering and other cultural purposes. Other uses that would be compatible with the goals of the Wildlife Refuge may be conducted in accordance with the UMCD Redevelopment Plan, depending on future ownership. Compatible uses may include nonconsumptive wildlife-dependent recreational use of the parcel, such as bird watching, hiking, and photography along established trails. If the parcel was transferred to other entities, such as a park or refuge, then small facilities, additional roads, and trails may be established to provide better access for the general public and preserve off-road locations from further disturbance. Ultimately, the Wildlife Refuge would be managed in accordance with a natural resources management plan that would be developed by future owners to guide management actions of this parcel. The natural resources management plan would ensure that long-term goals are achieved and in line with the vision established in the UMCD Redevelopment Plan for the protection of natural resources on the parcel.

No specific solar array design or project has been proposed at this time that would allow for a meaningful presentation of the potential effects. Furthermore, the nature of these proposals is highly speculative and uncertain. Therefore, the Army analyzed the effects of a potential solar project generally in this EA, assuming a solar project using photovoltaic (PV) technology with a footprint not exceeding 200 acres. If a solar-energy-generating facility were to be proposed for the Wildlife Refuge in the coming decades, an impact analysis would be part of the licensing and permitting requirements to ensure that environmental issues are adequately addressed. Table 3.3-3 provides an overview of the regulatory licensing and permitting requirements that would be necessary for solar-energy facilities. In any event, when future proposals for the solar-energy-generating facility are put forth, these would undergo strict licensing and permitting requirements to ensure that construction and operations comply with federal, state, and local regulations as outlined in Table 3.3-3.

In Oregon, larger energy facilities are permitted by the Oregon Energy Facility Siting Council (EFSC). The threshold for whether solar facilities are permitted by the state or the county is determined by soils quality. The nonarable lands category (soils on UMCD are predominantly this category) is 320 acres; thus, a facility larger than 320 acres would be permitted by EFSC, while a facility less than this size would be permitted by the county. Most likely the size of the solar project necessary to support the maintenance and conservation needs of the Wildlife Refuge I would be well below the 320-acre threshold. If the facility is under state jurisdiction, an energy project developer must obtain a site certificate from the Oregon EFSC (Oregon Revised Statutes [ORS] 469.300[11][a]). ORS 469.300 to 469.520 provide the statutory requirements for a site certificate application and EFSC's evaluation process. In Umatilla County, a solar facility is not specifically defined. Rather, it is included in a broader category of "commercial utility facility."

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 3.3-3: Permits and/or Reviews Potentially Associated with Solar Energy Facility Development on Wildlife Refuge Parcel, Umatilla County**

Activity	Authority	Permit	Agency
<b>State Permits</b>			
Construction of energy facility	Oregon Revised Statutes (ORS) 469.300 et seq.; Oregon Administrative Rules (OAR) Chapter 345	Site Certificate	Oregon Department of Energy; EFSC
Construction disturbing more than 1 acre of land	ORS 468 and 468B; OAR Chapter 340, Divisions 14, 41, 45, 52, and 55	CWA, Section 402, National Pollutant Discharge Elimination System (NPDES) Permit	ODEQ
Ground-disturbing activity affecting an archaeological resource (in the event of an unanticipated discovery)	ORS 97.745; ORS 358.920; ORS 390.235; OAR Chapter 736, Division 51	Archaeological Excavation Permit	Oregon Parks and Recreation Department, SHPO
Authorization for water use during construction, in the event that water is not obtained from municipal suppliers with sufficient water rights	ORS Chapters 536–540; and OAR Chapter 690, Divisions 1–410	Water Right Limited Use License	Oregon Water Resources Department (OWRD)
Transportation of loads that exceed standard size or weight on state or federal highways during construction	ORS 818.030; OAR 734, Division 82	Oversize Load Movement Permit/Load Registration	ODOT
Installation of utilities within or across a state highway right-of-way	OAR Chapter 734, Division 55	Permit to Occupy or Perform Operations Upon a State Highway	ODOT
Construction of an access road that intersects with a state highway, or improvements to an existing public road that substantially alter an intersection with a state highway	OAR 734, Division 51	Access Management Permit	ODOT

## ALTERNATIVES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Activity	Authority	Permit	Agency
Construction of structures and buildings	OAR 734, Division 51	Building Permit for construction in Umatilla County	Oregon Department of Consumer and Business Services, Building Codes Division
Installation of an on-site septic system permit	OAR 340, Division 71	On-site septic system permits in Umatilla County	ODEQ
<b>County Permits</b>			
Construction activities in Umatilla County	ORS 469.401(3), Umatilla County	Conditional Use Permit and Zoning Permits	Umatilla County Department of Land Use Planning
Installation of utilities that cross or are within rights-of-way for county and public roads	ORS 374.305 to 374.325	Utility Crossing Permit	Umatilla County Public Works

The UMCD Redevelopment Plan also calls for habitat conservation and preservation of unique, high-quality shrub-steppe and grassland habitat outside of the Wildlife Refuge in order to promote both conservation and economic goals simultaneously. The specific plan and overlays to be conserved beyond the Wildlife Refuge would be developed as part of the redevelopment implementation phase.

### 3.3.6 Reuse Scenarios Not to Be Evaluated in Detail

**Medium-Intensity Reuse.** With an MIR FAR range of 0.1 to 0.3 (Table 3.3-1), reuse of UMCD to an MIR level would involve the creation of over 13.6 million SF of building space, almost nine times greater than present conditions. Furthermore, this would represent an employment base of over 16,000 employees. In light of the elements included in the UMCD Redevelopment Plan, as well as surrounding land use, this magnitude of redevelopment would represent an unrealistic outcome of reuse. Such an outcome would be unlikely; therefore, it is not evaluated further.

**Medium-High-Intensity Reuse.** With an MHIR FAR range of 0.3 to 0.7 (Table 3.3-1), reuse of UMCD to an MHIR level would involve the creation of over 34 million SF of building space (over 67,000 employees), almost 22 times greater than present conditions. For reasons similar to those regarding MIR, this scenario represents an unrealistic outcome of reuse; therefore, it is not evaluated further.

**High-Intensity Reuse.** HIR of UMCD property at a FAR of at least 0.7 would involve the use of approximately 48 million SF of space (over 277,000 employees), 31 times greater than present conditions. For reasons similar to those regarding MIR, this scenario represents an unrealistic outcome of reuse; therefore, it is not evaluated further.

## **ALTERNATIVES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## 4 AFFECTED ENVIRONMENT AND CONSEQUENCES

### 4.1 INTRODUCTION

This section describes the current environmental conditions of the resource areas that would be affected by implementation of the proposed action and alternatives, and the potential effects that would arise. Descriptions of the affected environment represent baseline conditions, or the “as-is” conditions, at the installation. The baseline for this document has been established as status quo environmental conditions in November 2005, the time that the BRAC Commission’s recommendations became final. This baseline is used to compare any changes that would result from closure, disposal, and reuse actions. Direct, indirect, and cumulative effects of the proposed action are addressed.

The environmental consequences associated with each alternative follow the discussion of the affected environment for each resource. The discussion of environmental consequences is divided into five sections for each of the alternatives evaluated in the EA: early transfer, traditional disposal, caretaker status, no action, and reuse. Reuse is further divided into effects associated with the LIR and MLIR scenarios. As discussed in Sections 2 and 3, these reuse scenarios sufficiently provide the boundaries for the degree of redevelopment that may occur in the foreseeable future.

For each of the two reuse scenarios, the direct, indirect, and cumulative effects of the proposed action are addressed. These effects are characterized as adverse or beneficial, and as minor, moderate, or significant. As defined by CEQ (40 CFR Part 1508), direct effects are those caused by the action that occur during the same time and place. Indirect effects are caused by the action but occur later in time, or are further removed from the proximity of the action, though still reasonably foreseeable. Significance of effects is determined for each resource area in terms of both context at UMCD and the intensity of the impact. A minor effect is a slight impact that is detectable but too small to measure, and that may be naturally restored or easily minimized. A moderate effect is an impact that is readily apparent and may not be naturally restorable, typically more amenable to quantification, such as the volume of wastewater discharged to a local sewer, but is below a level of significance. Cumulative effects and identification of mitigation measures are discussed at the end of this section, in Sections 4.14 and 4.15, respectively.

The baseline conditions are described in the Affected Environment section for each resource. In general, baseline conditions are described as the existing conditions of UMCD at the time of the November 2005 Army BRAC decision, in accordance with U.S. Army guidance (USACE 2006) and CEQ regulations (40 CFR Part 1500). Baseline conditions are not defined as pristine environmental conditions, nor future potential conditions.

Future environmental conditions that may occur as a result of each alternative are compared to the condition of the resource under the no action alternative, which assumes status quo Army operational conditions at the time of the November 2005 Army BRAC decision. As prescribed by CEQ, the no action alternative is evaluated in this EA as a benchmark for comparing the effects of the disposal and reuse alternatives on the environment, even though UMCD has already

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



closed. Beneficial or adverse effects are then estimated relative to the condition expected of the resource under continuation of Army ownership (e.g., environmental management was assumed to continue as-is under the no action alternative).

The effects of disposal are not simply the execution of legal documents. Specifically, as ownership passes from the federal government to nonfederal entities, whether these are public or private, there are implications that will follow due to changes in applicable policies, regulatory schemes, management regimes, and goals that are linked to future development of the property. Given that the final decisions regarding reuse are beyond the control of the Army, the reuse alternative represented in the UMCD Redevelopment Plan is examined in the context of intensity-based scenarios previously discussed (i.e., LIR and MLIR scenarios). In this manner, the EA seeks to capture and analyze the potential short-term and long-term implications of property disposal and reuse. The reuse scenarios evaluated in the sections to follow sufficiently encompass the degree of redevelopment in the UMCD Redevelopment Plan.

### 4.1.1 Resource Category Evaluations

Army NEPA regulations emphasize that it is sound NEPA practice to reduce or eliminate discussion of minor issues in a NEPA document in order to help focus the analysis on those issues that are likely to be affected by the proposed action (32 CFR 651.14). Resources that are not present or issues that have little or no measurable environmental effects should be minimized. CEQ regulations further indicate that the NEPA scoping process should be utilized to focus the scope of the analysis and documentation on the resources that may be affected, while deemphasizing clearly insignificant or nonexistent issues (40 CFR 1500.4[g]). To that end, this section outlines the results of this scoping analysis, identifies which resource categories were selected for more detailed analysis in the EA, and identifies the rationale for those resource categories that were dropped from further consideration.

To conduct this scoping analysis, the potential direct, indirect, and cumulative effects of the proposed action on the affected environment was analyzed. This analysis included an assessment of resources located at UMCD, as well as nearby off-site locations (e.g., adjacent community, watershed, receiving streams, etc.). Resource categories considered in this scoping analysis and the results are summarized in Table 4.1-1. Overall, if the resource category was not present on or near UMCD (e.g., critical habitat for federally listed species), then the resource category was dropped from further analysis and consideration in this EA. Documentation of these findings is presented in Section 4.1.2. If a resource category is present (e.g., geologic/mineral resources), but the impacts are clearly less than significant (e.g., no impact, negligible or minor impact, meaning little to no measureable environmental effect on the resource), then the resource category was dropped from further detailed analysis and consideration. The rationale and documentation of these findings are presented in Section 4.1.3. Resource categories that warranted more detailed analysis based on this scoping analysis were carried forward in this EA, as identified in Section 4.1.4. The affected environment and environmental consequences analyses for each of the resources that were retained for further detailed analysis are presented in Sections 4.2 through 4.13.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.1-1: Summary of Resources Evaluated in this Environmental Assessment**

Resource Category	Document Section	Level of Analysis		
		Resource Not Present: No Further Analysis Required <sup>1</sup>	Resource Present: Effects Do Not Warrant Further Detailed Analysis <sup>2</sup>	Resource Present: Further Detailed Analysis Required
<b>Land Use</b>	4.2			•
Land/Airspace Use Compatibility	4.2			•
Prime and Unique Farmland	4.1.2	•		
<b>Aesthetics and Visual Resources</b>	4.3			•
<b>Air Quality</b>	4.4			•
<b>Noise</b>	4.5			•
<b>Geology and Soils</b>	4.6			•
Geologic/Mineral Resources	4.1.3		•	
Soils	4.6.1.3			•
<b>Water Resources</b>	4.7			•
Surface Water (on-site)	4.1.3	•		
Surface Water/Water Quality (off-site)	4.7.1.1			•
Floodplains/Coastal Barrier and Zones	4.1.2	•		
National Wild and Scenic Rivers	4.1.2	•		
Hydrogeology/Groundwater	4.7.1.2			•
Wetlands	4.1.2	•		
<b>Biological Resources</b>	4.8			•
Vegetation	4.8.1.1			•
Terrestrial Wildlife	4.8.1.2			•
Aquatic Life (on-site)	4.1.3		•	
Aquatic Life (off-site)	4.1.3		•	
Federal Wilderness Area, USFWS National Wildlife Refuge, State Park	4.1.2	•		
Critical Habitat/Federally Listed Species	4.1.2	•		
State-Listed/Species of Concern (SOC)	4.8.1.2			•
<b>Cultural Resources</b>	4.9			•
<b>Socioeconomics and Environment Justice</b>	4.10			•
<b>Transportation</b>	4.11			•
<b>Utilities</b>	4.12			•
<b>Hazardous and Toxic Substances</b>	4.13			•

<sup>1</sup> It was determined that the resource category was not present, as discussed in Section 4.1.1. Therefore, no further analysis was required to determine whether the impact was significant.

<sup>2</sup> It was determined that the impacts on these resource categories would either not occur or were clearly negligible/minor adverse (i.e., little to no measureable environmental effect on the resource), or beneficial, as further discussed in Section 4.1.2 for each resource category. Therefore, no further analysis was required to determine whether the impact was significant.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.1.2 Resource Categories that are not Present

None of the disposal alternatives or reuse scenarios would have direct, indirect, or cumulative impacts on the following resource categories because these are not present at or near UMCD, as discussed further below. As a result, these resource categories were dropped from further detailed analysis and consideration in this EA.

- **Prime and Unique Farmland.** Acquiring and using land for National Defense purposes is exempt from the Farmland Protection Policy Act of 1981 (FPPA) (7 U.S.C. Section 4201 and 7 CFR Part 658). The proposed real estate action is not a federal project or activity as defined in the FPPA. Thus, no further FPPA inquiry is required.
- **Floodplains/Coastal Zone.** There are no floodplains on UMCD, and the installation is not located in a coastal zone area. The lowest portion of UMCD is over 100 feet higher than the normal stage of the Columbia River.
- **National Wild and Scenic Rivers.** There are no national wild and scenic rivers on or near UMCD, or within the watershed of those two parcels.
- **Wetlands.** There are no wetlands on UMCD due to the region's arid climate, low annual rainfall, rapid infiltration rates, and the lack of hydrologic or topographic features that would favor their creation.
- **Designated Federal Wilderness Area, USFWS National Wildlife Refuge, or State Park.** There are no federally designated wilderness areas, USFWS national wildlife refuges, or state parks currently or planned on or near UMCD.
- **Critical Habitat, Federally Listed Species.** There is no designated critical habitat or federally listed species on or adjacent to UMCD, as further discussed in Section 4.8 (also see Appendix C for Section 7 consultation).

### 4.1.3 Resource Categories that are Present but not Retained for Further Detailed Analysis

The resource categories listed below are present on or near UMCD, but the impacts from the disposal alternatives and reuse scenarios are clearly negligible or minor, as documented below. As a result, these resource categories were dropped from further detailed analysis and consideration in this EA.

- **Geologic/Mineral Resources.** The alternatives would have no direct, indirect, or cumulative impact on geologic or mineral resources that underlay the UMCD property. UMCD is within the Columbia Basin Province, which is composed of a lava-floored plain overlain by sand, gravel, and silt that has been uplifted since molten basalt flooded the area. This region is dominated by nearly level to rolling, stream-dissected terrain. Although excavation and building foundation construction activities may alter sand, gravel, and other shallow geologic layers, such activities would not adversely affect the

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



overall condition or quality of geologic resources. Potential effects on soils and soil loss are addressed in more detailed in Section 4.6.

- **On-Site Aquatic Life and Surface Water.** There are no surface water bodies on UMCD. . Because of the minimal amount of precipitation and very permeable soils at UMCD, there is little surface runoff. The closest surface water sources are the Columbia River, located 3 miles north of the site, and the Umatilla River, located approximately 2 miles to the east. These water resources are discussed only in the context of providing potentially suitable water to the CDA Parcel.

### 4.1.4 Resource Categories that are Present and Selected for More Detailed Analysis

As shown in Table 4.1-1, resource categories that are present and were selected for more detailed analysis and consideration in this EA include land use, aesthetics and visual resources, air quality, noise, soils, hydrology/groundwater, vegetation, terrestrial wildlife, state-listed species and species of concern (SOC), cultural resources, socioeconomics, transportation, utilities, and hazardous and toxic substances. The affected environment and environmental consequences for each resource category selected for further detailed analysis are presented in Sections 4.2 through 4.13. Cumulative effects and mitigation measures are identified in Sections 4.14 and 4.15, respectively.

Licensing of the NGB Parcel for military training by the ORARNG, including any expansion of such training, is a separate federal action that may require additional NEPA analysis. Although transfer of administrative control of the NGB falls within an exclusion under 32 CFR Part 651 and therefore is not part of the federal action subject to this environmental analysis, ORARNG's use of the property is evaluated as part of the cumulative effects analysis within this EA (see Section 4.14). Property disposal and reuse of the remaining CDA parcels were retained for further detailed analysis in this EA.

**AFFECTED ENVIRONMENT AND CONSEQUENCES**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.2 LAND USE

#### 4.2.1 Affected Environment

This section discusses the regional geographic setting and location of UMCD, existing land uses on and adjacent to the installation, and current and future proposed development within the Region of Influence (ROI).

##### 4.2.1.1 Regional Geographic Setting and Location

The UMCD is located in Umatilla and Morrow Counties, in rural northeast Oregon less than 3 miles south of the Columbia River. The major cities of Portland, Oregon, and Spokane, Washington, are the closest large urban centers, at 180 and 190 miles from the installation property, respectively. UMCD is generally bounded on all sides by private property consisting of agricultural land and pasture. The southern boundary is delineated by I-84 and the UP tracks, while the southern half of the eastern boundary is delineated by I-82. The closest populated area is the small town of Irrigon, Oregon, located approximately 2 miles north of UMCD. The ROI is UMCD and the surrounding jurisdictions of Umatilla and Morrow Counties (see Figure 4.2-1). The population within the ROI was 87,062 in 2010.



Figure 4.2-1: Location Map of Umatilla Chemical Depot, Oregon

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.2.1.2 UMCD and CDA Parcel Land Use

The historic mission of UMCD (i.e., storage, maintenance, and shipping of ordnance) is reflected by land uses within the installation. Open space buffers (7,300 acres) occupy the largest portion of land use, followed by ammunition storage (5,933 acres). Table 4.2-1 shows primary land uses and acreage for all lands at UMCD.

**Table 4.2-1: Umatilla Chemical Depot Land Use Descriptions and Acreages**

Land Use	Acreage	Land Use	Acreage
Open Space	7,300	Closed Landfills	35
Ammunition Storage	5,933	Utilities Service	7
Ammunition Demolition	1,716	Airfield (closed)	293
Chemical Storage	646	Administrative	136
Housing	15	Facilities Maintenance	40
Standard Magazines	140	UP (former leased rail yard)	140
Former Firing Range	621		
<b>Total Acreage: 17,054</b>			

Source: UMCD 2007

Land use types for the CDA Area parcels are shown in Table 4.2-2 below. Within the CDA Area parcels, the largest land use category is ammunition storage (5,509 acres total), which comprises 58 percent of all land within the CDA Area parcels and includes igloos, warehouses, and magazines. Open space is the second largest land use, comprising 36 percent of the total area. Together, these two categories total 94 percent of all land uses within the CDA Area parcels.

**Table 4.2-2: Existing Land Use in CDA Area**

CDA Area Land Use	Acres*
Ammunition Storage (Igloos)	4,579
Ammunition Storage (Magazine Area)	95
Ammunition Storage (Warehouse)	835
UMCDF (Industrial/CDA Demil Area)	276
Airfield (closed)	293
Open Space Buffer	3,476
<b>Total Acreage in CDA Area</b>	<b>~9,554</b>

\* Note: numbers do not add to 9,555 acres due to rounding

Source: UMCD 2007



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The following provides a general description of the CDA Area land use categories.

**Ammunition Storage.** At 5,509 acres, ammunition storage occupies the largest land use within the CDA Area parcels. Ammunition was stored in standard magazines and igloos. The storage igloos are constructed of steel-reinforced concrete, with a Quonset-style concrete roof, covered with earth. Overall, there are 1,000 storage igloos, primarily constructed in two sizes, ranging from 1,608 to 2,147 SF. Five hundred sixty-five will go the CDA. Seventeen of these were used to store agent related RCRA hazardous waste. Those igloos are currently in RCRA closure and will have land use controls associated with them. The 14 aboveground storage magazines, constructed of brick with concrete floors, are located directly north of the cantonment area. The storage magazines range from 15,000 to 86,000 SF in size. Eight of these will go to the CDA.

Within the ammunition storage area, there are two warehouse storage locations in the southwest portion of UMCD, referred to as the 100- and 200-area buildings. Warehouse buildings in the 100 area were built with asbestos siding. Twenty-three of the 100-area buildings were demolished in August, 2015 (see Figure 4.2-2). The 30 100-area buildings comprised over 455,000 SF. The six 200-area buildings total over 518,400 SF. Portions of the rail lines previously providing service to these areas have been removed. The storage warehouse buildings, each containing between 15,173 and 86,400 SF of floor space, are constructed of sheet metal, with concrete floors, and wood beams. Building 115 had a RCRA accumulation area. Building 203 satellite was a RCRA permit hazardous waste storage area. Land use controls apply to the buildings and their foundations.



Warehouse Building Demolition in the 100 Area



Wood and Metal were Recycled

**Figure 4.2-2: Warehouse and Storage Buildings at Umatilla Chemical Depot**

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**UMCDF (Industrial/CDA Demil Area).** Contained within the 276-acre chemical storage land use category, the former UMCDF (shown as Industrial/CDA Demil area in Figure 3.3-1) was a multifurnace incineration facility designed to dispose of the stockpile of chemical warfare munitions stored at UMCD. The facility consisted of numerous buildings, each providing a specific function for process support, maintenance, utilities, munitions handling and disassembly, agent destruction, and management of residual waste. The former UMCDF, composed of 18 buildings totaling approximately 200,000 SF, was a federal government-owned and contractor-operated facility. This facility was completed in 2001. Incineration of chemicals was begun in 2004 and was completed in 2011. Chemical surety ended in March 2012. This marked the end of the former UMCDF's mission, and RCRA closure of the facility is complete. A high-temperature incineration technology was used to destroy agents, a technology employed by the Army for more than a decade to dispose of chemical agents safely and successfully (U.S. Army 2007). A major portion of the former UMCDF has been demolished and the infrastructure disassembled in accordance with the closure requirements of the existing ODEQ facility RCRA permit.

**Airfield.** The former, inactive airfield is located in the southeast quadrant of UMCD on 293 acres. This airfield has been closed and decommissioned. The runway aligns generally in the northeast-southwest direction with the eastern 10,000-foot clear zone crossing I-82, and the western 10,000-foot clear zone crossing I-84.

**Open Space Buffer.** One key factor of UMCD's storage mission was the maintenance of open space buffers, which occupy over 36 percent of the total land use on the installation. These open spaces are located around the installation perimeter, as well as around other sensitive areas, as necessary. The open space is managed so that the height of vegetation is kept to a minimum.

### 4.2.1.3 Airspace Use

As previously discussed, the remnants of a runway exist at the southeast corner of the base. This airfield has been closed and decommissioned. The runway aligns generally in the northeast-southwest direction with the eastern 10,000-foot clear zone crossing I-82, and the western 10,000-foot clear zone crossing I-84. The installation maintained a helicopter-landing pad.

There are two commercial airports within 35 miles of UMCD in Pasco, Washington, and Pendleton, Oregon. Other smaller and public use airports closer to UMCD include the Hermiston Municipal Airport, located approximately 7 miles east of UMCD, and the airport in Boardman at the Port of Morrow, located 20 miles west of UMCD. There are also small private airfields near UMCD. The airspace over UMCD is not restricted, but rather it is categorized as a National Security Area (NSA) with a zone of surface to 5,000 feet. It is only "active" during emergencies; all other times it is a recommended no-fly zone (U.S. Navy 2012).

The U.S. Navy has proposed a Special Use Airspace (Military Operation Area [MOA]) over UMCD. A NEPA evaluation of this proposal is underway as part of the Naval Weapons System Training Facility Boardman EIS (U.S. Navy 2012). This EA considers the cumulative effects of

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



the Special Use Airspace activities occurring at Boardman that affects both the Umatilla property and the ROI (see Section 4.14.3).

### 4.2.1.4 Current and Future Development in the Region of Influence

Current and future development is shaped through community comprehensive plans and the zoning that institutionalizes those plans. UMCD lies within Umatilla and Morrow Counties, Oregon, with the eastern portion in Umatilla County and the western portion in Morrow County. Both counties have adopted, per state requirements, comprehensive land use plans and zoning codes. All nonfederal lands in the state of Oregon are subject to state "acknowledged" local government comprehensive land use plans and associated implementation ordinances. Both Umatilla and Morrow Counties have anticipated the federal property transfer of UMCD in their Comprehensive Plans. Morrow County has established zoning ordinances for the Umatilla Army Depot Military Zone, Umatilla Depot Wildlife Habitat Zone, Umatilla Army Depot Transition Zone, and UMCD Port Industrial Limited Use Overlay Zone to provide guidance for zoning on anticipated uses at the UMCD site within Morrow County. Umatilla County's Comprehensive Plan, last revised 3 December 2014, recognizes opportunities for industrial development on the UMCD site and has allowed for zoning exceptions (e.g., allowing industrial buildings to exceed the size authorized on rural lands) (Umatilla County 2014). Umatilla County's Comprehensive Plan recognizes that, while it has not yet been determined what agency/entity will manage the Wildlife Refuge, the county will ultimately apply appropriate zoning to the areas designated for habitat areas (Umatilla County 2014). Most of the Wildlife Refuge falls within Umatilla County. Umatilla County will also review all site plans for any new industrial development in the Industrial and, if necessary, impose conditions to ensure compatibility with the Wildlife Refuge (Umatilla County 2014).

Agriculture is the most significant land use in the ROI. Approximately 73 percent of the combined land area of Morrow and Umatilla Counties is in agricultural production. Both counties in the ROI are composed primarily of farmland with scattered unincorporated communities, as well as 12 incorporated cities in Umatilla County and 5 in Morrow County. Umatilla County has an area of approximately 2 million acres with 63 percent of the land, or approximately 1.3 million acres, divided among 1,603 farms (U.S. Department of Agriculture 2012). Morrow County has an area of approximately 1.3 million acres with 89 percent of the land, or about 1.16 million acres, divided among 401 farms (U.S. Department of Agriculture 2012). Other significant land uses in the ROI include trade, government, and manufacturing (i.e., wood products and food processing) (Umatilla County 2014).

## 4.2.2 Consequences

### 4.2.2.1 Early Transfer Disposal Alternative

**Direct.** In the short term, property transfer from federal to private ownership would have a minor, adverse effect on land use compatibility. Army policies and regulations that regulate and govern land use on DOD lands would no longer apply to the CDA Parcel. Transfer of the land from federal to private ownership would mean that active management of natural resources required as part of the Integrated Natural Resources Management Plan (INRMP) would not occur. It is unclear to what extent similar programs would be instituted in the short term prior to redevelopment. This may result in minor, adverse effects from reduced land maintenance and

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



management activities that provide some benefit to surrounding land use, such as wildfire protection and prevention. In addition, agricultural land use would be permitted within the southwest corner of the CDA Parcel (1,891 acres) following disposal, as well as a 638-acre parcel at the northern boundary. This change in land use on the CDA Parcel would be compatible with surrounding land use on the NGB Parcel, off-site agricultural land use, and proposed industrial areas. If the Boardman Northeast MOA were expanded, local aviators would still have the ability to transit the airspace when it is not active. As such, there would only be a minor decrease in available airspace time for nonparticipating aircraft due to expansion of the proposed MOA when it is active, as further discussed in Section 4.14.3.

In the long term, disposal and redevelopment may produce an increase in land use intensity relative to baseline conditions, along with increases in construction and operational activities, resulting in minor, adverse effects on land use, as further described in Section 4.2.2.5. In any event, transfer of surplus properties for reuse consistent with the approved reuse plan would minimize potential impacts on adjacent land use. Furthermore, effects would be minor given the low intensity of development on the CDA parcels, and the establishment of conservation habitat and other large buffer zones between CDA parcels and existing residential land uses.

**Indirect.** Minor, beneficial effects are expected. Nonfederal ownership could result in the availability of additional resources for the removal of facilities that are unsuitable for or inconsistent with future use. Therefore, in the long term, disposal could indirectly generate minor, beneficial effects within the ROI.

### 4.2.2.2 Traditional Disposal Alternative

**Direct.** Minor, short-term and long-term, adverse effects, similar to those described with the early transfer disposal alternative, are expected. In addition, in comparison to Early Transfer, the effects associated with long-term redevelopment would occur further into the future.

**Indirect.** Minor, beneficial effects are expected, similar to the effects outlined for the early transfer alternative.

### 4.2.2.3 Caretaker Status Alternative

**Direct.** Minor, beneficial effects are expected. Under the caretaker status alternative, Army activities would cease. The elimination of military operations and related vehicle trips to a small fraction of trips for security and maintenance functions would reduce any land use incompatibilities (e.g., decreased traffic).

**Indirect.** Minor, long-term, adverse effects are expected. Renovations that would have otherwise taken place may not be initiated for facilities, resulting in minor, long-term, adverse effects, relative to status quo operating conditions. Long-term maintenance would not be focused on keeping the facilities in a state of repair to permit rapid reuse. Rather, maintenance during this period would be reduced to the minimum level required for surplus government property. Maintenance would consist of minimal activities intended primarily to ensure security, health, and safety and to avoid physical deterioration. This reduced level of maintenance would continue until disposal. If the excess properties at UMCD were to be maintained in caretaker



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



status for an extended period, the condition of buildings, facilities, roadways, and utility system components would be expected to decline gradually.

### 4.2.2.4 No Action Alternative

No direct or indirect effects are expected under the no action alternative. For this alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment, which would affect neither land use on UMCD nor land use patterns external to the installation. No effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.2.2.5 Reuse

Effects on land use were evaluated by comparing status quo conditions with increased development intensity and the potential conflicts created by the addition of new land uses (i.e., manufacturing and commercial) within the CDA parcels. Building metrics from Table 3.3-2 were used as the basis of the comparison and evaluation. Future land use acreages in the CDA area are shown in Table 4.2-3.

**Table 4.2-3: Future Land Use in CDA Area**

CDA Area Future Land Use	Acres
Wildlife Refuge	5,699.54
Industrial	987.01
Industrial/Restricted	944.42
Industrial/Unrestricted	946.62
UMCDF (Industrial/CDA Demil Area)	276.57
Agriculture	650.41
Right-of-Way	50.86
<b>Total Acreage in CDA Area</b>	<b>9,555</b>

Source: U.S. Army 2013

The Army's environmental restoration efforts for UMCD would attempt to accommodate the land use and redevelopment needs presented in the UMCD Redevelopment Plan. The existing RCRA permit will restrict certain types of future land use (e.g., agricultural use in certain areas, no residential use in certain areas, no groundwater use in certain areas), impose institutional controls, or take other actions affecting land use to protect human health and the environment. Such restrictions will be included in conveyance documents as restrictions on future land use.

**Medium-Low Intensity, Direct.** Redevelopment would result in minor, short-term and long-term, adverse effects on land use. With this scenario, approximately 5.1 million SF of existing, new, or renovated development would be developed on the CDA Parcel. Along with these land use changes, there would be 4,300 employees or 3,460 more employees on-site compared to the baseline condition (taking into account the projected changes in employment as compared

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



to baseline conditions). This level of intensity is more than three times the level of development and jobs at UMCD in 2005, which includes full operation of the former UMCD.

The increased worker presence and projected level of development in parts of UMCD would alter land use patterns in those areas, but land use on the majority of the installation would remain functionally the same or similar to existing uses. Although some of the uses (e.g., commercial) proposed to be developed at the CDA Parcel are different from current and historic installation operations, the character of new development would be essentially similar to past use of installation property relative to land use.

In the short term, construction and demolition would have temporary, minor, adverse effects on land use. The UMCD Redevelopment Plan envisions a mixed use of property, with reuse focusing primarily on industrial and commercial uses that would include construction of new facilities on many CDA parcels and conservation of natural resources on the Wildlife Refuge Parcel. The land within the Wildlife Refuge Parcel is currently managed to conserve natural resources, and this use would continue.

In the long term, disposal and redevelopment may produce an increase in land use intensity three times the level of baseline conditions, resulting in associated increases in operational activities and traffic that may contribute to minor, adverse land use effects. In any event, this scenario is compatible with local land use plans. Both Umatilla and Morrow Counties have anticipated the federal property transfer of UMCD in their Comprehensive Plans. Morrow County has established a "Umatilla Army Depot Transition Zone" within both its Comprehensive Plan and zoning code, which generally reflects the reuse plan "zones" of development. Umatilla County's Comprehensive Plan does not include a detailed or specific plan, but instead includes a statement that UMCD federal lands "shall be subject to said regulations immediately upon removal from Federal jurisdiction."

The agricultural nature of the surrounding area immediately adjacent to UMCD would reduce the potential for adverse effects on land use and compatibility off-site. In addition, the large expanses of UMCD acreage would make it unlikely that development on UMCD would result in land use changes on adjacent properties or land use conflicts. The proposed redevelopment would also likely have the effect of better integrating portions of the property at UMCD into surrounding communities because many of the proposed industrial/warehousing, and commercial uses associated with redevelopment (i.e., nonammunition activities) would be more consistent with the businesses of the surrounding community and counties. As part of redevelopment, existing road and rail networks on the CDA parcels would likely be improved to accommodate increased automobile and rail traffic associated with reuse, thereby reducing any adverse effects.

If constructed, a 200-acre solar PV project could require 3.5 percent of the 5,700-acre Wildlife Refuge. Industrial construction and operations of this type, along with adjacent CDA Parcel activities used for industrial purposes, may result in minor land use conflicts with a conservation area set aside for wildlife. Land use conflicts include adverse effects of glare from the solar field and from the construction and maintenance of PV facilities, support buildings, fencing, and other features associated with the facility. Construction and maintenance activities would result in increased wind erosion potential due to disturbance of cryptobiotic soil crusts, vegetation cover,



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



and soils. Impacts on soils and cryptobiotic soil crusts would be reduced by limiting development to the extent feasible to previously disturbed sites, establishing conservation areas and restricting off-road and off-trail disturbance (e.g., foot traffic, off-road vehicles), and establishing limited hardened trails within the Wildlife Refuge to reduce the potential for off-road and off-trail foot traffic disturbances. Landscaping or berms could be used to provide project visual attenuation and reduce land use conflicts. As part of the UMCD Redevelopment Plan, proceeds from the PV project would be used to fund habitat conservation and management activities directly within the Wildlife Refuge. Therefore, the PV project would provide a net benefit to wildlife, even though it introduces minor, localized, or temporary land use conflicts.

**Medium-Low Intensity, Indirect.** Minor, long-term, beneficial effects are expected. Under nonfederal ownership, additional resources could become available to remove or convert buildings and facilities that are not consistent with the adjacent land uses, and repair buildings and facilities that are in need of repair. Therefore, in the long term, disposal could indirectly generate minor, beneficial effects.

**Low Intensity, Direct.** Minor, short-term and long-term, adverse effects are expected from changes in land use, renovations, and new construction, although these effects would be less intense than those described for the MLIR scenario. The LIR scenario is similar to the current square footage available at UMCD (1.7 million SF under this scenario compared with 1.5 million SF of current space). This intensity of reuse would be above the current use of the property; however, the effects would be substantially less than those in the MLIR scenario. Overall, lower levels of development would help ensure continuation of land use compatibility. Along with land use changes, there would be 1,100 employees, which is commensurate with employment levels in 2005 at UMCD when the former UMCDF was fully operational. Land use conflicts resulting from this scenario are not expected.

**Low Intensity, Indirect.** Minor, long-term, beneficial effects are expected. Indirect effects similar to, but less than, those expected for the MLIR scenario would also occur in the LIR scenario.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.3 AESTHETICS AND VISUAL RESOURCES

#### 4.3.1 Affected Environment

A visual resource is generally defined as an area of unique beauty that is a result of the combined characteristics of the natural aspects of land and human aspects of land use. Wild and scenic rivers, topography, and geologic landforms are components of the natural aesthetic aspects of land. Examples of human-created aesthetic aspects of land use include scenic highways, architectural elements within historic districts, and cultural landscapes. The assessment of visual and aesthetic value involves a characterization of existing natural and man-made resources in the study area. Changes in visual character are influenced by social considerations, including public value placed on the resource, public awareness of the area, and general community concern for visual resources in the area.

Within the CDA Parcel, there are areas actively managed by the INRMP and the Integrated Cultural Resources Management Plan (ICRMP). These plans establish standard operating procedures to ensure compliance with applicable laws and regulations that facilitate the management and preservation of significant natural resources and historic properties. UMCD has no wild or scenic rivers or majestic topography.

Views across UMCD are generally level to gently rolling terrain, which slopes northwest to the Columbia River. The CDA Parcel has less of the gently rolling terrain, and is more level overall. One distinct natural visual feature on the landscape is Coyote Coulee, a northeast to southwest trending valley with a steep southeastern slope rising 60 to 90 feet. The coulee traverses the northern half of the CDA Parcel passing through the CDA Wildlife Refuge and inside the southwest boundary of the CDA Demil Area. Native trees are absent in this semiarid desert due to the lack of permanent natural surface water features (see Figure 4.3-1), and the few trees present at UMCD were planted in the administrative area. Vegetation consists primarily of a ground cover of grasses and forbs among shrubs (antelope bitterbrush and sagebrush). UMCD's mission did not involve substantial training activities; therefore, the natural resources are relatively undisturbed by mission functions, which has resulted in the preservation of the shrub-steppe habitat except within the administrative area and the former UMCD incineration facility.

The architecture of buildings on UMCD consists primarily of concrete warehouse structures and steel-reinforced concrete igloos common on installations of this type and age. The architecture displays no overly complex, unique, or ornate style. For the most part, buildings are essentially utilitarian in appearance with clean, straight, unadorned lines. The UMCD's 1,000 storage igloos, with their arched, earth-covered, and vegetated sides, are laid out in parallel rows throughout most of the installation, presenting a very orderly and uniform landform pattern. Located north of the administration area, fourteen aboveground ammunition magazines contain clay tile walls and gabled roofs. Virtually all igloos and magazines are standardized Army building types, thus all have the same appearance.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Figure 4.3-1: Representative View of the CDA Parcel**

In the southwest corner of the installation are a series of long, narrow, one-story warehouses. Structures are typical of warehousing/distribution space and include linear facilities running parallel to roadways, no taller than approximately 30 to 35 feet, and used for shipping equipment to and from trucks and rail. Twenty-three of the 100-area buildings were demolished in August, 2015. These warehouses are of utilitarian design and many have wind-damaged metal siding and flashing, broken windows, and deteriorated exterior paint. Building material debris, including broken glass fragments, pieces of metal siding, and paint chips are visible on the ground. Some buildings and the surrounding native vegetation are also damaged due to a 2009 wildfire. These damaged buildings and burned adjacent areas are visually unappealing. However, some of these visual effects have been mitigated by the demolition of twenty-three of the buildings lacking visual appeal and surface cleanup of the surrounding area. These buildings were previously located on the CDA Industrial-Unrestricted Agricultural and CDA Industrial Restricted Agricultural parcels, as shown on Figure 3.3-1.

**Visual Quality of the Surrounding Properties.** Pastoral views of agricultural lands predominate on the areas surrounding UMCD. The only commercial property is located near the southeast corner of the installation boundary, adjacent to I-82. Along the installation's western boundary are open views across irrigated fields, mostly of potatoes, onions, corn, and grain. Some cattle pasturelands are in this area as well. Adjacent to the southern boundary is a mixture of agriculture, and views of the rail yard, as well as I-84 further south. Beyond I-84 are visually appealing views of poplar tree farms, with one tree farm located southwest of the installation. Scattered residences are located to the north of UMCD near the town of Irrigon. Along the eastern boundary are pastoral views across open space lands serving as a buffer to the installation. I-82 and agricultural lands are east of the installation.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.3.2 Consequences

#### 4.3.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short-term, adverse and long-term, beneficial effects are expected. Demolition and site-clearing activities would result in a minor, short-term, adverse visual effect for adjacent parcels. The Wildlife Refuge would be expected to remain relatively unchanged following disposal. Allowing agricultural land use in the southwest corner of the CDA Parcel (1,891 acres) and at the northern boundary (638 acres) following early transfer would have a negligible effect on aesthetics, because it would be in keeping with surrounding land use. In the long term, redevelopment activities would remove dilapidated structures and modernize facilities, resulting in beneficial effects, as further discussed in Section 4.3.2.5.

**Indirect.** No effects are expected.

#### 4.3.2.2 Traditional Disposal Alternative

**Direct.** Minor, short-term, adverse and long-term, beneficial and adverse effects are expected. Effects would be similar to those described under the early transfer disposal alternative, but the changes in effects would take place further in the future.

**Indirect.** No effects are expected.

#### 4.3.2.3 Caretaker Status Alternative

**Direct.** Minor, long-term, adverse effects are expected. Under the caretaker status alternative, the appearance of certain buildings and grounds could decline and deteriorate over time, decreasing the aesthetic value of the UMCD property. Renovations that would have otherwise taken place may not be initiated for facilities, resulting in long-term, adverse effects relative to their appearance. Long-term maintenance levels would ensure security, health, and safety and avoid physical deterioration, but would not necessarily preserve the visual quality of UMCD. The property would no longer be maintained at baseline levels, vegetation could become quickly overgrown, and the possibility of vandalism could increase. If the property were to be maintained in a caretaker status for an extended period, then the condition of some buildings and facilities, including paint, siding, and roofing of building exteriors, would deteriorate in quality and could be expected to decline gradually; deterioration would reduce their visual appeal.

**Indirect.** No effects are expected.

#### 4.3.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the 2005 BRAC Commission's recommendations for closure. Therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.3.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, short- and long-term, beneficial and adverse effects are expected. Effects on visual quality were evaluated based on changes as described in the UMCD Redevelopment Plan, increased development intensity including the proposed new construction on UMCD, and the building metrics from Table 3.3-2. Increased construction, demolition, and site-clearing activities within the CDA Parcel would result in a minor, short-term, adverse visual effect that would likely be contained within the UMCD property as a whole. Disposal and redevelopment may ultimately result in the demolition and removal of the buildings lacking visual appeal, including the wind-damaged warehouse buildings. This could lead to the enhancement of the built landscape resulting in minor, long-term, beneficial effects on aesthetics.

Construction activities necessary to build up to 5.1 million SF of facilities could reduce the existing beneficial visual effects of open space areas on the landscape at UMCD and would adversely affect views into UMCD. These adverse effects would be limited to the developed areas and minor when balanced with the beneficial effect of enhancements of the built environment noted above.

The management programs and projects outlined in the INRMP and ICRMP for UMCD may not be fulfilled to the same degree once the parcels are disposed of and moved from federal to nonfederal ownership. Federal regulations would not be applicable following transfer, except to the extent that these may be connected with federal grants.

The visual quality of the Wildlife Refuge is expected to remain similar to existing conditions, with the exception of the potential construction of a solar energy facility on this parcel. Visual impacts resulting from a solar energy facility include minor, long-term, adverse effects of glare from the solar field and from the construction of a maintenance building, fencing, and other features associated with the facility.

**Medium-Low Intensity, Indirect.** Minor, long-term, adverse and beneficial effects are expected. Economic expansion caused by redevelopment at UMCD could result in increased development off-site in surrounding communities, which would reduce the pastoral nature of viewsheds. In addition, new sources of light and glare could, if not screened properly, affect nighttime views in communities in relatively close proximity to the installation properties. However, this economic expansion could also provide added revenue to upgrade and redevelop vacant properties, storefronts, and the surrounding communities in keeping with the comprehensive plans and zoning of these communities. This would result in some minor, beneficial effects on the aesthetics of the surrounding area.

**Low Intensity, Direct.** Minor, short- and long-term, beneficial and adverse effects are expected. Effects would be similar to those expected under the MLIR scenario, but to a lesser degree.

**Low Intensity, Indirect.** Minor, long-term, adverse and beneficial effects are expected. Effects would be similar to those expected under the MLIR scenario, but to a lesser degree.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.4 AIR QUALITY

#### 4.4.1 Affected Environment

The climate of Umatilla and Morrow Counties is subject to the moderating influence of prevailing westerly flow of maritime air from the Pacific Ocean. Because of the normal movement of air masses from west to east, most of the systems moving across Oregon have been modified extensively in traveling over the Pacific. As a result, winter minimum and summer maximum temperatures are generally moderated. However, wintertime temperatures are occasionally affected by cold fronts moving southward from Canada. The occurrence of extreme low or high temperatures is generally associated with the occasional invasion of the continental air masses (Western Regional Climate Center 2014).

Average high temperatures range from 40 degrees Fahrenheit (°F) in winter to 90°F in summer, and average low temperatures range from 24°F in winter to 52°F in summer. Average annual precipitation is 8.9 inches per year, with most of the rain falling in the winter months. Average annual snowfall is 11.2 inches per year. Average annual wind speed is 7 miles per hour (Western Regional Climate Center 2013).

##### 4.4.1.1 Regulatory Authorities and Air Quality Attainment Status

UMCD is located in an area under the jurisdiction of the ODEQ and USEPA Region 10. USEPA has divided the country into geographical regions, known as Air Quality Control Regions, to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). There are NAAQS for each of the seven criteria pollutants (i.e., carbon monoxide [CO], nitrogen dioxide [NO<sub>2</sub>], ozone [O<sub>3</sub>], sulfur dioxide [SO<sub>2</sub>], particulate matter measuring 10 micrometers or less in diameter [PM<sub>10</sub>], particulate matter measuring 2.5 micrometers or less in diameter [PM<sub>2.5</sub>], and lead). Criteria pollutants are those upon which USEPA has placed the greatest emphasis and has developed health-based concentration standards for ambient air. There are primary NAAQS for protection of public health, and secondary NAAQS for the protection of public welfare (e.g., effects on soils, vegetation, climate, economic value, personal comfort, and welfare).

Compliance with the NAAQS is determined using ambient-air-monitoring stations located throughout the state, including monitors near UMCD. Umatilla and Morrow Counties and all surrounding counties are designated as in attainment for all criteria pollutants (USEPA 2014a). Table 4.4-1 shows both the primary and secondary NAAQS. Oregon maintains a State Implementation Plan that contains regulations, control measures, and strategies to maintain the NAAQS.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.4-1: National Ambient Air Quality Standards**

Pollutant	Primary/ Secondary	Averaging Times	Level	Form
CO	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Lead	Primary and Secondary	Rolling 3- month average	0.15 $\mu\text{g}/\text{m}^3$ <sup>(1)</sup>	Not to be exceeded
NO <sub>2</sub>	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and Secondary	Annual	53 ppm	Annual Mean
O <sub>3</sub>	Primary and Secondary	8-hour	0.075 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
PM <sub>2.5</sub>	Primary	Annual	12 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Secondary	Annual	15 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Primary and Secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
PM <sub>10</sub>	Primary and Secondary	24 hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
SO <sub>2</sub>	Primary	1-hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

1 Final rule signed 15 October 2008. The 1978 lead standard (1.5 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ] as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except in areas designated nonattainment for the 1978 standard; the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

2 The official level of the annual NO<sub>2</sub> standard is 0.053 parts per million (ppm), equal to 53 parts per billion (ppb), which is shown here for the purpose of clearer comparison to the 1-hour standard.

3 Final rule signed 12 March 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, USEPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

4 Final rule signed 2 June 2010. The 1971 annual and 24-hour SO<sub>2</sub> standards were revoked in that same rulemaking. However, these standards remain in effect until 1 year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

Source: USEPA 2014b

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.4.1.2 Air Pollutant Emissions at UMCD

Prior to the deactivation, UMCD was responsible for the incineration of chemical warfare materials stockpiles. To comply with air quality regulations and to prevent unsafe emissions, restrictive limits were established, such as the amount of organic salts allowed in bulk containers when going through the incinerator. UMCD maintained a Title V Air Operating Permit (Permit No. 25-0024) in compliance with ODEQ regulations (ODEQ 2003). Air emission sources at UMCD included liquid incinerators, space-heating furnaces, air conditioning systems, stationary boilers, water heaters, fuel oil tanks, chemical tanks, emergency electrical generators, and portable heaters and generators. Table 4.4-2 lists the emissions for some of these sources, based on the plant site emission limits (PSEL) from the UMCD Title V Air Operating Permit Application (ODEQ 2003). The remaining sources at UMCD are assumed to have no or minor emissions.

UMCD was officially closed on 1 August 2012. The former UMCD destroyed the last munitions in October 2011. The installation is currently in RCRA closure.

**Table 4.4-2: Umatilla Chemical Depot Plant Site Emission Limits in Tons Per Year**

Source Type	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC <sup>(3)</sup>
Liquid Incinerator No.1 <sup>(1)</sup>	4.13	3.14	0.13	-	0.41	0.00
Liquid Incinerator No.2 <sup>(1)</sup>	4.13	3.14	0.13	-	0.41	0.00
Deactivation Furnace System <sup>(1)</sup>	75.19	0.08	2.79	-	8.52	0.05
Metal Parts Furnace <sup>(1)</sup>	5.40	3.07	0.38	-	3.16	0.05
Brine Reduction Area <sup>(1)</sup>	3.1	0.04	3.2	-	5.21	0.34
Natural Gas Boiler No.1 <sup>(1)</sup>	5.32	0.06	0.81	-	8.95	0.59
Natural Gas Boiler No.2 <sup>(1)</sup>	5.32	0.06	0.81	-	8.95	0.59
Natural Gas Boiler No.3 <sup>(1)</sup>	4.49	0.05	0.68	-	7.54	0.49
Natural Gas Boiler No.4 <sup>(1)</sup>	4.49	0.05	0.68	-	7.54	0.49
2,500-kilowatt Backup Generator <sup>(1)</sup>	16.74	1.63	0.32	-	0.61	0.59
125-kilowatt Backup Generator <sup>(1)</sup>	0.47	0.10	0.01	-	0.03	0.04
Seven Depot Boilers <sup>(1)</sup>	7.78	4.11	2.77	-	2.02	0.32
Diesel/Gasoline Generator Sets <sup>(1)</sup>	0.49	0.05	0.03	-	39.11	0.76
Commuting (Vehicle Emissions) <sup>(2)</sup>	13.8	0.1	10.1	2.0	95.5	9.4
<b>Total</b>	<b>150.9</b>	<b>9.4</b>	<b>22.9</b>	<b>2</b>	<b>188</b>	<b>13.7</b>

1 Based on the PSEL from the UMCD Title V Air Operating Permit Application (ODEQ 2003)

2 Commuting emissions based on 1,191 commuting employees with the average trip length of 25 miles, calculated with URBEMIS 9.2

3 VOC: Volatile organic compounds

Source: USACE 2010

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.4.1.3 Regional Air Pollutant Emissions Summary

Both Umatilla and Morrow Counties are predominantly rural. I-82 and I-84 run through the area adjacent UMCD. Nearby industrial facilities include Hermiston Generating Company, Lamb-Weston, Inc., and Pendleton Grain Growers, Inc., all located in Hermiston (ODEQ 2010).

There are two air quality monitors in Hermiston, approximately 6 miles east of UMCD, and one monitor stationed in the city of Pendleton, approximately 30 miles southeast of UMCD (USEPA 2014c). As shown in Table 4.4-3, monitored values for all monitored pollutants in the Pendleton-Hermiston core-based statistical area are below the NAAQS. The 24-hour PM<sub>2.5</sub>-monitored values are very close to the NAAQS in years 2006 and 2008. CO was not monitored in Umatilla and Morrow Counties or within adjacent counties in Oregon and Washington; CO has been always well below NAAQS.

**Table 4.4-3: Air Quality Monitor Data, Highest Value**

Pollutant	Averaging Period	2006	2007	2008	Standard
PM <sub>10</sub>	24-hour <sup>(1)</sup>	59	48	36	150 µg/m <sup>3</sup>
PM <sub>2.5</sub>	24-hour <sup>(2)</sup>	32	24	33	35 µg/m <sup>3</sup>
	Annual	13.2	7.6	11	15 µg/m <sup>3</sup>
SO <sub>2</sub>	1-hour <sup>(2)</sup>	-	8	9	75 ppb
	24-hour <sup>(1)</sup>	-	2	2	140 ppb
NO <sub>2</sub>	1-hour <sup>(2)</sup>	-	38	37	100 ppb
O <sub>3</sub>	1-hour <sup>(1)</sup>	-	0.07	0.08	0.12 ppm
	8-hour <sup>(3)</sup>	-	0.066	0.064	0.075 ppm

1 Second highest value

2 98th Percentile value

3 Fourth highest value

Source: USEPA 2014c

## 4.4.2 Consequences

This section addresses the effects on air quality and compliance with air regulatory requirements. The cumulative effects associated with greenhouse gas (GHG) emissions and associated global climate change effects are addressed in Section 4.14.4.

### 4.4.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short-term, beneficial and long-term, adverse effects are expected on the CDA Parcel. Following early transfer, stationary sources, such as boilers and heaters, would cease to operate, thereby reducing emissions in the short term prior to redevelopment. Furthermore, vehicle traffic and mission operations would decrease on UMCD, thereby reducing emissions. In the long term, redevelopment activities may result in adverse effects as a result of increased activity on the CDA Parcel, including operational emissions (i.e., boilers, heaters,

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



manufacturing), increased traffic flow, and dust and exhaust emissions from construction and demolition activities, as further discussed in Section 4.4.2.5.

**Indirect.** Minor, long-term, adverse effects are expected on UMCD. In the long term, redevelopment of UMCD may foster additional economic growth in the region that could generate additional emissions from traffic and industry operations within the area, as further discussed in Section 4.4.2.5.

### 4.4.2.2 Traditional Disposal Alternative

**Direct.** Minor, short-term, beneficial and long-term, adverse impacts are expected on UMCD. Effects would be similar to those described under the early transfer disposal alternative, but the effects would take place further in the future.

**Indirect.** Minor, long-term, adverse effects are expected on UMCD. Effects would be similar to those described under the early transfer disposal alternative, but the changes in effects would take place further in the future.

### 4.4.2.3 Caretaker Status Alternative

**Direct.** Minor, long-term, beneficial effects are expected at UMCD. Stationary sources, such as boilers and heaters, would cease to operate, thereby reducing emissions. Furthermore, vehicle traffic and mission operations would decrease on UMCD, thereby reducing emissions.

**Indirect.** No effects would be expected

### 4.4.2.4 No Action Alternative

No direct or indirect effects would be expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure. Therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.4.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, short- and long-term, adverse effects are expected because of increased employment and commercial/industrial activity relative to existing conditions on UMCD. Overall, the MLIR scenario is intended to bracket the higher end of possible reuse intensity at UMCD, which represents more than three times the current facility infrastructure and level of employment. Reuse of the UMCD property for commercial, manufacturing, and industrial uses would result in a greater quantity of emissions as compared to current levels. This would be due to the overall greater level of activity occurring at the site. Boilers, heaters, and industrial equipment would potentially be used at higher rates, resulting in increased emissions. Additional air quality permits may be required for new and expanded operations, depending on the type of equipment installed at the site.

Any new stationary sources of air pollution that result from reuse would be required to comply with all federal and state air quality rules and regulations, including the State Implementation Plan. Each tenant would be required, as appropriate, to obtain air quality permits from ODEQ for

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



each new and modified facility. The necessary preconstruction permits and approvals are summarized in Table 4.4-4. The permit process is designed to regulate sources that might cause significant ambient air quality effects. Permits would specify emission limits and the types of air-pollution-control equipment that would be necessary for each emission source. Adherence to these procedures would ensure that only minor, adverse, direct effects on air quality would result from the MLIR scenario, including conformance to the State Implementation Plan. ODEQ's review of air quality permit applications would ensure that ambient impacts caused by the increased emissions would not exceed the NAAQS limits, including conformance to the State Implementation Plan.

**Table 4.4-4: Air Quality Permits**

Activity	Applicability	Permit	Agency
Air pollution emitting facilities	Assures compliance with NAAQS.	ODEQ Air Contaminant Discharge Permits for Minor Sources; Prevention of Significant Deterioration (PSD) Permit for Major Sources, 40 CFR 52.21; OAR 340-202 ( <i>Ambient Air Quality Standards and PSD Increments</i> ), 340-222 ( <i>Stationary Source Plant Site Emission Limits</i> ).	ODEQ
Air pollution emitting facilities	Required for major Hazardous Air Pollutant facilities, facilities subject to Part 63, facilities subject to Part 61, incinerators.	State Construction Permit under OAR 340-244 (Oregon Federal Hazardous Air Pollutant Program).	ODEQ

Construction and demolition activities associated with the MLIR scenario would create short-term, temporary sources of fugitive dust and vehicle emissions due to the temporary nature of the activities and the fact that the demolition and construction would be spread over a multiyear period. The exhaust emissions from a limited number of heavy equipment vehicles would not cause any violations of ambient air quality standards.

Although the region is in attainment, the one criteria pollutant that may be of concern in the region in the future is PM<sub>2.5</sub>, which has increased regionally and is just below the 24-hour standard of 35 micrograms per cubic meter (µg/m<sup>3</sup>). A screening analysis of demolition, construction, and operation emissions for PM<sub>2.5</sub> for the MLIR alternative was conducted, and the results indicate that emissions would be approximately 50 tons per year or less, which is half the current *de minimis* threshold for PM<sub>2.5</sub> of 100 tons per year. Therefore, even if the region were declared to be in nonattainment for this criteria pollutant in the future, the MLIR scenario would still conform to the State Implementation Plan.

**Medium-Low Intensity, Indirect.** Minor, long-term, adverse effects are expected on UMCD. In the long term, the MLIR scenario may foster additional economic growth in the region that could generate additional emissions from traffic and industry operations within the area.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Low Intensity, Direct.** Minor, short-term, adverse effects are expected. Overall emissions are expected to increase temporarily from current levels because of construction of new buildings and demolition and renovation of existing buildings. Emissions and effects would be below what was described for the MLIR scenario. Demolition and construction activities associated with the scenario would create temporary sources of fugitive dust and vehicle emissions that would primarily be confined to immediate project areas. The exhaust emissions from a limited number of heavy equipment vehicles would not cause any violations of ambient air quality standards.

This scenario would generate emissions that are similar to current use and intensity. Therefore, long-term effects from the LIR scenario are similar to the current condition and would conform to the State Implementation Plan. Although the region is in attainment, the one criteria pollutant that may be of concern in the region is PM<sub>2.5</sub>, which has increased regionally and is just below the 24-hour standard of 35 µg/m<sup>3</sup>, as previously discussed. A screening analysis of demolition, construction, and operation emissions for PM<sub>2.5</sub> for the LIR alternative was conducted, and the results indicate that emissions would be approximately 15 tons per year or less, which is well below the current *de minimis* threshold for PM<sub>2.5</sub> of 100 tons per year. Therefore, even if the region were declared to be in nonattainment in the future for this criteria pollutant, the LIR scenario would still conform to the State Implementation Plan.

**Low Intensity, Indirect.** No effects would be expected to occur.

**AFFECTED ENVIRONMENT AND CONSEQUENCES**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.5 NOISE

#### 4.5.1 Affected Environment

The UMCD region is principally agricultural in nature, and therefore the residents of the region enjoy a relatively quiet environment. Due to the size of the UMCD installation, large buffers surround current mission operations, so that noise is attenuated. In the past, UMCD operations generated continuous noise from fans, pumps, and boilers. Two other sources of noise that existed when UMCD was a fully operational depot included a demolition ground, which handled detonations of obsolete and unserviceable ammunitions in lots of up to 300 pounds net explosive Wight in each pit, and a military airstrip in the southeast corner of the installation.

Due to the technical nature of describing noise effects, a brief overview of the various noise descriptors and regulations relative to management of noise is provided below.

**Noise Descriptors.** The common unit of measure for noise is the decibel (dB). Three frequency-weighting scales measure sound level: A-weighting captures the loudness of the least intense sounds; B-weighting captures the loudness of moderately intense sounds; and C-weighting captures the loudness of the most intense sounds that humans hear. With the development of algorithms that can measure the loudness of complex sounds directly, the B-weighting is obsolete, and the C-weighting is used only to capture the annoyance of low-frequency, rumbling sounds, such as the reverse thrust of a landing aircraft or the window-rattling explosion from large military weapons. Since none of these sources exists at UMCD, the weighting of choice is A-weighted decibels.

Noise that varies with time is quantified using several descriptors, and the choice of descriptors is dictated by the purpose for which the analysis is intended. Analyses conducted for NEPA documents and for land use planning employ averages based on measured or predicted sound exposure levels over “busy days” or annual number of operating days. Analyses conducted for the management of noise complaints employ measures of single events, such as the linear peak level used for the prediction of complaints about demolition noise. The peak noise level is generally defined as the maximum absolute value of the instantaneous sound pressure in a specific time interval during the specified monitoring period. The maximum level is generally defined as the highest noise level from some passing source integrated over some short interval, such as 1/10 second. The equivalent noise level ( $L_{eq}$ ) is the average noise level during a specified monitoring period. The day-night average noise level (DNL) is the average noise over a 24-hour period; the noise levels between 10:00 p.m. and 7:00 a.m. are adjusted upward by 10 dB to account for people’s sensitivity to nighttime noise. The DNL is the metric of choice for the production of noise contour maps.

In areas where there is no dominant noise source, such as an airport or large industrial plant, noise contour maps are not useful. In those cases, the DNL for land reuse types can be estimated by using the following equation published by USEPA (USEPA 1974):

$$DNL = 10 \log_{10}(p) + 22 \text{ dB, where } p \text{ is the number of people per square mile}$$

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMCD straddles two rural counties, Morrow County to the west and Umatilla County to the east. Using data from the 2010 U.S. Census, the USEPA equation gives an estimate of 29.37 dB DNL for the eastern boundary, and 37.0 dB DNL for the western boundary. However, UMCD is also located at the intersection of two interstate highways. I-84 runs east-west along the southern boundary, and I-82 runs diagonally north-south along the eastern boundary. To address direct interstate noise-related traffic, the USEPA equation is not valid. The only way to estimate baseline noise level is to (1) model the highway noise levels by use of the Federal Highway Administration (FHWA) Traffic Noise Model, or (2) conduct field measurements with a sound level meter.

The FHWA model and regulations are designed to predict the annoyance experienced by people living near a noisy highway (U.S. Department of Transportation 1995). For this reason, traffic noise is generally quantified as the peak-hour  $L_{eq}$  during the hour of the day when traffic volumes are highest. Through use of its noise model, the FHWA regulates traffic noise impacts caused by vehicles on new federally funded roadway improvement projects near residential areas, but the proposed action would not require construction of new federally funded roadways near houses, so the FHWA regulations would not apply at UMCD.

For outdoor and public spaces, field research conducted in Japan shows that an individual's annoyance with anthropogenic sound could be predicted to an accuracy of 65 percent with an  $L_{eq}$  as short as 5 minutes (Furihata 2008). When the data are adjusted for the individual's self-reported noise sensitivity, the 5-minute  $L_{eq}$  can predict individual annoyance with an accuracy of 72 percent. Given that there is no military housing on UMCD, it is reasonable to use such a short-term measurement to characterize the affected noise environment along the UMCD boundary.

**Existing Noise Studies.** During the time that UMCD was an installation under the command of the Field Service Division, Army Ordnance Ammunition Command, there was a study of air blast and ground shock waves from the 300-pound charges at the demolition ground (Cook, Reyes, and Ursenbach 1962). However, since the demolition ground is no longer in use, that early study is no longer relevant. Countywide estimates of the noticeability of transportation noise published by Miller (2003) are provided in Table 4.5-1. To "fine tune" Miller's geographic information system-based, countywide estimate to the immediate vicinity of UMCD, a field study was conducted on 17 November 2010.

**Table 4.5-1: Percentages of County Areas in which Transportation Noise  
is Noticeable during the Day**

County	Highway Traffic	Railroads	Jet Aircraft
Morrow County	0.01%–10%	10%–25%	25%–50%
Umatilla County	10%–25%	10%–25%	25%–50%

Source: Miller 2003

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The findings of the 17 November 2010 field measurements demonstrate that Miller's predictions are inapplicable for the immediate vicinity of UMCD. Whereas the predictions in Table 4.5-1 would suggest that jet aircraft are the dominant feature of the soundscape and highway traffic is the least important feature, the field measurements showed the opposite. The sound of interstate traffic dominated three of the field measurement sites. Although the sounds of jet aircraft were sometimes audible, these sounds were masked by the sound of highway traffic. Similarly, the sound of railroad freight trains was only dominant in the immediate vicinity of the railroad tracks. At the fourth (and quietest) site, which was at the northwest corner of UMCD and in Morrow County, the sound of highway traffic was clearly noticeable until 11:45 a.m. At that time, the propagation of interstate traffic noise through a presumed (but not measured) radiation-based temperature inversion was disrupted by surface winds, and the ambient  $L_{eq}$  dropped to a baseline of 35 dB. Against this background, the calls of migrating geese and western meadowlarks were clearly audible, while the sound of highway traffic was barely detectable.

It is unlikely that the sound of highway traffic would propagate as effectively during warm summer weather as it did on the crisp, low-wind autumn day of the 2010 field study. Nevertheless, the sound of highway traffic appears to be the most important noise consideration for the property.

**Existing Noise-Producing Activities.** Any noise generated inside UMCD and propagated outside the boundary is insignificant compared with the levels of sound propagating across the UMCD boundary from I-82 and I-84. However, these interstates do not contribute to the sounds that are heard within the interior of the installation boundary. Rather, the dominant sounds within the installation are surface winds, vehicles traveling along the interior road network, and occasional overhead jet aircraft. Due to the very low density of development and activity on UMCD, pre-BRAC noise levels are very low, commensurate with a rural setting, and would be fully compatible with even sensitive land uses, if present.

**Existing Land Use Compatibility.** Noise generated from UMCD has no effect on the current land use of properties adjacent to the installation boundaries. These adjacent properties outlie downtown Hermiston on the eastern side of I-82, which runs north-south between UMCD and Hermiston. In addition, noise generated from I-82 and I-84 has no effect on the current land use within the interior of UMCD.

### 4.5.2 Consequences

#### 4.5.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects are expected. Following early transfer, agricultural land use in the southwest corner of the CDA Parcel (1,891 acres) and at the northern boundary (638 acres) may increase noise associated with air traffic from crop dusting activities, but the effect would be short term and minor. In the long term, reuse of UMCD would result in new industrial and commercial tenants, but it is highly unlikely that any new use would generate levels of noise sufficiently intense to have an adverse effect on any off-site residential properties or surrounding land uses since there is a large buffer between UMCD and the nearest existing residential land use. For on-site workers and tenants, minor, short- and long-

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



term, adverse effects are expected from demolition, construction, and operation of expanded industrial and commercial operations within the CDA Parcel, as further discussed in Section 4.5.2.5.

**Indirect.** No indirect effects are expected.

### 4.5.2.2 Traditional Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects are expected. Effects would be similar to those described under the early transfer disposal alternative, but the changes in effects would take place further in the future.

**Indirect.** No indirect effects are expected.

### 4.5.2.3 Caretaker Status Alternative

**Direct.** Minor, beneficial effects are expected. The absence of human activity would benefit the natural soundscape as the sounds of mammals, birds, amphibians, and insects approach an asymptote of full utilization of the auditory bandwidth of the natural soundscape.

**Indirect.** No effects are expected.

### 4.5.2.4 No Action Alternative

No direct or indirect effects would be expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment. Therefore, no effects would occur relative to continuation of the Army's mission and conditions as these were in November 2005.

### 4.5.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, short- and long-term, adverse effects are expected from demolition, construction, and operation of expanded industrial and commercial operations within the CDA Parcel. Developers of motels adjacent to I-82 and I-84 would be expected to take nighttime traffic and construction noise into consideration, but some short-term, adverse effects could occur from truck- and construction-related noises.

**Medium-Low Intensity, Indirect.** No indirect effects are expected.

**Low Intensity, Direct.** Minor, short- and long-term, adverse effects may occur; however, effects would be fewer and less intense than the MLIR scenario. Development and operational activities that generate noise would be about half the levels experienced from the MLIR scenario, but could exceed baseline operational conditions in 2005.

**Low-Intensity, Indirect.** No indirect effects are expected.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.6 GEOLOGY AND SOILS

This section describes the geologic setting and soils at UMCD. The ROI for soils and geology includes the installation properties, geologic formations underlying these areas, and adjacent land.

#### 4.6.1 Affected Environment

##### 4.6.1.1 Physiography and Topography

UMCD is located in northeastern Oregon and is bisected by Morrow and Umatilla Counties. UMCD is within the Columbia Basin, the Deschutes-Columbia Plateau, and the Blue Mountain physiographic provinces.

The area within the Columbia Basin Province is a lava-floored plain overlain by sand, gravel, and silt. This material, deposited during past glacial damming and subsequent periodic flooding of the Columbia River, was further reworked by wind. The Columbia River, which marks the northern survey boundary, has an average elevation of about 250 feet. Elevations in this region range from about 250 feet along the Columbia River to about 1,000 feet at the southern boundary. The terrain is dominated by a mix of rolling and nearly level relief.

The Columbia Plateau has been uplifted since molten basalt flooded the area. In Morrow County, the basalt is overlain by wind-deposited silt, or loess. Elevations in this region range from about 500 feet on some bottomlands, to about 4,300 feet where the plateau borders the Blue Mountains. This region is dominated by nearly-level-to-rolling, stream-dissected terrain (Natural Resources Conservation Service 2010).

The northern, western, and central portions of UMCD are generally flat to gently rolling, and elevations range from 400 to 677 feet above sea level. A valley, the Coyote Coulee, cuts across the installation along a north 30 degrees east axis. The terrain west of the valley is rolling hills, while the land east of the valley slopes gently (U.S. Army 2010).

##### 4.6.1.2 Structure and Subsurface Strata

The Deschutes-Columbia River Plateau is predominately a volcanic province covering approximately 63,000 square miles in Oregon, Washington, and Idaho. The basaltic lava flows were deposited during the Miocene, predominantly 15.6 to 16.7 million years ago during one of the youngest, smallest, and best preserved continental flood basalts (U.S. Geological Survey 2014). After the lava flowed and cooled, it formed the cliff formations that dominate the landscape. The Deschutes-Columbia plateau runs north-south from the Columbia River to central Oregon in the shape of a wedge that narrows the farther south one travels from the Columbia River. The eastern boundary extends to the foothills of the Blue Mountains.

Throughout the installation, the basaltic bedrock is generally covered with as much as 200 feet of Pleistocene alluvial deposits. These surface deposits are generally permeable silts, sands, and gravels, with some cobbles to the west of Coyote Coulee. Much coarser permeable deposits containing considerable quantities of boulders occur along the eastern wall of the Coulee and toward the eastern side of the installation (U.S. Army 2010).

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.6.1.3 Soils

Soils at UMCD consist of sandy loam and coarse sand developed primarily from the alluvial deposits. The soils have been modified by wind action. The upper 8 inches of soil consist of a noncalcareous, loose, fine-to-medium-loamy sand. The 8- to 32-inch depths consist of fine-to-medium sand, which overlies 8 inches of sand containing no organic matter. Below 40 inches, the soil consists of gravel and gravelly sand with varying amounts of cobbles (U.S. Army 2010).

There are 75 soil associations common to Morrow and Umatilla Counties. Each soil may have several different slopes, textures, aspects, or other features. The soils range from coarse sand to heavy clay in texture, and from volcanic ash that is low in fertility to deep loess that is high in fertility. Restricted soil depth, steepness of slope, and low rainfall are the main limitations for growing nonirrigated crops (Natural Resources Conservation Service 2010).

Unique cryptobiotic soils have also been observed on UMCD (UMCD 2007). Cryptobiotic soil is a type of soil crust composed of living cyanobacteria, algae, fungi, lichens, and/or mosses (Belnap 2004). Also known as cryptogamic soil, this soil is commonly found in arid conditions, and is especially important to desert ecosystems by providing moisture retention, soil stability, erosion reduction, and nutrients for plants. Due to its thin, fibrous, and fragile nature, it is an indicator of a relatively undisturbed soil ecosystem. Disturbed soil crust may leave its organism inhabitants vulnerable and reveal damage to the soil ecosystem. The displaced soil would also be susceptible to erosion, which may be detrimental to adjacent healthy soil and kill microorganisms that create viable, functioning ecosystems. Once the soil crust is fractured and displaced, cryptobiotic crusts may take decades or centuries to rehabilitate, depending on the degree of damage.

The nature of UMCD's storage mission has not resulted in extensive soil disturbance to date. Damage to soils occurred 75 years ago during the igloo construction, but the revegetation of those areas has nearly eliminated erosion. There are areas, however, that have been exposed on UMCD, including the ORARNG tracked vehicle course, Coyote Coulee, and other construction areas, which are highly susceptible to wind erosion (UMCD 2007).

The majority of the area surrounding UMCD is rural, agricultural cropland, cottonwood tree farms, and pastures. Land use for the areas immediately adjacent to the installation in Umatilla and Morrow Counties are zoned agricultural (Staubach 2006). About 296,290 acres, or nearly 18 percent of Umatilla County, would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available. More than 435,000 acres in Morrow County were used for crops and pasture in 1975, according to the Morrow County extension agent and the extension economist from Oregon State University (Natural Resources Conservation Service 2010).

### 4.6.1.4 Seismic Activity

The Pacific Northwest is an earthquake-prone region. Typically, each year there are over 1,000 earthquakes with a magnitude of 1.0 or greater in Washington and Oregon. Of these, approximately two dozen are large enough to be felt. There have been approximately 25 damaging earthquakes in Washington and Oregon since 1872. In the 20th century, an estimated 17 people lost their lives due to earthquakes in the Pacific Northwest. In this century,

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



there have been three significant earthquakes near Portland, Oregon (Incorporated Research Institutions for Seismology 2011).

### 4.6.2 Consequences

#### 4.6.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects are expected on soil resources, including potential soil loss and adverse impacts on cryptobiotic soil crusts. Early transfer of UMCD would result in nonfederal ownership and reduced regulatory controls for the protection of natural resources as required under the Sikes Act for federal property. Therefore, geologic and soil resources, as well as fragile cryptobiotic soil crusts, may not benefit from the many programs and policies set forth to protect these resources, such as implementation of the INRMP. Furthermore, agricultural land use in the southwest corner of the CDA Parcel (1,891 acres) and at the northern boundary (638 acres) following early transfer would disturb surface soils and may result in increased soil loss due to wind and water erosion. In the long term, disposal would ultimately lead to enhanced construction, demolition, and site-clearing activities that would result in increases in erosion potential, as further discussed in Section 4.6.2.5.

**Indirect.** No effects are expected.

#### 4.6.2.2 Traditional Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects are expected similar to the effects outlined for early transfer, but would occur further in the future.

**Indirect.** No effects are expected.

#### 4.6.2.3 Caretaker Status Alternative

**Direct.** Negligible, adverse effects are expected. Under the caretaker status, natural resource management programs and objectives outlined in the INRMP for UMCD may not be pursued to the same degree (UMCD 2007). This could result in lower levels of erosion controls and vegetative controls that benefit soil resources.

**Indirect.** No effects are expected.

#### 4.6.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure. Therefore, no changes would occur relative to continuation of the Army's mission and conditions in November 2005.

#### 4.6.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, short- and long-term, adverse effects are expected. Building construction involving soil excavation, grading, soil removal, and vegetation clearing within the CDA Parcel could result in minor, short- and long-term, adverse effects on soils and disturbance of cryptobiotic soils, including increased erosion and soil compaction. Demolition,

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



conversion, or replacement of existing structures to comply with current building codes would result in land disturbances associated with new buildings, parking lots, walkways, and related structures. Furthermore, agricultural use and construction could lead to vegetation removal and soil-disturbing activities, with increased potential for soil loss. Upgrades of rails and roads serving new uses at the site could result in adverse impacts on soils from erosion activities. Phasing of such levels of redevelopment over a 20-year period and the application of Best Management Practices (BMPs) to reduce erosion during construction would reduce adverse effects on soils. Within the Wildlife Refuge, clearing ground for and construction of a 200-acre solar PV project, limited construction of PV-support facilities, and establishing hardened trails would result in increased erosion potential for disturbance of cryptobiotic soil crusts, vegetation cover, and soils, which may lead to an increase in wind erosion potential. Impacts on soils and cryptobiotic soil crusts could be reduced by limiting development to the extent feasible to previously disturbed sites, establishing conservation areas and restricting off-road and off-trail disturbance (e.g., foot traffic, off-road vehicles), and establishing limited hardened trails within the Wildlife Refuge to reduce the potential for off-road and off-trail foot traffic disturbances.

As previously discussed, land withdrawn from farmland inventory for military or national defense purposes is not subject to considerations related to farmland conversion under FPPA. The UMCD Redevelopment Plan would return up to 2,529 acres into agricultural production. Furthermore, the Redevelopment Plan would minimize adverse impacts on natural habitat. Therefore, a relatively small percentage of undeveloped land would be converted to other land uses. In addition, Morrow County has designated roughly 2,600 acres for agricultural use upon reuse of UMCD, and Umatilla County has suggested zoning similar areas for agricultural use. Therefore, redevelopment would result in an increase of agriculture resources and private ownership may also increase the potential for agricultural uses of low-quality habitat on-site. See Section 4.7 for a discussion of water irrigation and water rights issues associated with increased availability of agricultural lands associated redevelopment.

**Medium-Low Intensity, Indirect.** No effects are expected.

**Low Intensity, Direct.** Minor, short- and long-term, adverse effects are expected. Effects similar to those discussed under MLIR are expected to occur, but to a lesser degree.

**Low Intensity, Indirect.** No effects are expected.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.7 WATER RESOURCES

#### 4.7.1 Affected Environment

This section includes a discussion of surrounding surface water resources, groundwater hydrology and quality, floodplains, and water usage on UMCD. The ROI for water resources comprises the area of the installation and areas immediately adjacent. Although there are no permanent surface water features on the CDA Parcel, adjacent surface water bodies are an important consideration as they may provide an alternative water supply source to the CDA Parcel. Point and nonpoint sources of pollution on the installation are also discussed in this section. Stormwater conveyance systems are addressed in Section 4.12, Utilities.

##### 4.7.1.1 Surface Water Features and Quality

The installation is within the Umatilla Lowlands of the Columbia Plateau and is surrounded primarily by irrigated agricultural land (USACE 2010). Located 3.3 miles north of the UMCD's northern boundary, the Columbia River is a major source of potable and irrigation water in the region, and is used for recreation, fishing, and the generation of hydroelectric power. The Umatilla River, which meanders as close as one mile east of UMCD, is regulated by dams, reservoirs, and discharges into the Columbia River. Many diversions have been made in the Umatilla River basin for agricultural and irrigation purposes. Irrigation canals, which link to the Umatilla River, surround UMCD's eastern, western, and northern sides. The Umatilla River is joined by Butter Creek near the southeastern corner of UMCD.

Bodies of water near UMCD, shown in Figure 4.7-1, include Cold Springs Reservoir, located southeast of Umatilla, and Lost Lake, located approximately 4 miles south of UMCD and northwest of Ward Butte on the Morrow-Umatilla County line. McKay Reservoir, located south of Pendleton, Oregon, is not shown in the map. The green areas in Figure 4.7-1 clearly illustrate the effects of irrigation in the arid climate that prevails in this region of the Columbia's course. Areas in shades of brown and gray are not irrigated, and are what the agricultural areas would be reduced to without the presence of the river and irrigation systems.

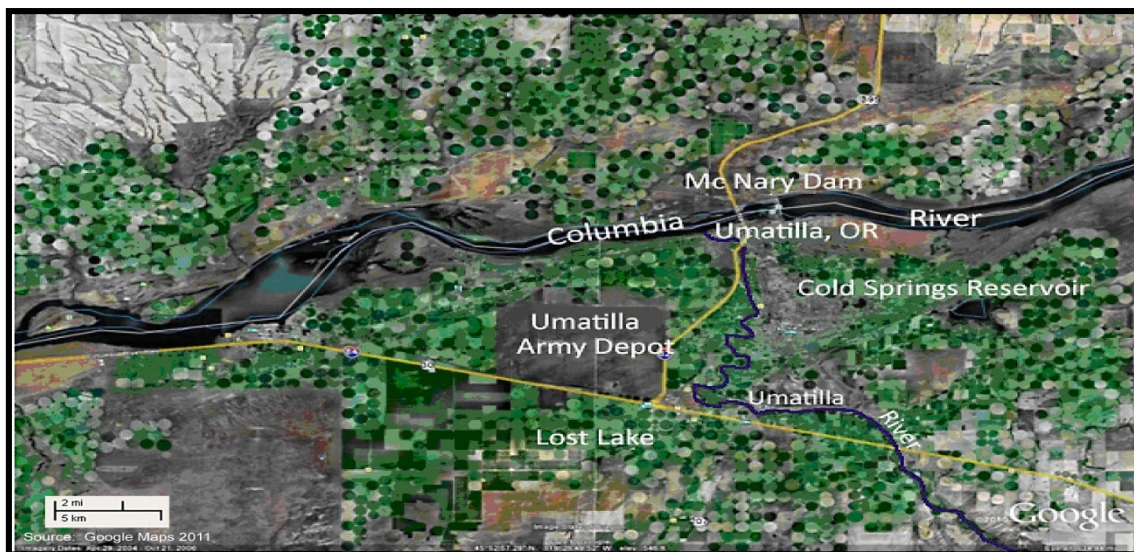


Figure 4.7-1: Water Resources in the Vicinity of Umatilla Chemical Depot

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



There are no surface water bodies on the installation because rainwater quickly infiltrates into the desert soils before running off onto lower surrounding lands. Due to minimal precipitation and very permeable soils at UMCD, there is little surface water runoff. From UMCD's high region, the land slopes gently southeast in the eastern portion of UMCD, south in the central and southern portions, and northwest in the western portion.

Stormwater runoff from impervious areas, such as paved streets and parking lots, often contain pollutants that could adversely affect water quality if it reaches surface waters directly or through storm drainage. USEPA adopted Phase I regulations requiring National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharges from certain industrial sites, construction activities, and municipalities. Specifically, a permit is required if stormwater from rain or snowmelt leaves the site through a point source, such as pipes or any other channels and into surface waters (ODEQ 2001a). In Oregon, ODEQ administers the NPDES permit program. Existing infrastructure and activities on UMCD do not require an NPDES permit for stormwater discharges. Stormwater runoff from the administrative area is collected by a curb and gutter system and is piped to an open ditch discharge site several hundred feet west of the sewage treatment facility tile field. Sampling of the outfall has indicated no exceedances of contaminant levels. There is a lined stormwater retention pond, approximately 100-by-160 SF in size, near the chemical demilitarization site, that collects water from the site. There is little use of the pond by terrestrial wildlife as water availability is intermittent, although shorebirds have been observed to use it to some extent when water is present.

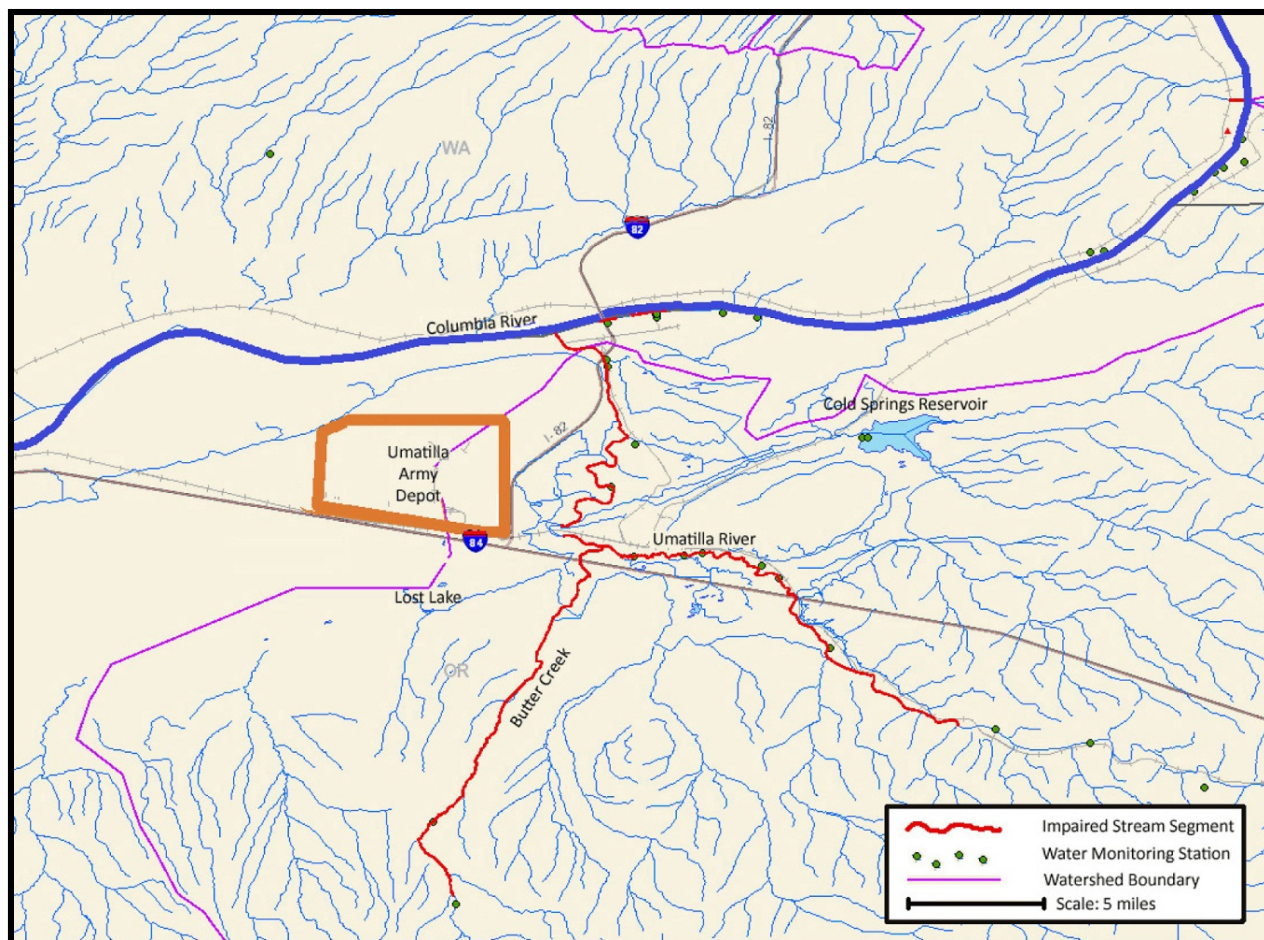
The central part of UMCD lacks any well-defined drainage pattern. The minimal runoff generated in this area generally flows into the numerous shallow depressions found in the flat and gentle rolling topography in the area. The most significant of these depressions are located at the base of the west-facing bluff of Coyote Coulee. Several of the buildings located at the top of the bluff have drainage going into these depressions. Surface runoff in the area east of Coyote Coulee is toward the southern boundary into a shallow, elongated depression running parallel to the UP tracks and I-84 (Young et al. 1994).

With respect to off-site surface water bodies, the Umatilla River and Butter Creek, both of which feed into the Columbia River, are shown in the USEPA Enviromapper program as impaired for excessive sedimentation and turbidity. The water quality impairment designation is based on CWA Section 303(d) standards. This impairment affects the spawning and rearing of Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*), and bull trout (*Salvelinus confluentus*), all of which are salmonids (ODEQ 2001b). Impaired stream segments are indicated in the color red on Figure 4.7-2.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Figure 4.7-2: Surface Water Quality with Impaired Streams Shown in Red**

### 4.7.1.2 Groundwater Resources and Quality

Groundwater occurs beneath the UMCD in a number of distinct hydrogeologic settings. It occurs in a series of relatively deep confined basalt aquifers and in a highly productive permeable unconfined aquifer south of UMCD referred to as the Ordinance Gravel. The unconfined aquifer at UMCD consists of alluvial deposits and the weathered surface of the Elephant Mountain Member basalt, and it is overlain by approximately 20 to 125 feet of unsaturated alluvial sand and gravel. Depth to groundwater ranges from 60 to 125 feet below the ground surface. The saturated thickness of the alluvial aquifer is approximately 15 to 35 feet. The natural groundwater surface exhibits a very flat gradient and experiences seasonal reversals in flow direction due to agricultural pumping in the region.

Overall, the UMCD's groundwater is slightly alkaline due to calcium or sodium bicarbonate solutes. Dissolved solid concentrations in the basalt aquifer system range from 200 to 400 milligrams per liter with an average of 230 milligrams per liter. Higher concentrations of dissolved solids exist in the alluvial aquifer at the surface. While groundwater is suitable for most purposes, its hardness in the alluvial aquifer is greater than what is desired for domestic

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



use. Groundwater in the deeper portions of the basalt aquifer system has decreased hardness and sulfate and bicarbonate concentrations, but with greater concentrations of sodium and fluoride.

Groundwater overdraft continues to be a major issue in the Umatilla Basin (Institute for Water and Watersheds at Oregon State University 2006). In past years, groundwater levels in wells have been in decline from tapping the deep basalt aquifers in many areas of the Umatilla Basin. This indicates the balance between annual recharge and natural discharge to surface water has been disrupted by groundwater pumping.

UMCD is located within Oregon Water Resources Department (OWRD) jurisdiction. Four aquifers have been designated within the Umatilla Basin as Critical Groundwater Areas (CGAs). If there is documented overdraft of the groundwater resources due to irrigation and other basin practices, pumping could be curtailed. This has adversely affected the economies of Umatilla and Morrow Counties. In response, the OWRD, working in conjunction with other state agencies and local planning groups, has proposed a project to increase water availability. The plan evaluates pumping water from the Columbia River during available months for storage in the CGA aquifer for later use, during seasonal higher water demand. Eventual execution of this plan would likely affect groundwater elevations and gradients at UMCD, consequently presenting new challenges for the groundwater-related operable units on UMCD (see Section 4.13.1.4, Site Contamination and Cleanup).

Three municipal water systems, Hermiston, Umatilla, and Irrigon, draw from groundwater within a 4-mile radius of UMCD. Approximately 1,500 wells were identified within this 4-mile radius, the majority of which is used for domestic and irrigation water. Groundwater levels in the alluvial aquifer have been strongly influenced by irrigation pumping and other artificial causes. Throughout the northwest and in the Umatilla Basin, water resources have been under increasing pressure. There have been competing demands from growing communities, generating hydroelectric power, maintaining and restoring fisheries, and increasing agricultural production through irrigation.

### 4.7.1.3 Floodplains and Wetlands

There are no floodplains on UMCD. The lowest portion of UMCD is more than 100 feet higher than normal stage of the Columbia River as it flows past Umatilla and Irrigon.

A National Wetlands Inventory was conducted on UMCD in June 2000, revealing that no permanent naturally occurring surface water features or wetlands on the installation (UMCD 2007). The lack of wetlands on UMCD is due to the region's arid climate; annual rainfall is 8.9 inches, and infiltration is rapid.

## 4.7.2 Consequences

### 4.7.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects on groundwater may occur at UMCD. In the short term, disposal of the CDA Parcel would result in some reduction in regulatory requirements for the protection of groundwater resources as required under the Sikes Act for

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



federal property. Therefore, groundwater resources may not benefit from the many Army programs and policies set forth to protect groundwater resources, such as implementation of the INRMP. Following early transfer, allowing agricultural land use in the southwest corner of the CDA Parcel (1,891 acres) and at the northern boundary (638 acres) would not likely have an adverse impact on groundwater because groundwater withdrawals for irrigation would not be feasible due to insufficient water rights to support such activities. Rather, water resources have been reserved to support other land uses following redevelopment. Aquifer recharge projects being considered for supplying irrigation water for the CDA Parcel may provide an alternative means to supply sufficient water to the area, while conserving groundwater resources (See Section 4.12). Furthermore, there is little potential for surface water runoff from disturbed and exposed soils in agricultural areas to affect surface water resources off-site, as there is a high rate of surface water infiltration and evaporation in this arid region. The closest surface water feature to proposed agricultural areas is the West Extension Irrigation Canal, which is about 500 feet northwest of the 638-acre parcel proposed for agricultural land use. This canal's length is already surrounded by agricultural land use, and the buffer strip between the CDA Parcel and canal would reduce any potential impacts from a change in land use following early transfer. In the long term, further development may adversely affect groundwater resources by expanding the amount of water withdrawn from the aquifer beyond the existing level of water used at UMCD, as further discussed in Section 4.7.2.5. These effects would be relatively minor because cumulative groundwater withdrawals and water balances are regulated by the state, and many aspects of water resource protection would continue per state and federal requirements. Furthermore, potential aquifer recharge projects may mitigate effects to groundwater, as further discussed in Section 4.12. Increased water use would also further strain the water distribution system and the capacity of the wastewater treatment system, as further discussed in Section 4.12.

**Indirect.** No effects are expected.

### 4.7.2.2 Traditional Disposal Alternative

**Direct.** Minor, short- and long-term, adverse effects, similar to those described under the early transfer disposal alternative, are expected, but would occur further in the future.

**Indirect.** No effects are expected.

### 4.7.2.3 Caretaker Status Alternative

**Direct.** Minor, short- and long-term, beneficial effects would be expected at UMCD. Caretaker status would involve reduced water use and wastewater treatment requirements, as well as fewer vehicles and industrial operations that have the potential to release contaminants. Likewise, caretaker status would involve less use of fertilizers, fuels, pesticides, and herbicides, and reduced warehouse and shop activities.

**Indirect.** No indirect effects are expected.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.7.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for realignment and closure, including implementation of INRMP measures and environmental programs required under the CWA, CERCLA, and RCRA. Therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.7.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, short- and long-term, adverse effects are expected on groundwater. In the long term, further development of 3 to 4 million SF of facilities on UMCD and agricultural use may adversely affect groundwater supplies by expanding the amount of water withdrawn from the aquifer beyond the existing level of water used at UMCD. Under reuse, total water volume requirements may be well above baseline conditions. If employment and building square footage increased three times over the baseline, it is reasonable to assume groundwater use would increase substantially under the MLIR scenario, relative to the baseline. Overuse of groundwater resources in the Umatilla Sub-Basin has restricted further groundwater development in the CGAs, thereby limiting land uses in those locations. Groundwater depletion, as measured by water level declines over time, has been documented in the Umatilla Sub-Basin. Increased requirements by redevelopment for groundwater use could be limited by depletion of groundwater experienced in the general area. Certain types of industry consuming or using high water volumes may be limited. Furthermore, use of irrigation within agricultural areas would not be feasible unless aquifer recharge projects were implemented, due to insufficient water rights to support such activities. In any event, if adverse effects occur, these would be relatively minor because cumulative groundwater withdrawals and water balances are regulated by the state, and many aspects of water resource protection would continue per state and federal requirements.

Increased water use from facility operations would also further strain the water distribution system and capacity of the wastewater treatment system, which is further discussed in Section 4.12.

Increased facility operations, facilities construction, and impervious surfaces has the potential to adversely affect the quality of surface water runoff, which has the potential to infiltrate to groundwater. Although an increase in impervious surfaces is anticipated to be small relative to the existing conditions, construction resulting from implementation of the MLIR scenario would increase the area of impervious surfaces, such as those associated with new buildings, parking lots, loading docks, roads, railway, and walkways. Increased impervious surface area would result in increased stormwater runoff. Therefore, greater inputs of potential contaminants and sediments could leach into groundwater, potentially having minor, adverse effects on water quality. With redevelopment, additional vehicles (which are potential sources of contaminants, such as lubricants, coolants, and fuels) and industrial activities could increase the potential for contamination of surface runoff, with a low potential for infiltration into groundwater. Likewise, additional use of fertilizers, pesticides and herbicides, and increased warehouse and industrial activities, could also contribute to an increase in release to surface runoff, with a low potential for infiltration into groundwater.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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***Medium-Low Intensity, Indirect.*** No indirect effects are expected.

***Low Intensity, Direct.*** Minor, short- and long-term, adverse effects are expected. Effects similar to those discussed under MLIR are expected to occur, but to a lesser degree. Under the LIR scenario, water usage may be commensurate with baseline usage, given that employment and facility build-out would be similar to existing conditions.

***Low Intensity, Indirect.*** No indirect effects are expected.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.8 BIOLOGICAL RESOURCES

#### 4.8.1 Affected Environment

##### 4.8.1.1 Flora

**Vegetative Community.** UMCD is located in the Sagebrush Shrub-Steppe (*Artemisia-Agropyron*) biome in the Columbia Basin floristic province. Plant communities represent a transition between arid shrubland or scrub and semiarid grasslands. Planning level vegetation surveys (PLVSs) conducted from 1999 to 2000 identified seven shrubland and seven grassland vegetative communities (Tetra Tech, Inc. 2002a). UMCD contains the largest remnants of Columbia Basin bitterbrush shrub-steppe habitat. UMCD and Boardman Naval Training Station collectively support approximately 25 percent of the total remaining habitat in the Umatilla Basin (Kagan et al. 2000) and about 70 percent of this habitat on UMCD is found within the CDA Parcel. The passive nature of UMCD's mission as a munitions storage facility has contributed to the preservation of this habitat.

Within the CDA Parcel, approximately 3,230 acres of shrublands are concentrated primarily in the eastern and southwestern portions of UMCD, characterized by soils with higher silt content and a higher moisture capacity. The bitterbrush/Sandberg's bluegrass-cheatgrass community is the dominant shrubland community, covering 2,304 (32 percent) of the installation. Approximately 5,400 acres of grasslands are located in sandier and drier soil conditions. Cheatgrass-bulbous bluegrass is the predominant grassland community, covering about 40 percent of the grasslands areas on the installation. The northeastern and southeastern portions of UMCD support approximately 300 acres of needle-and-thread grass-Sandberg's bluegrass-cheatgrass vegetative community. High quality needle-and-thread grasslands are characterized by low disturbance, high species diversity, an extensive layer of soil cryptogams, and a high percentage of native species. The northwest and northeast portions of UMCD are characterized by "mixed communities," defined as areas wherein several vegetative communities are present and intermingled.

Due to the nature of UMCD, the cryptobiotic soil crusts found within UMCD's perimeters have been largely undisturbed by human traffic, as previously discussed in Section 4.6. The fertile condition of these soil crusts provide adequate nutrient uptake by various types of plants on UMCD, which is important to sensitive shrub habitat associations. The undisturbed cryptobiotic soil has contributed to the native plant communities thriving on UMCD. Therefore, prevention of soil disturbance would not only be crucial to the soil's organisms, but also to the various sensitive and ecologically important native plant communities it supports.

**Flora Inventory.** UMCD's vegetative communities support a relatively high degree of native species diversity. PLVSs conducted between 1999 and 2000 identified 65 plant species, 50 of which are considered native to the region (Tetra Tech, Inc. 2002a). UMCD supports large communities of sagebrush- (*Artemisia tridentata*) and bitterbrush- (*Purshia tridentata*) dominated shrublands with an understory of annual grasses and forbs. Common native understory species include Sandberg's bluegrass (*Poa secunda*) and Indian ricegrass (*Oryzopsis hymenoides*). Common species in the grassland communities include needle-and-thread grass (*Stipa comata*) and Sandberg's bluegrass. Some native species, including Carey's

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



balsamroot (*Balsamorhiza careyana*), brodiaea (*Brodiaea douglasii*), and mariposa lily (*Calochortus macrocarpus*) are considered culturally significant to Native Americans.

Approximately 25 percent of the vascular plants on UMCD are exotic species. Common nonnative species found on UMCD include cheatgrass or downy brome (*Bromus tectorum*) and bulbous bluegrass (*Poa bulbosa*). Cheatgrass is a pervasive understory species located throughout the installation. Invasive species degrade the integrity of native communities and contribute to high fuel loading. Also present on UMCD are diffuse knapweed (*Centaurea diffusa*) and rush skeletonweed (*Chondrilla juncea*), which have both been identified by Oregon Department of Agriculture as noxious weeds. State regulation (ORS Chapter 452, *Vector and Weed Control*) requires land managers to control or eradicate these species, when discovered on their properties. Other invasive species at UMCD include Russian thistle (*Salsola kali*), crested wheatgrass (*Agropyron cristatum*), cereal rye (*Secale cereale*), and European bunchgrass.

**Special Status Flora.** No federally listed threatened or endangered vascular plant species are known to occur on UMCD. Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*) is not federally listed but is a federal SOC with the potential to occur on UMCD; it is listed as threatened by Oregon. Two other plant species (Hepatic monkeyflower [*Mimulus jungermannioides*] and Columbia cress [*Rorippa columbiae*]) are state listed and have the potential to occur on UMCD. PLVS conducted from 1999 to 2000 did not identify any state or federal special-status species (i.e., federally listed endangered, threatened, candidate, or SOC; or state-listed endangered, threatened, or sensitive species) on UMCD. A complete list of flora special-status species with the potential to inhabit UMCD is presented in Table 4.8-1 (see also Appendix C for Section 7 consultation with the USFWS). Although no special-status species have been observed on UMCD, Columbia milkvetch (*Astragalus columbianus*), a state watch list species, was observed primarily in undisturbed dry shrub and grassland habitat in the eastern portion of the installation.

### 4.8.1.2 Fauna

A comprehensive planning level survey (PLS) of UMCD has not been completed for nonsensitive vertebrate species (i.e., species that are unlikely to be declared special status species). The UMCD supports species assemblages common to the Columbia Basin native shrub-steppe and grassland habitats. A complete list of fauna special-status species with the potential to inhabit UMCD or that have been observed on UMCD in the past is presented in Table 4.8-1 (see also Appendix C for Section 7 consultation with the USFWS). It should be noted that many of the species listed in Table 4.8-1 have not been observed on the installation but are known to occur in the region. Furthermore, many of the species are transient and migratory, and may only traverse the property briefly. Overall, no federally listed endangered, threatened, or candidate species have been observed on UMCD.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.8-1: Flora and Fauna Special Status Species Potentially Found on Umatilla Chemical Depot**

Common Name	Scientific Name	Federal Status	Birds of Conservation Concern	State Status	Occurrence
<b>Plants</b>					
Lawrence's milkvetch	<i>Astragalus collinus</i> var. <i>laurentii</i>	SOC	-	LT	Potential
Hepatic monkeyflower	<i>Mimulus jungermannioides</i>	None	-	SC	Potential
Columbia cress	<i>Rorippa columbiae</i>	None	-	SC	Potential
<b>Reptiles and Amphibians</b>					
Northern sagebrush lizard	<i>Sceloporus graciosus</i>	SOC	-	SV	Present
<b>Birds</b>					
Long-billed curlew	<i>Numenius americanus</i>	None	BCR9, R1, N, FS	SV	Present
Bald eagle	<i>Haliaeetus leucocephalus</i>	None	BCR9, R1, N	LT	Transient
Swainson's hawk	<i>Buteo swainsoni</i>	None	R1, N	SV	Present
Ferruginous hawk	<i>Buteo regalis</i>	SOC	BCR9, R1	SC	Present
Peregrine falcon	<i>Falco peregrinus</i>	None	BCR9, R1, N	SV	Transient
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	SOC	FS	SC	Present
Lewis's woodpecker	<i>Melanerpes lewis</i>	SOC	BCR9, R1, N	SC	Present
Loggerhead shrike	<i>Lanius ludovicianus</i>	None	BCR9, R1, N	SV	Present
Grasshopper sparrow	<i>Ammodramus savannarum</i>	None	FS	SV	Present
Sage sparrow	<i>Amphispiza belli</i>	None	BCR9, R1	SC	Present
Bobolink	<i>Dolichonyx oryzivorus</i>	None	FS	SV	Present
Tricolored blackbird	<i>Agelaius tricolor</i>	SOC	BCR9, N, FS	SP	Potential
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C	-	LC	Potential
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	LT	-	LT	Potential
Brewer's Sparrow	<i>Spizella breweri</i>	SOC	Migratory	SU	Potential
Calliope Hummingbird	<i>Stellula calliope</i>	SOC	Migratory	SU	Transient
Cassin's Finch	<i>Carpodacus cassinii</i>	SOC	Migratory	SU	Transient
Eared Grebe	<i>Podiceps nigricollis</i>	SOC	Migratory	SU	Transient
Flammulated owl	<i>Otus flammeolus</i>	SOC	Migratory	SU	Transient
Fox Sparrow	<i>Passerella iliaca</i>	SOC	Migratory	SU	Transient
Green-tailed Towhee	<i>Pipilo chlorurus</i>	SOC	Migratory	SU	Transient

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Common Name	Scientific Name	Federal Status	Birds of Conservation Concern	State Status	Occurrence
Olive-Sided flycatcher	<i>Contopus cooperi</i>	SOC	Migratory	SU	Transient
Rufous hummingbird	<i>Selasphorus rufus</i>	SOC	Migratory	SU	Transient
Sage thrasher	<i>Oreoscoptes montanus</i>	SOC	Migratory	SU	Transient
Short-eared owl	<i>Asio flammeus</i>	SOC	Migratory	SU	Transient
White-headed Woodpecker	<i>Picoides albolarvatus</i>	SOC	Migratory	SU	Transient
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	SOC	Migratory	SU	Transient
Willow flycatcher	<i>Empidonax traillii</i>	SOC	Migratory	SU	Transient
<b>Mammals</b>					
Western small-footed myotis	<i>Myotis ciliolabrum</i>	SOC	-	SU	Potential
Long-eared myotis bat	<i>Myotis evotis</i>	SOC	-	SU	Potential
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SOC	-	SC	Potential
Pallid bat	<i>Antrozous pallidus</i>	SOC	-	SV	Potential
White-tailed jackrabbit	<i>Lepus townsendii</i>	None	-	SV	Potential
Washington ground squirrel	<i>Urocitellus washingtoni</i>	C	-	LE	Potential
Gray wolf	<i>Canis lupus</i>	LE	-	LE	Potential

### Federal Status

LE: Listed Endangered. This category includes taxa listed as threatened by the USFWS under the ESA.

LT: Listed Threatened. This category includes taxa listed as threatened by the USFWS under the ESA.

C: Candidate species. This category includes taxa for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

SOC: Species of Concern. This category includes taxa for which existing information may warrant listing, but for which substantial biological information to support a proposal rule is lacking.

### Birds of Conservation Concern

BCR 9 : Bird Conservation Region 9; R1: USFWS Region 1; N: National; and FS: Focal Species

### State Status

LE: Listed as an Endangered Species.

LT: Listed as a Threatened Species.

SC: Sensitive–Critical.

SV: Sensitive–Vulnerable. Those species for which state listing as threatened or endangered is not believed to be imminent and could be avoided through continued or expanded conservation measures or monitoring.

SP: Sensitive–Peripheral or Naturally Rare. Those species that occur in the state at the edge of their distribution. Naturally rare species are species that have been present in low numbers in Oregon historically due to natural limiting factors.

SU: Sensitive–Undetermined Status. Those species whose status is unclear.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Mammals.** Although a comprehensive PLS has not been conducted, a general qualitative assessment of wildlife was completed as a component of an ecological assessment process prepared for part of the Remedial Investigation/Feasibility Study (USACE 1993). Incidentally observed species were also documented as part of the PLS completed for threatened and endangered species in 1999 and 2000. Mammals commonly found on UMCD include coyote (*Canis latrans*), American badger (*Taxidea taxus*), jackrabbits (*Lepus* spp.), cottontail rabbits (*Sylvilagus* spp.), northern pocket gopher (*Thomomys talpoides*), and Ord's kangaroo rat (*Dipodomys ordii*).

Pronghorn antelope (*Antilocapra americana*) were reintroduced on UMCD in 1969 and actively managed by Oregon Department of Fish and Wildlife (ODFW). By 1986, the population exceeded 400 individuals on UMCD (UMCD 2007). Annual fawn productivity and/or survivorship were extremely low (UMCD 2007) because the security fencing prevented free-roaming individuals and coyote predation limited reproductive success. In 2013, the entire population of pronghorn antelope was removed from UMCD.

**Invertebrates.** A general invertebrate species inventory has not been performed on UMCD. Various invertebrates, such as worms, beetles, and grubs, are likely common.

**Birds.** Bird surveys conducted throughout 2009 at UMCD identified 66 species, although it is likely that other species may briefly traverse the installation during migration. Birds commonly found on the installation include California quail (*Callipepla californica*), great blue heron (*Ardea herodias*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferus*), rock pigeon (*Columba livia*), mourning dove (*Zenaidura macroura*), western kingbird (*Tyrannus verticalis*), black-billed magpie (*Pica hudsonia*), horned lark (*Eremophila alpestris*), barn swallow (*Hirundo rustica*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), yellow-rumped warbler (*Setophaga coronata*), lark sparrow (*Chondestes grammacus*), white-crowned sparrow (*Zonotrichia leucophrys*), Say's phoebe (*Sayornis saya*), western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), and American goldfinch (*Carduelis tristis*). Many of these species, including those listed above in Table 4.8-1, are migratory; therefore, they are protected under the Migratory Bird Treaty Act and EO 13186. In any event, only those special-status species birds that have been identified as "present" in Table 4.8-1 are known to occur on UMCD, and of those, none are federally listed as endangered, threatened, or candidate species.

**Fish.** There are no surface water bodies on UMCD. Mosquito fish (*Gambusia holbrooki*) were stocked in the stormwater retention pond for mosquito control. The absence of permanent surface water precludes establishment of native fish populations.

**Amphibians and Reptiles.** A general herpetological survey has not been conducted on UMCD. A PLS for threatened and endangered species conducted by Tetra Tech, Inc. in 1999–2000 documented racer (*Coluber constrictor*), gopher snake (*Pituophis catenifer*), and Great Basin spadefoot toad (*Scaphiopus intermontanus*). However, various reptiles, such as lizards and snakes, are likely common on UMCD.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Special-Status Fauna.** No designated critical habitat or federally listed species are on or adjacent to UMCD, based on the results of the PLSs and consultation with the La Grande Field Office of the USFWS and Oregon Fish and Wildlife Office (see Appendix C for Section 7 consultation results, and Table 4.8-1 for a complete list of SOC with the potential to be observed at UMCD). A PLS for threatened and endangered wildlife was conducted in 1999 and 2000 (Tetra Tech, Inc. 2002b). Although potential habitat exists for the Washington ground squirrel (*Urocitellus washingtoni*), the federal candidate and state-listed endangered species was not observed during the intensive PLS surveys. The majority of potential habitat is found on the eastern third of the installation and is considered marginal or low in quality. Breeding pairs of western burrowing owl (*Athene cunicularia hypugaea*), a federal SOC, inhabit areas of suitable grassland habitat. PLSs identified 12 active nest sites in burrows scattered across the installation. The northern sagebrush lizard (*Sceloporus graciosus*), a federal SOC, was observed at two separate sites on the installation. Ferruginous hawk (*Buteo regalis*) and Lewis's woodpecker (*Melanerpes lewis*), both federal SOC, have been previously documented at UMCD.

A PLS documented several state-listed sensitive bird species on UMCD, including the Swainson's hawk (*Buteo swainsoni*), long-billed curlew (*Numenius americanus*), grasshopper sparrow (*Ammodramus savannarum*), and loggerhead shrike (*Lanius ludovicianus*). The long-billed curlew and the Swainson's hawk, both Birds of Conservation Concern (BCCs), actively nest and forage on UMCD. Long-billed curlews are believed to be locally abundant in installation grassland habitats. Bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*) may both be incidental transients, but suitable habitat does not exist on the installation.

The sage sparrow (*Amphispiza belli*), a BCC and state-listed sensitive-critical species, is both a focal species for the bitterbrush shrub-steppe vegetative community and a resident on UMCD, as documented in the INRMP (UMCD 2007). UMCD contains the largest remnant intact bitterbrush shrub-steppe habitat in the Columbia Basin and may play an important ecological role in regional species recovery. The once abundant species is now only found in the remaining remnants of its preferred habitat.

### 4.8.1.3 Wetlands

A National Wetlands Inventory conducted in 2000 identified no permanent, naturally occurring wetlands, as discussed in Section 4.7.

## 4.8.2 Consequences

### 4.8.2.1 Early Transfer Disposal Alternative

**Direct.** Minor and moderate, adverse effects are expected. Disposal of UMCD may result in a reduction of regulatory requirements for the protection of biological resources as required under the Sikes Act for federal property. UMCD conducts natural resource management on the installation as outlined in the 2007–2012 INRMP. Although the Army would notify new owners of their regulatory responsibilities under the CWA, ESA, and other federal regulations, future protection of sensitive species and continuation of natural resource management programs (e.g., burrowing owl artificial burrow program, etc.) would not be required following conveyance



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



of the property to nonfederal owners. Landowners would still be required to take steps to eradicate invasive species in accordance with state requirements. Such effects are further discussed in Section 4.8.2.5. Following early transfer, allowing agricultural land use in the southwest corner of the CDA Parcel (1,891 acres) and at the northern boundary (638 acres) would disturb native habitat and may result in increased soil loss due to wind and water erosion. The loss of shrub-steppe and grasslands habitats due to expanded agricultural land use and redevelopment could result in minor-to-moderate adverse impacts on a variety of federal and state special-status species known to forage and/or breed on UMCD, including three federal bird SOC's and one federal lizard SOC (i.e., ferruginous hawk, western burrowing owl, Lewis's woodpecker, and northern sagebrush lizard). USFWS BCCs that could be affected by habitat loss include the grasshopper sparrow, sage sparrow, bobolink, loggerhead shrike, long-billed curlew, and Swainson's hawk. Although no survey work has been conducted to verify the presence or absence of bat species, demolition of abandoned structures could have a minor, adverse impact on four federal bat SOC's if present (i.e., western small-footed myotis, long-eared myotis, Townsend's big-eared bat, and pallid bat).

In the long term, disposal would ultimately lead to redevelopment and result in moderate, short- and long-term, adverse effects on native habitat in certain locations, including some loss of high-quality shrub-steppe and grasslands community associations that were previously widespread throughout the Columbia Basin (see Section 4.8.1.1 for further discussion). Disturbance or loss of between approximately 3 to 5 percent of additional habitat (depending on redevelopment intensity) over the next 20 years of buildout could fragment and reduce the quality of remaining habitat, as further discussed in Section 4.8.2.5. Conservation, preservation, and enhancement of higher quality shrub-steppe and grasslands habitat found in the Wildlife Refuge parcel would reduce these effects at a landscape scale in the long term, as further discussed in Section 4.8.2.5.

**Indirect.** Minor-to-moderate, long-term, adverse effects are expected. The change in ownership may alter the ecosystem paradigm currently in effect for the management of natural resources, particularly shrub-steppe habitat and other habitat management programs. While existing federal programs are focused more on restoring and maintaining diverse, resilient ecosystems, the management paradigm instituted by private ownership may not emphasize ecosystem management to the same degree as outlined in the INRMP. Following disposal, natural resource management would also become more fragmented among various land managers. Although it would be in the best interest of new landowners to maintain natural resource agency partnerships to facilitate sustainable resource management, only legal agreements could assure continuance of these similar partnerships. Potentially less frequent controlled burns and lower-intensity invasive species management could indirectly contribute to more frequent wildfires and impede native species reestablishment. Furthermore, it is likely that disposal would result in increased land use intensity and human activity, which could increase loss of cryptobiotic soil and native vegetation communities, and increase the likelihood of wildlife disturbance, spills, and other releases. Indirectly, such actions could adversely affect biological resources in the long term. As previously discussed, development of a natural resources management plan and implementation program could mitigate adverse effects from disturbance, loss of cryptobiotic soils, invasive species impacts, and fire risks.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.8.2.2 Traditional Disposal Alternative

**Direct.** Minor-to-moderate, adverse effects are expected, similar to the effects outlined for early transfer. However, these effects would occur further in the future.

**Indirect.** Minor-to-moderate, long-term, adverse effects are expected, similar to the effects outlined for early transfer. However, these effects would occur further in the future.

### 4.8.2.3 Caretaker Status Alternative

**Direct.** Negligible, short-term, beneficial effects and minor, short- and long-term, adverse effects are expected. Termination of all military operations at UMCD would reduce disturbance of wildlife species as compared to baseline 2005 conditions. Due to the passive nature of the military mission, the short-term benefits on biological resources are expected to be negligible. Under caretaker status, natural resource management programs, as outlined in the INRMP for UMCD, would not be implemented to the same degree. Some natural resources that benefit from active management would be adversely affected because of halting or reducing these efforts relative to status quo operating conditions (e.g., fire management, wildlife water devices, and burrowing owl nest structures).

**Indirect.** Long-term, minor, beneficial and adverse effects are expected. Land use intensity below levels assumed under current conditions would result in long-term, minor benefits on biological resources as compared to baseline conditions in November 2005. Ceasing maintenance of vegetation-free "security zones" may facilitate long-term revegetation of regularly maintained cleared areas associated with the UMCD perimeter and other sensitive areas. Reduced levels of invasive species management for species not identified by the state as noxious weeds could result in a long-term increase in invasive plant species, competitive exclusion of certain native plant species, and a reduction in overall habitat quality and diversity. A parallel reduction in fire management could also result in an increase in wildfire susceptibility.

### 4.8.2.4 No Action Alternative

Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment. No effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.8.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor and moderate, short- and long-term, adverse effects are expected due to reuse of the installation. Principal effects include adverse impacts on unique shrub-steppe habitat, cryptobiotic soils, and other ecological communities. Establishment of a 5,700-acre Wildlife Refuge would preserve approximately 50 percent of the total existing shrubland habitat, including the bitterbrush shrub-steppe community, and 30 percent of total existing grasslands. Although some long-term, minor impacts on vegetative communities within the refuge parcel could result if the solar energy project and associated administrative facilities and visitor amenities were ever to be constructed, these impacts would likely be minor. Redevelopment of the Industrial/Unrestricted, Industrial/Restricted, and Highway

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Commercial/Industrial Zones may result in moderate, adverse impacts on habitat as outlined below.

Construction and expansion would disturb or remove soils, vegetation, and associated habitat. Although site-specific redevelopment footprints remain unknown, conservative disturbance estimates for an MLIR scenario project between 300 and 525 acres of habitat loss, or approximately 3 to 5 percent of the total area considered for reuse. Habitat loss would be concentrated within the Industrial/Unrestricted and Highway Commercial/Industrial parcels. As a result, adverse impacts on shrub-steppe biological communities are expected to be negligible to minor. Based on conservative estimates, approximately 120 to 200 acres of bitterbrush shrub-steppe (less than 6 percent of total) and 20 to 40 acres (less than 5 percent of total) of high-quality grasslands would be destroyed or highly disturbed—the remainder of highly disturbed habitat would consist of lower quality habitats. Actual shrub-steppe habitat loss would likely be substantially lower, possibly minor in nature, due to anticipated shrub-steppe avoidance measures (e.g., conservation covenants and lease term restrictions) in selected areas of the Industrial/Unrestricted and Highway Commercial/Industrial parcels. As previously discussed, implementation of additional mitigation measures to conserve and avoid habitat loss during redevelopment would further reduce adverse effects, including (1) avoidance of high-value habitat beyond the boundary of the Restricted Industrial District; (2) establishment of hardened trails within the Wildlife Refuge to reduce off-trail foot traffic; (3) restrictions of off-road vehicle usage; (4) restoration of impaired habitat; and (5) development of a natural resources management plan and implementation program to reduce adverse effects from disturbance, loss of cryptobiotic soils, invasive species impacts, and fire risks.

Loss of shrub-steppe habitat and grasslands is anticipated to have minor-to-moderate, adverse impacts on UMCD wildlife and plant species. Although no federal- or state-listed species are known to occur on the installation, habitat loss could have adverse impacts on a number of federal SOCs and BCCs (e.g., northern sagebrush lizard, burrowing owl, long-billed curlew, Swainson's hawk, and loggerhead shrike) that use shrub-steppe and grasslands habitats for foraging and reproduction. Potentially suitable habitat for the Washington ground squirrel (federal candidate species and state-listed as endangered) could be lost, but habitat is considered marginal, and PLS have not confirmed the species' presence on the depot. Demolition of abandoned structures could adversely affect roost sites of four SOC bats (i.e., western small-footed myotis, long-eared myotis, Townsend's big-eared bat, and pallid bat) with the potential to occur on UMCD. Although they have not been documented within the project area, large structures may house bat colonies, and no site-specific surveys have been conducted. A number of state-candidate and sensitive species may also experience adverse impacts because of shrub-steppe and grassland habitat loss or disturbance. Noise from demolition, construction, and renovation activities may also temporarily disturb wildlife. Implementation of appropriate project-level species surveys and habitat/species avoidance measures, combined with the relatively small area of disturbance associated with projected redevelopment would minimize impacts.

Within or adjacent to the Wildlife Refuge, a solar PV project may be constructed sometime in the future to provide needed revenue to support management of this land, although no specific proposal has been put forward for construction or consideration. To the extent feasible, the solar energy project would be located and configured to minimize effects on higher quality habitat

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



within the Wildlife Refuge or adjacent areas. One potential location of this solar facility is within the 277-acre Demil Substation, where there is an existing substation constructed for the Demil facility and existing power lines (see Figure 3.3-1, Land Parcelization Map). Fencing of a facility of this type is normally required, and it is likely that a 7-foot chain-link fence topped with 1-foot high barbed wire would be constructed. If site security became an issue, the nature of the threat in conjunction with the permitting process would determine whether wildlife-exclusion fencing, or fencing that is wildlife-friendly, could be installed. The general disturbance of an area from vehicles and workers during construction of panels, inverters, and site security measures could result in temporary displacement of various common wildlife species to nearby areas, but reuse of the Demil Substation minimizes the effects of construction impacts. If the project were located within the boundary of the Wildlife Refuge, it would require clearing and maintaining vegetation on approximately 3 percent of this area (up to 200 acres). Continued vegetation management and shading would alter vegetation and wildlife habitat in the immediate vicinity of the solar panels. Even if this were to occur, implementation of this project would still generate net long-term benefits to habitat and wildlife in the Wildlife Refuge, as the funds would be used to actively manage, improve, and preserve higher quality habitat in the remaining 97 percent of the refuge. Furthermore, there would be strict and considerable licensing and permitting requirements for construction and operations compliance with federal, state, and local regulations, as outlined in Table 3.3-3. Currently, this process would require that environmental issues are adequately addressed, which would minimize adverse effects on the environment.

During facility operation (including maintenance) of the solar array, it is likely that former resident or transient wildlife that were compatible with developed areas would return to use the general site area, while other wildlife may be permanently displaced. Some small species would likely find nesting under the panels attractive as a shield from weather elements or for use as cover. Maximum efficiency can only be achieved if solar panels are free of the shadowing effects of vegetation overgrowth, necessitating continued long-term vegetation clearing and treatment. With due consideration to the site's vegetation type, vegetation management measures are expected to be minimally invasive. It is unlikely that any short-term maintenance actions (i.e., lasting a few hours to a day) would disturb birds or other wildlife in the area. Periodic washing of the panels would also be required to maximize panel efficiency. No other water use is required. Up to 30 acre-feet of water may be used during construction for dust control and up to 3 acre-feet per year for washing. Over 200 acres, 3 acre-feet equates to an extra 0.18 inches of rain per year. With annual rainfall for the region around 8.9 inches, this represents an increase of only 2 percent, which would have a negligible impact.

**Medium-Low Intensity, Indirect.** Minor-to-moderate, long-term, adverse effects are expected. An assumed three-fold increase in employees would likely increase the frequency of wildlife disturbance relative to baseline conditions. Adverse impacts are anticipated to be minor and temporary in nature because human activity would be predominately concentrated around developed areas. A parallel increase in vehicle-related wildlife mortality would have minor, adverse effects on terrestrial wildlife, but low vehicle speeds would prevent impacts from being observable at population levels. Increased human activity may also increase the long-term susceptibility to exotic species introductions, wildfire, and pollutant spills, which could adversely affect habitat quality and species survival. An increase in industrial operations and associated stormwater runoff could have long-term, adverse effects on biological communities.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



***Low Intensity, Direct.*** Minor, short- and long-term, adverse effects are expected. Effects similar to those discussed under MLIR are expected to occur, but to a lesser degree. A large percentage of redevelopment in the LIR scenario is anticipated to involve reuse of existing infrastructure and/or previously disturbed/developed land. Conservative estimates project between 35 to 60 acres of habitat loss, or less than 1 percent of total area considered for reuse.

***Low Intensity, Indirect.*** Minor, long-term, adverse effects are expected. Effects similar to those discussed under MLIR are expected to occur, but to a lesser degree.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.9 CULTURAL RESOURCES

This section addresses federal statutes, regulation, EOs, and memoranda applicable to the management and potential impacts to historic properties as it relates to the proposed action. Sections 106 and 110 of the NHPA (Pub. L. 88-655, 54 U.S.C. Section 300101 et seq.) ensure that federal agencies consider cultural resources, defined as any prehistoric or historic district, site building, structure, or object eligible for inclusion on the NRHP, in their proposed program, projects, and actions prior to initiation. The NRHP is the federal government's official list of the Nation's historic places worthy of preservation. Under the NHPA agencies are required to identify any historic properties within or affected by a proposed undertaking, and take into account the effects of the undertaking they carry out, assist, fund, or permit on historic properties.

#### 4.9.1 Affected Environment

This section provides an historic context and a review of the existing cultural resources within the project area.

A PA concerning cultural resources at UMCD was signed by the U.S. Army, the Oregon SHPO, and the ACHP in December 2013 (see Appendix B). The Army also coordinated with all affiliated federally recognized tribes with an interest in UMCD as part of the Section 106 consultation process. The PA requires mitigation measures as discussed further below.

##### 4.9.1.1 Prehistoric and Historic Background

**Prehistoric Context.** UMCD is within the "Plateau" prehistoric culture area of North America. This region is characterized by extensive lava flows and badlands deeply incised by strong-flowing rivers. A nearly 10,000-year sequence of human occupation has been documented for this region. Archaeologists studying the Columbia Plateau (Browman and Munsel 1969; Daugherty 1962; Dumond and Minor 1983; Leonhardy and Rice 1970, as cited in UMCD 2002; Nelson 1969, 1973; Rice 1972; Schalk 1980; Swanson 1962, as cited in UMCD 2002; Toepel et al. 1980; Warren 1968, as cited in UMCD 2002) have classified the prehistoric material culture into six different periods or cultural phases.

##### Period I (8000 to 6000 Before Christ [B.C.] [10,000 to 8,000 years before the present {BP}]).

The earliest occupants of the region were part of the Paleo-Indian tradition, associated with the large lanceolate "Windust" projectile points. These highly mobile hunter-gatherers lived in small groups and occupied seasonal camps near resource areas. They generally subsisted on large game animals but also fished and gathered shellfish and plants. Their tool kit included fluted projectile points, crescents, and edge-ground cobbles.

Period II (6000 to 4000 B.C. [8,000 to 6,000 BP]). People continued to live in small, mobile groups during this period, establishing camps near seasonal resources. Hunting appears to have become less important, as subsistence shifted more towards riverine resources. Shellfish gathering especially seems to have increased. Increased use of milling stones suggests more emphasis on plant utilization. A characteristic artifact of this period is the large, leaf-shaped

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



“cascade” projectile point. People of this period also used oval knives, large scrapers, edge-ground cobbles, and antler and bone implements.

*Period III (4000 to 1500 B.C. [6,000 to 3,500 BP]).* People generally remained mobile and continued to follow seasonal resources. Subsistence practices became more diversified, however. Gathering of shellfish and plant foods were the primary subsistence activities, while hunting and fishing were secondary. It was during this period that regional specialization began to appear. Large, side-notched “Northern,” “Bitterroot,” or “Cold Springs” projectile points were used, as well as manos and metates, and mortars and pestles, these last to prepare foodstuffs.

*Period IV (1,500 B.C. to 250 Anno Domini [A.D.] [3,500 BP to 250 A.D.]).* This period is marked by major changes in settlement and subsistence and influence from cultures north of the Columbia Plateau. The people of this period still utilized seasonal camps, but they built permanent dwellings in the form of pit houses, an introduction from the north. Fishing became the primary subsistence activity, while hunting and gathering continued on a smaller scale. The contracting- or tang-stemmed “Frenchman Springs” or “Rabbit Island” projectile points are diagnostic of this period. Other tools used were microblades, notched net-sinkers, hopper mortars, pestles, antler and bone wedges, mauls, stone celts, and bone hunting and fishing implements.

*Period V (250 to 1730 A.D.).* People continued the trend towards sedentism and a fishing-based economy. People of this period occupied large, winter pithouse villages on the Columbia River floodplains and at the mouths of major tributaries while small camps were used seasonally for hunting and gathering. Projectile points were small (perhaps reflecting the introduction of the bow and arrow) and took on a variety of forms. Their toolkit included tailed end-scrapers, cobble choppers, notched net-sinkers, mauls, pestles, block and slab millings, shell beads, and bone harpoon heads.

*Period VI (1730 to 1810 A.D.).* At contact with the first Euro-Americans, the occupants of the area around UMCD were the Umatilla Indians. They lived in semipermanent villages and made their living mostly from the migrating salmon that spawned in the Columbia River and its tributaries for 6 months out of the year. The Umatilla used upland areas for seasonal hunting and gathering of plants. They were Sahaptin speakers, part of the larger Penutian language family. Ancestral Sahaptins are believed to have begun occupation of the area as early as 6,000 years ago. Agriculture was not practiced on the plateau until after the arrival of Euro-Americans in the nineteenth century (Cleland et al. 1987, as cited in UMCD 2002).

**Historic Context.** The history of the Umatilla area can be divided into four major periods (Cleland et al. 1987, as cited in UMCD 2002): the Exploration/Pioneer Period (1805 to 1860); the Gold Rush/Ranching Period (1860 to 1900); the Irrigation Agriculture Period (1900 to 1940); and the Military and Industrial Period (1940 to present). Unless otherwise noted, the following summary is based on Cleland et al. 1987, as cited in UMCD 2002.

*Exploration/Pioneer Period (1805 to 1860).* Although non-native exploration and maritime trade began along the Oregon coast in the 1770s, the interior remained unexplored by nonnatives until Lewis and Clark arrived at the start of the nineteenth century. The Umatilla River and Blue Mountain served as a transportation route for fur trappers, explorers, and eventually Oregon

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Trail settlers. Remnants of wagon trails still visible at UMCD today are thought to be spurs of this trail. The massive migration of non-Native populations into Oregon forced negotiations between the United States and Great Britain, both of which claimed jurisdiction over the Pacific Northwest. A treaty in 1846 established the 49th parallel as the international boundary. Congress made Oregon a territory in 1848, and in 1853, the portion north of the Columbia River became the Washington Territory. The remaining portion became the state of Oregon in 1859.

The migration of non-Native Americans into Oregon also caused conflicts with the indigenous tribes of the region. Attacks on wagon trains and white settlements were reported, as well as indiscriminate retaliation by settlers and the military. The Whitman Massacre of 1847, a Cayuse attack on the Whitman Mission, was followed by the Cayuse War of 1848. Hostilities ceased after the Cayuse War, but tensions remained, and for several years, migration into eastern Oregon was halted. In 1854, negotiations began with the tribes of eastern Oregon. At a meeting near the old Whitman Mission, the Umatilla, Cayuse, and Walla Walla agreed to move to the Umatilla Reservation near present-day Pendleton. However, hostilities erupted almost immediately thereafter as prospectors began moving onto unceded Yakama land following new gold discoveries at Colville. Finally, in 1858, United States military victories in Washington and Idaho essentially ended the war with the Oregon tribes. The Umatilla, Cayuse, and Walla Walla began moving to the Umatilla Reservation in 1860.

*Gold Rush/Ranching Period (1860 to 1900).* The discovery of gold in Oregon and Idaho in the 1860s caused a second wave of migration, including Chinese immigrants. The community of Umatilla began as a settlement that developed around a large supply center in the 1860s. After the gold field played out, many ex-miners became farmers, continuing to settle the area. Umatilla became the county seat in 1865, but by 1868, new routes to the gold mines bypassed Umatilla, instead favoring the development of Pendleton. The rise of the wool industry resulted from the ability of sheep to graze on lands that cattle had overgrazed in the 1870s and 1880s. Wool became even more important than wheat in the region between the Dalles and the Umatilla River.

*Irrigation Agriculture Period (1900 to 1940).* The early twentieth century was characterized by private companies attempting to cash in on the region's growing prosperity by developing irrigation systems. The towns of Hermiston, Stanfield, and Irrigon were only train sidings at the turn of the century, but irrigation projects soon turned these communities into small cities. The private irrigation companies subsequently sold their canal and water rights to the government in the early 1900s.

*Military and Industrial Period (1940 to present).* During World War I, the U.S. Army began looking for new training camp locations in response to malaria-related deaths at camps in the warm, humid South. In response to a promotional campaign by the Hermiston Commercial Club, the area west of the Umatilla River was selected as a favorable location. However, the war ended before the new facility could be built. The Army returned to the area in 1940 when it needed to establish a new ammunition and supply depot. The parcel of land chosen for UMCD was open, undeveloped, and easily acquired from the Bureau of Land Management and private owners (primarily the railroad) (Cleland et al. 1987, as cited in UMCD 2002; Building Technology, Inc. 1984).

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Construction began in 1941 on shops, offices, warehouses, family housing, barracks, miles of railroad siding, and the 1,000 igloos that would be used for ammunition storage. As many as 7,000 workers were employed at the peak of construction (Umatilla Depot Activity 1991, as cited in UMCD 2002). The "Umatilla Ordnance Depot" was dedicated on 14 October 1941, and charged with the mission of storage and issue of ammunition, small arms and components, lend-lease, quartermaster supplies, and the storage and processing of vehicles (UMCD 2002). Much of the civilian work force lived in the community of Ordnance, which the government built in 1943 just outside UMCD's southern entrance. It had a post office, a school, two stores, and a train depot. After World War II ended, activity decreased at UMCD, but UMCD was still used for storage, and it remained one of the major employers in the area. When the Korean War started, activity at UMCD increased again. After the war, however, the city of Ordnance experienced a sharp decrease in population, was declared surplus, and sold.

Starting in the late 1950s, UMCD was used for ammunition maintenance. In 1962, UMCD was assigned to the U.S. Army Supply and Maintenance Command and was renamed the Umatilla Army Depot. Its mission was for receiving, storing, issuing, and maintaining chemical munitions. UMCD again became a major employer in the area during the Vietnam conflict, shipping munitions to Vietnam between 1965 and 1973. After Vietnam, UMCD became a reserve storage activity under the command of the Tooele Army Depot and was renamed Umatilla Depot Activity (Umatilla Depot Activity 1991, as cited in UMCD 2002).

The following decades saw many increases and decreases in population and workforce in the surrounding area based on American involvement in foreign conflicts. By 1988, UMCD was recommended for realignment in accordance with BRAC provisions. In the 1990s, an incinerator was constructed to destroy the munitions and chemical weapons stored at UMCD. UMCD was placed under the Major Soldier Biological and Chemical Command and was again redesignated, this time as the Umatilla Chemical Depot.

### 4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

This section provides a brief discussion of the prehistoric and historic cultural resources investigations, including management plans, architectural surveys, archaeological surveys, and archaeological excavations conducted at UMCD to date focusing in particular on the CDA Parcel that is the subject of this EA.

An Archaeological Overview and Management Plan was prepared for UMCD in 1987 as part of the Development and Readiness Command (DARCOM) Historical/Archaeological Survey (Cleland et al. 1987, as cited in UMCD 2002). A survey of historic buildings at UMCD was also conducted for DARCOM in 1983, including Historic American Building Survey Level IV documentation of 52 buildings (Building Technology, Inc. 1984). In 2000, the USACE, Fort Worth District, completed a national historic context for World War II-era army ammunition storage magazines (Geo-Marine 2000, as cited in UMCD 2002). An ICRMP was completed for UMCD in January 2002 (UMCD 2002). A subsequent inventory and assessment of UMCD's cultural resources, focusing on buildings and structures from the Cold War period (1946 to 1989) was completed in July 2002 (Nolte et al. 2002).

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



According to the ICRMP (UMCD 2002), two archaeological investigations were completed at UMCD within the boundary of the CDA Parcel prior to the one completed in accordance with the PA for this undertaking. The USACE, Seattle District, conducted a 10- to 11-acre field reconnaissance and limited shovel test excavations in 1983 at the site of the proposed Demilitarization project (Rice 1983, as cited in UMCD 2002); and Keo Boreson conducted an inventory of cultural resources in the excess real estate packages at UMCD for the USACE, Seattle District (Boreson 1996, as cited in UMCD 2002). One other investigation consisted of an archaeological reconnaissance survey for the Chemical Stockpile Disposal Program in 1996 (Celmer 1996, as cited in UMCD 2002).

Under the terms of the PA, an archaeological survey was completed in 2015-2016 and an architectural history survey was also completed (USACE 2015). The CTUIR conducted a survey in 2015-2016 to identify historic properties of religious and cultural significance to the CTUIR in the project area (Engum 2016).

***Prehistoric and Historic Archaeological Resources.*** Archaeological surveys have been conducted within the project area. No prehistoric archaeological sites have been recorded on the CDA Parcel although some isolated finds have been recorded. Rice (1983, as cited in UMCD 2002) observed a minor lithic scatter along the west rim of Coyote Coulee, and two isolated finds (a mussel shell fragment and a basalt flake) were observed during the 1996 Boreson survey (UMCD 2002). However, none of these finds were defined as archaeological sites. Three historic period archaeological sites were identified within the CDA Parcel and recorded by Boreson in 1996, consisting of ruts remaining from two wagon roads and a scatter of debris. One wagon road, in the northern portion of the survey area, was known as the Old Emigrant Wagon Road in use prior to 1861; the second wagon road, in the southern portion of the survey area, was in use by 1874. Both may be spurs of the Oregon Trail. Site OR-UM-12 is a pre-World War II historic dumpsite.

An archaeological survey was completed in 2015-2016 in the CDA Parcel project area that is the subject of this EA and a draft report has been submitted (AMEC Foster Wheeler 2016). A total of 3,350 acres was surveyed in accordance with the stipulations in the PA. A Phase IA survey was completed on 9,474 acres, and archaeologists inspected a 96-acre parcel included in the overall acreage total on the ODOT Parcel. Following that survey, Phase 1B investigations were completed. Two historic period sites (Temporary Site No. 20150930-06, "old Emigrant Wagon Road" and Temporary Site No. 20150929-20 (1875 GLO [General Land Office] Road) were identified and recommended as eligible for listing on the NRHP under criteria A and D. These are also identified as contributing elements of the Oregon National Historic Trail. These are historic wagon routes that are significant cut-off routes from Cottonwood Bend on the Umatilla River to Irrigon and Boardman, Oregon. Two isolated finds (ID No. 20151008-03, cow bone fragments, and ID No. 20151113-02, lithic debitage), were also located (Amec Foster Wheeler 2016). An additional 22 historic period isolates, 3 historic sites, and 2 prehistoric isolated finds were recommended not eligible on the CDA Parcel. Consultation efforts are ongoing with the SHPO, the CTUIR and the ACHP.

***Historic Buildings and Structures.*** A 2002 inventory of Cold War resources concluded that no structures or buildings on the CDA Parcel are eligible for listing in the NRHP. These determinations were not coordinated with the Oregon SHPO, and no concurrence was received.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The findings have been superseded by the survey completed under the terms of the PA for this undertaking.

An architectural history survey was completed in accordance with the PA for this undertaking (USACE 2015). The entire Depot was surveyed. The UMCD Historic District was identified, with a national level of significance, and a period of significance from 1941 to 1965. The installation is comprised of 1,516 buildings and structures. A total of 1,430 (94%) of these were built during the period of significance (1941-1965) and of these, 1,395 (92%) were built in the original construction period, 1941-1942. A total of 85% (1,423) of the buildings from the period of significance retain integrity and are contributing members of the Historic District (USACE 2015). The buildings within the CDA Parcel include igloos from blocks A, B, C, D, E and H, buildings in the Warehouse and Storage Area, and buildings on Magazine, N. Magazine, and S. Magazine roads. The entire installation including the CDA Parcel, is within the Historic District. However, the igloos have been mitigated by the PA ACHP Program Comments on Ammunition Storage.

In a letter dated May 25, 2016, the Oregon SHPO concurred that the facility represents a NRHP-eligible historic district composed of 1,217 contributing elements out of a total of 1,516 buildings and structures and stated that Stipulation B of the PA has been satisfied (Appendix C).

***Native American Properties of Religious and Cultural Significance (PRCS).*** The tribes or Native American organizations that have an interest in UMCD include the Cayuse, the Umatilla, and the Walla Walla, each of which is a federally recognized tribe and member of the CTUIR. According to oral histories gathered from CTUIR elders for the Hermiston cogenerating project and the city of Hermiston waterline project, there are possible sacred places in the northeast corner of the installation, within the CDA Parcel, dating from the Shoshone Bannock Indian Wars (Boreson 1996, as cited in UMCD 2002).

A CTUIR survey was conducted in 2015-2016 to identify historic PRCS to the CTUIR in the project area. The information presented here references the non-confidential Executive Summary from that report, and the main body of the report remains confidential and was not accessed for this EA. Archival and ethnographic research and oral history interviews with CTUIR elders and community member were conducted to identify resources of the Umatilla (*Imatalamláma*), Walla Walla (*Walúulapam*) and Cayuse (*Weyíiletpu*), people. A total of 14 Native American place names were identified adjacent to the project area, including permanent village locations, fishing camps, and legendary sites. Traditional First Foods are located within the project area and there is a high potential for many of the Tribes' First Foods to be located within the project area, and in particular within the Coyote Coulee area. The Coyote Coulee area and resources are perceived as an individual historic property considered NRHP eligible. Other sacred locations are also identified within the project area especially in the northeast corner. The CTUIR recommend that an Inadvertent Discovery Plan be developed for the project area that outlines the process to be followed if a burial is encountered or if an archaeological site is found. Cultural resource monitors are recommended for any future ground disturbing projects. An effort should be made to restore the native plant community with a focus on food plants, and the existing native plant community should be protected from further damage. Also, the Department of the Army should allow CTUIR members access to the area to exercise their treaty rights, by harvesting plant resources.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Cemeteries.** There are no known cemeteries located at UMCD. There may be Native American burials within the CDA Parcel.

**Disposition of Archaeological Artifacts and Associated Documentation.** There are no archaeological artifacts or associated documents held at UMCD.

**Paleontological Remains.** The only known paleontological find at UMCD was identified during the construction of the Depot in 1941. A "large bone" was found during construction and was turned over to an unknown natural history society. There have been no other known paleontological finds at UMCD (UMCD 2002).

**Section 106 Consultation.** In compliance with Section 106 of the NHPA, the Army consulted with interested parties and negotiated a PA for the UMCD BRAC undertaking. The Army, ACHP, and Oregon SHPO participated in the consultations and the crafting of the PA. The CTUIR, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Grand Ronde Community, the Confederated Tribes and Bands of the Yakima Nation, the Confederated Tribes of the Warm Springs Reservation, the Nez Perce Tribe, and the Spokane Tribes of Indians were invited to participate in the Section 106 consultations and preparation of the PA (Section 106 correspondence is provided in Appendix C). However, only the CTUIR agreed to participate, and they joined in the consultations. The PA was ratified by the Army, Oregon SHPO, and the ACHP in December 2013. The CTUIR declined to sign the PA as a concurring party and stated they appreciated the Army's efforts in working with them on the development of the PA.

The PA requires the Army to conduct phased archaeological investigations for those portions of the UMCD being transferred out of Army ownership (i.e., CDA Parcel). A work plan for archaeological field investigations of the CDA Parcel was finalized in March 2015 following coordination with the Oregon SHPO and the CTUIR. The archaeological surveys on the CDA Parcel were completed in November 2015 and a draft report was submitted in 2016 (Amec Foster Wheeler, 2016). Segments of the Umatilla Cutoff of the Oregon Trail were found to be present within the CDA Parcel and are recommended eligible for the NRHP. These trail segments are not always contiguous, due to disturbance from the construction of roads and structures, and Umatilla will consult with the Oregon SHPO regarding their eligibility and any mitigation if required. No archaeological sites were identified on the CDA Parcel, however a small amount of prehistoric period and recent historic period artifacts were identified. If any NRHP-eligible archaeological sites are found by these investigations, the Army will further consult with the Oregon SHPO and the CTUIR in accordance with the PA about measures to avoid, minimize, or mitigate adverse effects on those historic properties. NGB will be responsible for NHPA compliance activities for the NGB Parcel.

For aboveground architectural properties, the PA requires the Army to inventory all installation architectural properties for NRHP eligibility, even those being transferred to another federal agency. The August 2006 ACHP Program Comments addressing (1) World War II and Cold War Era (1939–1974) Army Ammunition Production Facilities and Plants, and (2) World War II and Cold War Era (1939–1974) Army Ammunition Storage Facilities (including igloos) were taken into consideration when conducting the architectural inventory. If any of the architectural properties transferring out of federal ownership are found to be eligible for the NRHP, the PA delineates the mitigation measures that the Army will undertake. NRHP-eligible architectural

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



properties on UMCD lands being transferred to another federal agency will become the responsibility of the receiving agency. The architectural survey and mitigation measures were completed and the report as discussed above, was completed in 2015 (USACE 2015). The Oregon SHPO concurred with the findings in a letter dated May 25, 2016 (Allen 2016).

In accordance with the PA, a survey was conducted by the Army to determine whether Native American properties of religious and cultural significance are present on UMCD. UMCD site visits by CTUIR elders were conducted in 2015 in furtherance of this PA survey requirement. A report of the CTUIR elder's findings was completed (Engum 2016). Native American properties of religious and cultural significance were identified as being present on the CDA Parcel to be transferred out of federal ownership. In this case, the Army will further consult with the Oregon SHPO and the CTUIR in accordance with the PA about measures to avoid, minimize, or mitigate adverse effects on those properties.

### 4.9.2 Consequences

#### 4.9.2.1 Early Transfer Disposal Alternative

**Direct.** Minor-to-moderate, long-term, adverse effects on cultural resources, including standing structures, are expected. Identification and mitigation measures outlined in the PA would apply (see Section 4.15 and Appendix B, which contains the entire PA). In the short term following early transfer, reduced presence of on-site works, including security and maintenance personnel may increase the potential for vandalism or deterioration. As such, there is the potential for unidentified resources to be disturbed, as well as known resources to be adversely affected, if not sufficiently protected and monitored in the future. In the long term, changes in use could result in the demolition or alteration of buildings or structures, and increases in soil disturbance could be caused by new buildings and road construction, or trench excavation for underground pipes, cable lines, and similar infrastructure projects, as further described in Section 4.9.2.5. These disturbances may result in adverse effects on NRHP-eligible buildings or structures and may increase the likelihood of the disturbance of unknown archaeological sites or possible Native American sacred sites. Soil disturbance could also adversely affect possible paleontological remains.

Section 106 consultations for the UMCD BRAC action were memorialized in the 2013 PA (see Appendix B). In accordance with the PA, UMCD historic property identifications were completed. The NRHP-eligible standing structures within the CDA Parcel include igloos from blocks A, B, C, D, E and H, buildings in the Warehouse and Storage Area, and buildings on Magazine, N. Magazine, and S. Magazine roads. The entire installation including the CDA Parcel, is within the Historic District. However, the igloos have been mitigated by the PA ACHP Program Comments on Ammunition Storage. The CDA Parcel properties found to be eligible for the NRHP will be disposed of in accordance with the Treatment of Historic Properties stipulations of the PA. In addition any impacts to the igloos within the project area have been mitigated by the Program Comment for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities. Segments of the Umatilla Cutoff of the Oregon Trail were also found to be present within the CDA Parcel and are recommended eligible for the NRHP. These trail segments are not always contiguous, due to disturbance from the construction of roads and structures, and Umatilla will consult with the Oregon SHPO regarding their eligibility and any mitigation if required. No

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



archaeological sites were identified on the CDA Parcel, however a small amount of prehistoric period and recent historic period artifacts were identified. If any NRHP-eligible archaeological sites are found by these investigations, the Army will further consult with the Oregon SHPO and the CTUIR in accordance with the PA about measures to avoid, minimize, or mitigate adverse effects on those historic properties. NGB will be responsible for NHPA compliance activities for the NGB Parcel.

**Indirect.** No indirect adverse effects are expected.

### 4.9.2.2 Traditional Disposal Alternative

**Direct.** Minor-to-moderate, long-term, adverse effects on cultural resources are expected. Effects would be similar to those described under the early transfer disposal alternative, but the changes in effects would occur further in the future. As with the early transfer disposal alternative, UMCD NRHP-eligible properties will be disposed of in accordance with the Treatment of Historic Properties stipulations of the PA.

**Indirect.** No indirect adverse effects are expected.

### 4.9.2.3 Caretaker Status Alternative

**Direct.** Minor, adverse effects on cultural resources are expected. Under this alternative, access to UMCD would be very limited, and maintenance levels would be low. Archaeological sites that are eligible for listing on the NRHP would not be disturbed because no new soil disturbance would occur, and the alteration of NRHP-eligible buildings or structures would be limited, restricted primarily to regular on-going maintenance; however, the resources might be subject to vandalism or deterioration because of limited presence of maintenance personnel. For the Caretaker Status Alternative, the Army will treat UMCD NRHP-eligible properties in accordance with the Treatment of Historic Properties stipulations of the PA.

**Indirect.** No indirect adverse effects are expected.

### 4.9.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment, including implementation of ICRMP measures. Therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.9.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor-to-moderate, long-term, adverse effects on cultural resources are expected; effects would be similar to those previously described in Section 4.9.2.1. As part of the Section 106 consultation process, a PA concerning cultural resources at UMCD was completed and signed by the U.S. Army, the Oregon SHPO, and the ACHP. Coordination with all affiliated federally recognized tribes with an interest in UMCD was also completed. The PA requires archaeological surveys to be completed on parcels being transferred out of federal government control. Architectural surveys and properties of religious

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



and cultural significance surveys were completed on the entire installation. As discussed above and in Section 4.15, treatment measures to avoid, minimize, or mitigate adverse impacts on UMCD NRHP-eligible properties are delineated in the PA. Such actions will reduce potential adverse effects associated with increased development at UMCD. In addition, any impacts to the igloos within the project area have been mitigated by the Program Comment for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities. In any event, the potential for the alteration of existing buildings or structures, and disturbance of unknown resources during new construction is possible, as well as adverse effects on known resources from vandalism. Depending on the nature of redevelopment, NRHP-eligible buildings, structures, archaeological sites, and properties of religious and cultural significance could be disturbed through alteration, soil disturbance, vandalism, and neglect. Soil disturbance from construction of new facilities, roads, railways, and infrastructure expansion could occur. In addition, vandalism can occur if the location of an archaeological site becomes known or otherwise attracts new attention. Soil disturbance could also adversely affect possible paleontological remains.

***Medium-Low Intensity, Indirect.*** No indirect adverse effects are expected.

***Low Intensity, Direct.*** Minor-to-moderate, long-term, adverse effects on cultural resources are expected. Depending on the nature of redevelopment, NRHP-eligible buildings or structures could be adversely affected by alteration, and archaeological sites and properties of religious and cultural significance could be disturbed through soil disturbance, vandalism, neglect, or demolition. Conditions and potential impacts would be similar to those described under the MLIR, but to a lesser degree.

***Low Intensity, Indirect.*** No indirect adverse effects are expected.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10 SOCIOECONOMICS

This section discusses the existing socioeconomic environment for UMCD with respect to economic activity, population demographics, housing, and quality of life (including education, public health and safety, recreation, environmental justice, and protection of children). The setting provides a frame of reference for determining the potential socioeconomic effects of alternative uses of UMCD.

#### 4.10.1 Affected Environment

UMCD is located in Umatilla and Morrow Counties, Oregon, in the northeast corner of the state along the border with Washington. Umatilla and Morrow Counties, along with the adjacent Benton County, which is directly across the Columbia River from UMCD, have been identified as UMCD's socioeconomic ROI in which potential impacts related to 2005 BRAC actions at UMCD would most likely occur. According to installation data from January 2009, 88 percent of the military, civilian, and contractor employees at the installation resided in these three counties (see Table 4.10-1). It can be reasonably assumed that the numbers are proportionate to November 2005 residences and are an accurate representation of employee residences. These numbers also include contractor employees, not just military and civilian employees. This analysis will only evaluate the net military and civilian job changes, per the BRAC Commission Report, Appendix O.

**Table 4.10-1: County of Residence of Umatilla Chemical Depot Employees**

County of Residence	Employees	
	Number	Percentage
Umatilla County, Oregon	527	46%
Morrow County, Oregon	109	9%
Benton County, Washington	386	33%
<b>Subtotal:</b>	<b>1,022</b>	<b>88%</b>
Other Counties	134	12%
<b>Total:</b>	<b>1,156 <sup>(1)</sup></b>	<b>100%</b>

<sup>1</sup> This total is based on January 2009 employment, but it can be reasonably assumed that the numbers are proportionate to November 2005 residences and an accurate representation of employee residences. These numbers also include contractor employees, not just military and civilian employees. This analysis will only evaluate the net military and civilian net job changes, per the BRAC Commission Report, Appendix O.

*Source: Installation Data*

##### 4.10.1.1 Economic Development

**Regional Economic Activity.** In 2005, the civilian labor force within the ROI was approximately 126,500 (U.S. Bureau of Labor Statistics 2010). Umatilla and Morrow Counties make up approximately 2.2 percent of the entire Oregon labor force. The average annual unemployment rate in the ROI in 2005 was 6.4 percent, similar to the Oregon statewide average of 6.2 percent.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Per capita personal income in Umatilla County was \$29,554 in 2010, significantly less than for Morrow County, Oregon, and Benton County, Washington, which were \$35,021 and \$36,006, respectively. The average ROI income of \$33,527 is slightly lower than the Oregon statewide per capita personal income of \$36,317. The ROI saw a growth rate in personal income of 5.6 percent from 2000 to 2010. These data are shown in Table 4.10-2.

**Table 4.10-2: Labor Force, Unemployment, and Personal Income in the Region of Influence**

ROI Counties	Labor Force 2005	Unemployment Rate 2005 (Percent)	Per Capita Personal Income		
			2010	State Rank	2000–2010 Growth Rate (Percent)
Umatilla County, Oregon	36,410	7.9	\$29,554	28	3.0
Morrow County, Oregon	5,486	7.6	\$35,021	8	10.1
Benton County, Washington	84,589	5.7	\$36,006	8	3.6
<b>ROI Total</b>	<b>126,485</b>	<b>6.4</b>	<b>\$33,527 (average)</b>	<b>N/A</b>	<b>5.6 (average)</b>
Oregon	1,856,062	6.2	\$36,317	<b>N/A</b>	2.4

Sources: U.S. Bureau of Labor Statistics 2010, U.S. Bureau of Economic Analysis 2010

Total employment within the ROI was approximately 130,405 in 2005, according to the U.S. Bureau of Economic Analysis (shown in Table 4.10-3).

Within the ROI, the two largest employment industries, retail trade and local government, are very close in size, and employ over 22 percent of the working population. The top ten industries within the ROI are shown in Table 4.10-3. Local government and retail trade are also the top two employment industries nationally.

**UMCD's Contribution to the Regional Economic Activity.** UMCD was not a significant contributor to the regional economy, employing 349 people in 2005 (military and civilian employees). This represents 0.3 percent of the total ROI labor force. Including contractor employees, UMCD employed 1,449 people, approximately 1.1 percent of the total ROI labor force. Table 4.10-4 portrays the annual expenditures of UMCD in 2005 with respect to payroll and other expenditures that typically flow into the local economy.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.10-3: Employment by Industry (2005)**

Industry <sup>(1)</sup>	Region of Influence	
	Number	Percentage
Retail Trade	14,991	11.5
Local Government	14,461	11.1
Administrative and Waste Services	12,454	9.6
Professional, Scientific, and Technical Services	11,469	8.8
Health Care and Social Assistance	11,053	8.5
Manufacturing	8,902	6.8
Farm Employment	8,066	6.2
Accommodation and Food Services	7,785	6.0
Construction	7,448	5.7
Other Services (NOT public administration)	5,895	4.5
<b>Total</b>	<b>130,405</b>	

1 Some data for industries in Morrow and Umatilla are not available to avoid disclosure of confidential information, so those figures may alter totals and the top ten industries within the ROI. Industry numbers were not disclosed for one or both of the counties for the following industries: *Forestry, fishing, and related activities; Mining; Utilities; Transportation and Warehousing; Professional, scientific, and technological services; and Management of companies and enterprises.*

*Data Source: U.S. Bureau of Economic Analysis 2005*

**Table 4.10-4: Umatilla Chemical Depot Expenditures (Fiscal Year 2005)**

Expenditure	Dollars
<b>Total Labor</b>	<b>\$22,507,914</b>
Travel (Temporary Duty)/Transportation	\$333,760
Move Household Goods	\$45,267
Utilities	\$7,779,867
Printing	\$1,396
Contracts	\$4,093,827
Supplies	\$940,950
Equipment	\$505,326
<b>Subtotal Non-Payroll Expenditures</b>	<b>\$13,700,393</b>
<b>Total Expenditures</b>	<b>\$36,208,307</b>

*Source: Installation Data*

Wages of the government workforce tend to be much higher than wages received by most non-UMCD workers in the ROI. In 2005, the average UMCD salary for federal civilian workers was \$64,677, compared to the average wage of \$38,115 for workers in the ROI.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10.1.2 Regional Demographics

**Regional Population.** Table 4.10-5 depicts the population distribution and trends within the ROI. In general, the ROI grew rapidly between 1990 and 2000, particularly within Morrow County. The ROI population is forecasted to continue growing through 2020. From 1990 to 2000, the population of the ROI increased by 24.8 percent from 179,434 to 224,018. The next decade, 2000 to 2010, showed a growth of 17.1 percent within the ROI, most of which occurred within Benton County, Washington. The 2020 population predictions project another rapid decade of growth (approximately 22.2 percent between 2010 and 2020 in the ROI).

Table 4.10-6 compares the population metrics of the ROI and Oregon. The median age of the population in the ROI (34.9 years) is slightly lower than the median age of the population in the state of Oregon (37.0 years). In addition, the percentage of the minority population is slightly higher in the ROI (14.0 percent) than the minority population in the state of Oregon (13.2 percent). The percentage of individuals living in rural areas is comparable for the ROI and the state of Oregon as a whole (80.2 percent and 78.7 percent, respectively).

**Table 4.10-5: Population Growth in the Umatilla Chemical Depot Region of Influence**

County	Population							
	1990	2000	2005	2010	Percent Change 1990–2000	Percent Change 2000–2010	2020 (Projected)	Percent Change 2010–2020
Umatilla County, Oregon	59,249	70,548	69,526	75,889	19.1%	7.6%	85,242	12.3%
Morrow County, Oregon	7,625	10,995	11,666	11,173	44.2%	1.6%	16,520	47.8%
Benton County, Washington	112,560	142,475	157,127	175,177	26.6%	22.9%	218,874	24.9%
<b>ROI Total</b>	<b>179,434</b>	<b>224,018</b>	<b>238,319</b>	<b>262,239</b>	<b>24.8%</b>	<b>17.1%</b>	<b>320,636</b>	<b>22.2%</b>
Oregon	2,842,321	3,421,399	3,560,109	3,831,074	20.4%	12.0	4,357,258	13.7%

Sources: U.S. Census Bureau 2005, Oregon Office of Economic Analysis 2010, Benton County 2006

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.10-6: Selected Region of Influence and State Population Characteristics (2005)**

County	Median Age	Percent White	Percent Hispanic	Percent Native American	Percent African American	Percent Urban <sup>(2)</sup>	Percent Rural <sup>(2)</sup>
Umatilla County, Oregon	34.9	74.4%	18.9%	2.7%	Less than 1% <sup>(1)</sup>	69.5%	30.5%
Morrow County, Oregon <sup>(3)</sup>	33.3	66.1%	30.2%	2.4%	Less than 1% <sup>(1)</sup>	52.7%	47.3%
Benton County, Washington	36.4	74.4%	15.9%	1.0%	Less than 1% <sup>(1)</sup>	87.7%	12.3%
<b>ROI Total</b>	<b>34.9</b>	<b>76.3%</b>	<b>17.5%</b>	<b>1.6%</b>	<b>Less than 1% <sup>(1)</sup></b>	<b>80.2%</b>	<b>19.8%</b>
Oregon	37.0	80.4%	10.6%	1.6%	1.6%	78.7%	21.3%

1 Within U.S. Census Bureau 2005 estimates, no sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

2 Based on 2000 U.S. Census Bureau data, interval census estimates do not calculate urban and rural percentages.

3 Morrow County data is from 2000, because the U.S. Census Bureau does not calculate interval data for populations of less than 20,000. It is assumed that these figures can be considered commensurate with 2005, to remain conservative.

Source: U.S. Census Bureau 2005

**UMCD Population.** Residential housing is very limited on UMCD. There were only four occupied housing units on UMCD in 2005: two single-family homes and two duplex units. The vast majority of the workforce lived in the community surrounding UMCD. As discussed previously, an estimated 88 percent of the UMCD workforce resides within the three-county ROI.

### 4.10.1.3 Housing

In 2005, there were 94,447 housing units within the ROI, according to the U.S. Census Bureau (Table 4.10-7). Most UMCD employees resided in Umatilla County, which comprises approximately 30 percent of total housing units within the ROI. Selected housing characteristics related to occupancy status, median value, vacancy rate, and median household income are shown in Table 4.10-7. As shown, the owner-occupancy rate is almost 73 percent in the ROI, higher than the Oregon average (63.8 percent). The median value of owner-occupied housing in Umatilla County was \$115,400 in 2005. This was significantly lower than the Oregon median of \$201,200. Approximately 7.5 percent of the housing units within the ROI were vacant in 2005.

### 4.10.1.4 Personnel Housing

In 2005, more than half of the UMCD employees lived in the same counties in which UMCD is located (Umatilla and Morrow Counties). Only six housing units were located on UMCD in 2005: two single-family homes and two duplex houses. There are also barracks on-site with 150-soldier capacity.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.10-7: Selected Housing Characteristics,  
Umatilla Chemical Depot Region of Influence (2005)**

County	Total Housing Units	Percent Owner Occupied <sup>(1)</sup>	Percent Renter Occupied <sup>(1)</sup>	Percent Vacant	Median Value Owner Occupied	Median Rent Renter Occupied
Umatilla County, Oregon	28,761	69.9%	30.1%	8.1%	\$115,400	\$559
Morrow County, Oregon <sup>(2)</sup>	4,276	73.1%	26.9%	11.7%	\$89,000	\$473
Benton County, Washington	61,410	73.8%	26.2%	7.0%	\$145,200	\$729
<b>ROI Total</b>	<b>94,447</b>	<b>72.6%</b>	<b>27.4%</b>	<b>7.5%</b>	<b>\$116,533 (average)</b>	<b>\$587 (average)</b>
Oregon	1,558,421	63.8%	36.2%	8.5%	\$201,200	\$689

1 Percentages are out of all occupied housing units.

2 Morrow County data is from 2000, as the U.S. Census Bureau does not calculate interval data for populations of less than 20,000. We have assumed that these figures can be considered commensurate with 2005, to remain conservative.

Source: U.S. Census Bureau 2005

### 4.10.1.5 Quality of Life

**Education.** In 2005, only four to eight military dependent children lived on post. These students attended schools within the Hermiston School District, and the district received support for these students through the U.S. Department of Education Federal Impact Aid program. Given the relative size of the Hermiston School District (4,651 students in 2005–2006, as presented in Table 4.10-8), the financial contribution from this program was negligible.

There are 10 public school districts within Umatilla County, with a total of 37 schools. The Nixyaawii Community School, located on the CTUIR, is a charter school and part of the Pendleton School District in Umatilla County. Morrow County has two school districts and nine schools. Benton County has seven public school districts, with 54 schools. Information about the schools, number of students, and student-teacher ratios for the school districts within the ROI during the 2005–2006 school year are shown in Table 4.10-8. During this school year, the student-teacher ratio for the state of Oregon was 19.9:1. All of the school districts within the ROI had student-teacher ratios at or below the statewide average, except for the Pendleton School District in Umatilla County.

Higher-education institutions within the ROI include Blue Mountain Community College in Pendleton in Umatilla County, with locations in Hermiston in Umatilla County and Boardman in Morrow County. It is a 2-year college offering associates degrees, certificates, and transfer degrees to 4-year colleges. The community college serves both Umatilla and Morrow Counties within the ROI. Eastern Oregon University (EOU) is located in La Grande, Oregon, approximately 80 miles southeast of UMCD. Regional EOU centers are in Hermiston and Pendleton in Umatilla County and at the CTUIR. It is a 4-year university offering bachelor's

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



degrees and a few master's degrees. Washington State University – Tri-Cities (one of three regional campuses for Washington State University) is located in Richland in Benton County. This campus became a university in 2007 and offers bachelors, masters, and doctoral degree programs.

**Table 4.10-8: Selected School Characteristics,  
Umatilla Chemical Depot Region of Influence (2005–2006 School Year)**

School District	Number of Schools	Student Count	Student to Teacher Ratio
<b>Umatilla County, Oregon</b>			
Athena-Weston	4	613	16.6:1
Echo	1	267	17.8:1
Helix	1	174	12.1:1
Hermiston	9	4,641	19.4:1
Milton-Freewater	6	2,009	18.5:1
Pendleton	8	3,403	21.9:1
Pilot Rock	2	415	16.6:1
Stanfield	2	556	18.5:1
Ukiah	1	44	8.0:1
Umatilla	3	1,266	15.3:1
<b>Morrow County, Oregon</b>			
Ione	1	174	13.4:1
Morrow	8	2,193	15.6:1
<b>Benton County, Washington</b>			
Finley	3	987	16.2:1
Kennewick	25	14,919	18.5:1
Kiona-Benton	4	1,589	19.6:1
Paterson	1	111	13.9:1
Prosser	6	2,866	19.4:1
Richland	15	10,203	19.6:1

Sources: Oregon Department of Education 2015; State of Washington Office of Superintendent of Public Instruction 2015

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



***Shops and Services.*** In 2005, UMCD had a Post Exchange (PX) on-site, which was available to employees, residents, and veterans.

The town closest to UMCD (5 miles east), Hermiston, Oregon, has services such as legal, accounting, and banking services, as well as grocery stores, office supply stores, and agricultural supply stores.

The only metropolitan area within the ROI is Tri-Cities, Washington, which is 25 miles northeast of UMCD. Tri-Cities consists of the cities of Kennewick, Richland, and Pasco, and provides a larger selection of shops and services to the ROI.

***Law Enforcement.*** Prior to closure, UMCD had Mutual Aid Agreements with the Morrow and Umatilla County Sheriff Departments, as well as with the Oregon State Police and the Federal Bureau of Investigation (FBI) for police protection on the installation.

There were 13,749 total crimes in Umatilla County in 2005 (State of Oregon 2007), a number that decreased annually to 9,739 in 2010 (State of Oregon 2012). Morrow County experienced 1,241 total crimes in 2005 (State of Oregon 2007). Crimes also decreased steadily in Morrow County, totaling 875 in 2010 (State of Oregon 2012). Benton County had 10,303 total criminal arrests in 2005, a figure that increased to 13,441 in 2010 (State of Washington 2015).

In 2005, the rate of law enforcement officers in both Umatilla and Morrow Counties was 1.8 per 1,000 inhabitants (Oregon Criminal Justice Commission n.d.). These rates were commensurate with the state of Oregon (1.5 law enforcement officers per 1,000 inhabitants). Benton County had a rate of 1.3 law enforcement officers per 1,000 inhabitants (Benton County 2006).

***Fire Protection.*** Wildfires on the complex have historically been a major concern. On-site, UMCD had one fire station. UMCD had Mutual Aid Agreements for fire protection with the Boardman Rural Fire Protection District, Hermiston Fire and Emergency Services, Irrigon Rural Fire Protection District, and Umatilla Rural Fire Protection District.

Although the ROI comprises three counties, fire protection services in Morrow and Umatilla Counties in Oregon would be most affected by the closure and reuse of UMCD, which is located within these counties. Each county has a Community Wildfire Protection Plan to reduce wildland fire risk to the communities.

The UMCD site currently falls within the Hermiston Fire and Emergency Services protection district. The 2009 West Umatilla County Community Wildfire Protection Plan incorporates UMCD into its planning, establishing education, treatment, and emergency response projects for the site (Umatilla County 2009).

***Recreation.*** At the installation, UMCD had numerous options for indoor and outdoor recreational activities. There was a pool, fitness center, and recreation center, all of which were assessed during the reuse planning process (UMADRA 2010).



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Other recreation opportunities are available within the ROI, including parks, rivers, aquatic centers, and movie theaters. The Columbia River flows through the ROI, and provides many water recreation activities. Parks throughout the ROI also provide access to rivers, boat launches, and other recreation areas.

**Health/Medical.** In 2005, there were two medical clinics on UMCD. One was located in the administrative area of the base, and the staff included one military doctor and six medics. The second clinic was located in the chemical disposal facility and was run by contractors.

In each county within the ROI, there is at least one medical center. In addition, there are numerous medical clinics located in many of the smaller outlying towns in the ROI. The closest hospital to UMCD is the 25-bed Good Shepherd Medical Center, located in Hermiston in Umatilla County. This hospital serves both Umatilla and Morrow Counties, and offers a wide array of medical specialties, as well as a trauma level 3 emergency room. UMCD is located approximately 5 miles from the Hermiston city limits. Also located in Umatilla County is the 40-bed St. Anthony Hospital in Pendleton. St. Anthony Hospital also has a range of medical services and an emergency room.

In Morrow County, there is the 21-bed Pioneer Memorial Hospital, located in Heppner. This hospital has a trauma level 4 emergency room, and the ability to transport patients to larger hospitals in Tri-Cities or Portland, or to Good Shepherd Medical Center in Hermiston.

In Benton County, the Tri-Cities area has three large medical facilities: Trios Health, Seattle Children's Hospital, and Kadlec Regional Medical Center. Trios Health (formerly Kennewick General Hospital) has 74 beds, a full range of medical services, and an emergency department. Trios Health also has a Women's and Children's Hospital with 37 beds on an additional campus. Tri-Cities also has a clinic for the Seattle Children's Hospital, providing specialty medical services to children in the region. Kadlec Regional Medical Center in Richland has 215 beds, a full range of medical services, and emergency room.

Outside of Tri-Cities, the PMH Medical Center is located in western Benton County. PMH Medical Center has 62 beds, a full range of medical services, and a level 4 trauma center.

UMCD had emergency response and medical assistance Memoranda of Agreements with Madigan Army Medical Center in Tacoma, Washington; Good Shepherd Medical Center in Hermiston; Hermiston Fire and Emergency Services; Kadlec Medical Center in Richland, Washington; Saint Anthony Hospital in Pendleton, Oregon; Lourdes Medical Center in Pasco, Washington; and Kennewick General Hospital in Kennewick, Washington.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10.1.6 Environmental Justice

On 11 February 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. The purpose of the EO is to avoid the disproportionate placement of adverse environmental, economic, social, or health effects from federal policies and actions on minority and low-income populations or communities. Emanating from this order was the creation of an Interagency Federal Working Group on Environmental Justice, which is composed of the heads of 17 federal departments and agencies, including the Army. Each department or agency must develop a strategy and implementation plan for addressing environmental justice.

It is the Army's policy to comply with EO 12898 fully by incorporating environmental justice concerns in decision-making processes supporting Army policies, programs, projects, and activities. In this regard, the Army ensures that it will identify, disclose, and respond to potential adverse social and environmental impacts on minority and/or low-income populations within the area affected by a proposed Army action.

The initial step in the environmental justice analysis process is identification of minority and low-income populations that might be subject to actual or potential health, economic, or environmental threats arising from implementation of the proposed actions or alternatives. For environmental justice considerations, these populations are defined as individuals or groups of individuals who are subject to an actual or potential health, economic, or environmental threat arising from existing or proposed federal actions and policies. Low-income, or the poverty threshold, is defined by the U.S. Department of Health and Human Services as the weighted average annual income, which for a family of four in 2005 correlated to \$19,350 (U.S. Department of Health and Human Services 2005). Minority individuals are defined as people of American Indian or Alaska Native, Asian or Pacific Islander, African American (but not of Hispanic origin), or Hispanic origin. Minority populations are identified where minorities comprise more than 50 percent of the population in the affected area or where this percentage is "meaningfully greater" than the percentage in the general population (CEQ 1997). This section identifies minority or low-income communities that could be adversely affected by the implementation of actions or alternatives on UMCD.

Low-income and minority population data were compared for the three counties that comprise the UMCD ROI, the ROI totals, and the state of Oregon (Table 4.10-9). Based on U.S. Census Bureau estimates, the percentage of minority populations is slightly higher for the UMCD ROI (14.0 percent) than for the state of Oregon (13.2 percent). However, the percentage of persons below the poverty level is lower for the ROI (12.3 percent) than for Oregon (14.0 percent).

Of the three counties that make up the ROI, Morrow County had the highest percentage of minority populations (23.7 percent) within the ROI, and Umatilla County had the highest percentage of persons living below poverty. The ROI had a median household income very similar to that of the state of Oregon. In all, the ROI is very similar to the state of Oregon regarding minority population and percentage of persons below poverty.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.10-9: Minority and Low-Income Populations (2005)**

County	Total Population	Percent Minority Population	Median Household Income	Persons Below Poverty	Percent Persons Below Poverty
Umatilla County, Oregon	69,526	11.0%	\$38,459	10,548	15.2%
Morrow County, Oregon <sup>(1)</sup>	10,995	23.7%	\$37,521	1,617	14.8%
Benton County, Washington	157,127	14.5%	\$51,814	17,167	10.9%
<b>ROI Total</b>	<b>237,648</b>	<b>14.0%</b>	<b>\$42,598 (average)</b>	<b>29,332</b>	<b>12.3%</b>
Oregon	3,560,109	13.2%	\$42,944	498,854	14.0%

<sup>(1)</sup> Morrow County data is from 2000, as the U.S. Census does not calculate interval data for populations of less than 20,000. We have assumed that these figures can be considered commensurate with 2005, to remain conservative.

Source: U.S. Census Bureau 2009

### 4.10.1.7 Protection of Children

On 21 April 1997, President Clinton issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO recognizes that a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because they eat, drink, and breathe more in proportion to their body weight; because their size and weight can diminish protection from standard safety features; and because their behavior patterns can make them more susceptible to accidents. Based on these factors, President Clinton directed each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that might disproportionately affect children.

It is the Army's policy to comply with EO 13045 fully by incorporating these concerns in decision-making processes supporting Army policies, programs, projects, and activities. In this regard, the Army ensures that it will identify, disclose, and respond to potential adverse social and environmental impacts on children within the area affected by a proposed Army action.

As described in Section 4.2 (Land Use), the lands immediately adjacent to UMCD are primarily agricultural crops and pasture. There are some homes located in close proximity of the UMCD boundary (1,000 feet to 1 mile) that may have children, although housing density is quite low. The towns of Irrigon and Hermiston are also nearby, where many children reside. To reduce the risk of trespassing, the Army installed a security fence around the entire perimeter of the installation and there are added security measures (second fences and security personnel) to minimize the risk of trespassing. In any event, there is the potential for children to trespass on UMCD property during construction and reuse. Security personnel and fencing would be in

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



place on the CDA Parcel to prevent access to restricted areas. In addition, Army regulations related to transferring property (e.g., LBP regulations) help to ensure that past Army practices will not pose a future threat to children who subsequently use the property, such as imposing encumbrances to prevent residential development or use of groundwater.

### 4.10.1.8 Homeless, Special Concerns

Pursuant to the Base Closure Community Redevelopment and Homeless Assistance Act of 1994, property that is surplus to the federal government's needs is to be screened by means of an LRA's soliciting notices of interest from state and local government, representatives of the homeless, and other interested parties. The CDA's outreach efforts to potential users or recipients of the property include working with HUD and other federal agencies that sponsor public benefit transfers under the FPASA. The reuse authority has completed this outreach as a part of the reuse planning process.

In 2010, the homeless population in Umatilla County was 104, and in Morrow County it was 241 (Oregon Housing and Community Services 2010). There are no homeless shelters maintained in either Umatilla or Morrow Counties, which is a primary challenge that the counties face when assisting the homeless population (UMADRA 2010). Some local services provide limited temporary shelter capabilities and other services (e.g., food, clothing, transportation assistance) to homeless populations around UMCD. As part of the reuse planning process, CDA determined gaps in permanent supportive housing and shelters for chronically homeless individuals and transitional housing programs for single women and families with children. Currently, there are no shelters available and no housing programs for homeless adults without children. Current homeless shelter assistance is provided in the form of hotel vouchers, but vouchers are limited. CDA was concerned that the location, condition of facilities, and environmental status of UMCD was not suitable for homeless lodging needs. As such, CDA determined that the homeless community would be better served by continuing and strengthening local services.

Fifteen total notices of interest were received by the UMADRA, which voted unanimously to support two homeless service providers' requests for personal property (UMADRA 2010). The Agape House requested office equipment, office furniture, a forklift, pallet jacks, mechanical tools, and woodworking tools to serve their clients better. The Community Action Program of East Central Oregon (CAPECO) requested any household goods appropriate for independent living quarters, as well as the use of two igloos.

## 4.10.2 Consequences

### 4.10.2.1 Early Transfer Disposal Alternative

#### 4.10.2.1.1 Economic Development

**Direct.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected (see Section 4.10.2.5 and Appendix E for further discussion of economic modeling results). In the short term, there is a loss of jobs and associated payroll in the region relative to conditions in 2005, resulting in adverse effects on the regional economy, as further discussed in Section 4.10.2.5. This loss represents about 1.1 percent of the labor force within the ROI, which is well within the ROI's historic range (i.e., -6.4 to +5.8 percent); therefore, the adverse effect on the

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



overall region would be minor. The manner in which the property is actually disposed (either early transfer or traditional disposal) would not alter this outcome. In the long term, the early transfer of UMCD would enable immediate initiation of redevelopment activities, and therefore new job creation, increased local sales volume, possible industrial diversification in the local and regional economies, and expansion of the tax base resulting in long-term, moderate beneficial effects, as further described in Section 4.10.2.5.

**Indirect.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected. In the short term, loss of jobs would reduce local sales spending and tax revenue in the local economy, thereby resulting in an indirect loss of economic activity and additional job losses within the ROI, as further discussed in Section 4.10.2.5. In the long term, redevelopment activities would generate indirect increases in jobs, local sales volume, income, and tax revenues in the regional economy, as further described in Section 4.10.2.5. Following early transfer, the availability of additional vacant facilities could saturate the local real estate market with low-cost commercial and industrial property. This effect would be localized and short term and would not affect the entire ROI equally.

### 4.10.2.1.2 Sociological Environment (Including Environmental Justice and Protection of Children)

**Direct.** Minor, short-term and long-term, beneficial effects are expected. In the short term, early transfer would result in support to homeless service providers, specifically the Agape House and CAPECO, who requested equipment and storage support for ongoing community projects. In the long term, low-income populations would benefit from the creation of low-skill and unskilled jobs associated with economic redevelopment of the properties and increased household incomes, as further discussed in Section 4.10.2.5. Early transfer is not expected to create impacts that disproportionately affect homeless programs, minority communities, or children in the ROI. There are no environmental justice populations in the immediate vicinity of the CDA parcels and the risk for children trespassing on-site is quite low, given that UMCD is surrounded by security fencing and that the installation is located in a very remote, rural area.

**Indirect.** Minor, short-term adverse effects are expected. In the short term, the indirect effect of reduced employment income and taxes (as further discussed in Section 4.10.2.5) may reduce economic support for community services and charitable operations, as well as reduced economic opportunities for low-income families in the ROI. Since this job loss represents about 1.1 percent of the labor force within the ROI, which is well within the normal range of historical fluctuations within the ROI (i.e., -6.4 to +5.8 percent, as further discussed in Section 4.10.2.5), this adverse effect would be minor.

### 4.10.2.1.3 Quality of Life

**Direct.** Minor, short-term and long-term, adverse effects are expected. In the short term following closure, the loss of employment opportunities would result in adverse effects on the quality of life for those directly affected by job loss, although the impact on the overall population, school enrollment, and public safety demands would be negligible. The 1.1 percent loss of jobs and 0.6 percent reduction in the local population are well within the historic range of annual fluctuations within the ROI (i.e., -6.4 to +5.8 percent for jobs, and -1.83 to +4.29 percent for population); therefore, the overall impact on the ROI is expected to be minor. In the long



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



term following redevelopment, the impact of increased direct employment at the CDA Parcel would expand the population of local school systems during peak construction years and from full build-out. Direct increases in employment and population will also result in increased demands on local fire, police, emergency response, and hospital services, as described in Section 4.10.2.5. Increases in employment and population (about 1 percent) are within historical ranges for the ROI (ranging from -1.8 to +4.3 percent); therefore, impacts on these services are expected to be minor.

**Indirect.** Negligible, long-term effects are expected. Induced job growth may increase regional population levels, school enrollment, and public safety service demands. Adverse effects on quality of life may occur if school and public safety infrastructure are not sufficient to accommodate these increases. Given the continued increase in population in the ROI, however, the effect from reuse is considered a negligible part of the overall population growth, as further discussed in Section 4.10.2.5. This effect would be diminished as employment income and tax revenues increase to expand needed public services.

### 4.10.2.1.4 Installation Agreements

**Direct.** Minor, short-term, adverse effects are expected. Transfer of the installation properties to the community would create expanded responsibilities for local emergency service providers (i.e., fire, law enforcement, and emergency medical care) to cover incidences that may occur on-site on CDA parcels. Due to the high risk of wildfire in the region, early transfer of the UMCD site would require immediate increased fire department services and other emergency services, as further discussed in Section 4.10.2.5.

**Indirect.** No indirect effects are expected.

### 4.10.2.2 Traditional Disposal Alternative

#### 4.10.2.2.1 Economic Development

**Direct.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

**Indirect.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

#### 4.10.2.2.2 Sociological Environment (Including Environmental Justice and Protection of Children)

**Direct.** Minor, short-term and long-term, beneficial effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

**Indirect.** Minor, short-term, adverse effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10.2.2.3 Quality of Life

**Direct.** Minor, short-term and long-term, adverse effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

**Indirect.** Negligible, long-term effects are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

### 4.10.2.2.4 Installation Agreements

**Direct.** Minor, short-term, adverse impacts are expected. Impacts are similar to those described under the early transfer disposal alternative, but would occur further in the future.

**Indirect.** No indirect impacts are expected.

### 4.10.2.3 Caretaker Status Alternative

#### 4.10.2.3.1 Economic Development

**Direct.** Minor, short-term and long-term, adverse effects are expected for UMCD. Closure of UMCD under caretaker status would result in the direct loss of 492 jobs and \$24.4 million in employment income relative to conditions in 2005, as well as a loss of almost \$26.7 million in direct sales volume in the ROI economy (see Appendix E for a description of the Economic Impact Forecast System [EIFS] model analysis and results). Given the size of the economy within the ROI, the economic impact of these direct changes to employment, sales volume, and income are not predicted to exceed historical thresholds for socioeconomic change in the ROI (less than approximately 2 percent of the ROI labor income).

When factoring in the additional contractor jobs lost at the former UMCD at UMCD, caretaker status could result in the direct loss of 1,453 jobs and \$73 million in income, as well as almost \$65.8 million in sales volume. The economic impact would fall within historical thresholds for socioeconomic change in the ROI, as characterized by the rational threshold value (RTV) range, which is described in Section 4.10.2.5.

**Indirect.** Minor, short-term and long-term, adverse effects are expected. Under caretaker status, the loss of UMCD indirect employment and expenditures would translate to a loss of 237 additional indirect jobs and more than \$44 million in sales volumes. The economic impact of these indirect changes is not predicted to exceed historical thresholds for socioeconomic change and sustainability in the ROI. Caretaker status would also represent foregone economic opportunity (e.g., job creation, sales and expenditures, and tax revenues) until UMCD is conveyed to the community. In addition, depending on how long the properties remain under caretaker status and the level of dilapidation the infrastructure suffers, facilities and local infrastructure could degrade over time, increasing costs for future development. The socioeconomic impact of these total (direct and indirect) changes, however, is not predicted to exceed historical thresholds for socioeconomic change and sustainability in the ROI and would reverse when the property enters into redevelopment.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



When factoring in the additional contractor jobs lost at the former UMCD at UMCD, caretaker status could result in the induced loss of 584 jobs and \$23.6 million in income, as well as almost \$109.2 million in sales volume. These changes are not predicted to exceed historical thresholds for socioeconomic change in the ROI.

### 4.10.2.3.2 Sociological Environment (Including Environmental Justice and Protection of Children)

**Direct.** Minor, short-term adverse effects are expected on low income populations due to reduced labor income. Although job losses may adversely affect low income populations (as further discussed in Section 4.10.2.5), estimated income loss for the ROI at -0.74 percent is projected to be within historic normal ranges for the region (-1.83 to 4.29 percent). There are no environmental justice populations in the immediate vicinity of the CDA parcels. Therefore, caretaker status is not expected to create impacts that disproportionately affect homeless programs, or minority or low-income communities within the ROI. With respect to the protection of children, the risk for children trespassing on-site is quite low, given that UMCD is surrounded by security fencing and the installation is located in a very remote, rural area. Access control and security measures would continue under caretaker status; therefore, no disproportionate risks to children are expected.

**Indirect.** Minor, short-term and long-term, adverse effects are expected. Although security access would be controlled, reduced employee presence on UMCD may reduce the level of on-site security to prevent trespassers on the site. In addition, departure of UMCD employees from the community could result in a short-term reduction of housing demand, with a corresponding increase in the number of residential vacancies in the local real estate market. This effect would be localized and not affect the entire ROI equally.

### 4.10.2.3.3 Quality of Life

**Direct.** Minor, short-term, adverse effects are expected. Discontinuation of the daily presence of the installation workforce at UMCD could potentially create increased opportunity for vandalism, property theft, and other criminal activity. This could place additional responsibility on law enforcement. Reduced staffing could also result in less timely discovery of fire and longer fire-fighting response times, as well as longer response times for medical emergencies for the caretaker force or visitors to the property. Together these could result in adverse impacts on human safety. Current law enforcement, fire protection, and emergency medical services are adequate within the ROI, so effects would be expected to be minor.

**Indirect.** No indirect impacts are expected.

### 4.10.2.3.4 Installation Agreements

**Direct.** No direct impacts are expected because fire protection services on-site would remain under caretaker status.

**Indirect.** No indirect impacts are expected.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10.2.4 No Action Alternative

No direct or indirect effects are expected under the no action alternative. For this alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment, which would have no effect on any socioeconomic metrics in the immediate vicinity of UMCD, nor within the ROI. Overall, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.10.2.5 Reuse

#### 4.10.2.5.1 Socioeconomic Impact Assessment Method of Analysis

To determine the secondary socioeconomic effects of the implementation of the two reuse scenarios for UMCD, the USACE EIFS model was used. The EIFS model is a computer-based economic tool that calculates multipliers to estimate the direct and indirect impacts resulting from a given action. The model requires input data for the names of counties composing the ROI, the number and income of civilian and military personnel affected by the action and reuse scenarios, change in local expenditures due to the action and reuse scenarios, the number of civilians expected to relocate, and the number of military personnel who live on base. Changes in employment and spending represent direct effects resulting from the action and reuse scenarios. Forecast changes in ROI sales volume, employment, income, and population represent indirect effects, and are based on the input data and calculated multipliers within the model.

For the purposes of analysis, a change is considered significant if it falls outside the normal range of ROI economic variation. To determine normal variability, the EIFS model calculates an RTV profile for the ROI based on historical fluctuations in sales volume, employment, income, and population patterns. The historic extremes for the ROI become the threshold of significance for social and economic change. If the calculated effect of a reuse scenario falls outside the RTV, the impact is considered significant. If the calculated effect falls within the RTV range, the impact is considered to be within historic thresholds of socioeconomic change within the ROI. Appendix E describes the EIFS model in detail, as well as the calculation of input parameters, and presents model input and output tables and RTV parameters for both reuse scenarios considered.

For the LIR and MLIR scenarios, the years of expected maximum economic change in the ROI economy were modeled over the 20-year phased build-out period on an annualized basis. The year(s) of maximum economic change is expected to occur after UMCD closure during which construction and increased operations may occur, with the attendant short-term pulse in employment and expenditures. Expected impacts of the reuse scenarios during the year(s) of maximum economic change are discussed below along with their EIFS output reports. Table 4.10-10 presents model input assumptions and projected outputs and change for both the LIR and MLIR reuse scenarios during the assumed maximum build-out year, over the 20-year phased build-out period. EIFS analysis input and output tables for peak construction years and the total change over the 20-year build-out phase are presented in Appendix E.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Table 4.10-10: Economic Impact Forecast System Model Output,  
Umatilla Chemical Depot Reuse Intensity Scenarios for the Peak Annual Change in  
Economic Activity**

ANNUAL INPUT PARAMETERS <sup>(1)</sup>					
Reuse Intensity Scenario		Low Intensity		Medium-Low Intensity	
Change in Local Expenditures (max annual)		\$35,543,870		\$178,084,680	
Net Change in Civilian Employment (max annual)		219		1,885	
Change in Military Employment		-1		-1	
Average Income of Affected Civilian		\$24,923		\$24,923	
Average Income of Affected Military		\$64,677		\$64,677	
Percent Expected to Relocate		50		50	
ANNUAL FORECAST OUTPUT					
	LIR		MLIR		RTV Range (percent)
	Projected Change	Percent Change	Projected Change	Percent Change	
Sales Volume					
Direct	\$26,538,230	1.08%	\$148,875,700	6.06%	(11.71%)–12.85%
Indirect	\$44,053,460		\$247,133,700		
Sales Total	\$70,591,690		\$396,009,500		
Employment					
Direct	360	0.52%	2,680	3.47%	(6.4%)–5.82%
Indirect	235		1,321		
Employment Total	595		4,000		
Income					
Direct	\$10,189,170	0.43%	\$70,942,990	2.7%	(9.43%)–10.32%
Indirect	\$9,524,480		\$53,431,000		
Total (place of work)	\$19,713,640		\$124,374,000		
Population					
Total Population Change	270	0.13%	2,344	1.1%	(1.83%)–4.29%

<sup>1</sup> Sources and calculations of input parameters are presented in Appendix E

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.10.2.5.2 Economic Development

**Medium-Low Intensity, Direct.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected. The closure of UMCD would result in an initial short-term, adverse impact on the region as jobs and expenditures cease; this, however, would be alleviated as development occurs over the build-out period. The initial loss of jobs represents approximately 1.1 percent of the labor force within the ROI, which is well within the historic range of the ROI (i.e., -6.4 to +5.8 percent); therefore, short-term, adverse effects on the overall region would be minor. Over the build-out of the MLIR scenario, a year of maximum economic change could create beneficial effects for short- and long-term job creation, income generation, sales and expenditures, and tax revenues, resulting in moderate, long-term, beneficial effects. Table 4.10-10 shows that an estimated 2,680 direct jobs could be created during a peak year of growth, generating direct increases of more than \$70.9 million in income and \$148.8 million in sales volume each year. The economic impact of these direct changes during peak construction years is predicted to be within historical thresholds for socioeconomic change and sustainability in the ROI (shown in the table as the RTV range).

When factoring in the loss of contractor jobs that operated at the former UMCD, the MLIR scenario could result in fewer net employment changes: an estimated 1,847 direct jobs, generating approximately \$52.2 million in income, as well as \$113.8 million in sales volume. This economic impact also falls within historical thresholds for socioeconomic change within the ROI.

**Medium-Low Intensity, Indirect.** Minor, short-term, adverse and moderate, long-term, beneficial effects are expected. In the short term, the direct loss of jobs and expenditures would reduce local sales spending and tax revenue, thereby resulting in an indirect loss of economic activity within the ROI shortly after closure. As redevelopment activities begin, during the peak year of economic change, direct job creation, income generation, and spending related to reuse would result in secondary job creation (1,321 jobs), income generation (\$53 million), sales and expenditures (\$247 million), and tax revenues, including economic activity from building construction and infrastructure redevelopment, such as roads, utilities, schools, etc. The economic impact of the indirect changes during the peak year(s) is predicted to fall within historical thresholds of sustainable economic change in the ROI.

When factoring in the loss of contractor jobs that operated at the former UMCD, the MLIR scenario could result in fewer induced employment changes during the peak year: an estimated 1,187 direct jobs, generating approximately \$48 million in income, as well as \$222 million in sales volume. This economic impact falls within historical thresholds for socioeconomic change within the ROI.

Reuse of the CDA parcels would also include demolition of unusable, dilapidated buildings and construction of new, modern structures, resulting in development intensity that is three times greater than current baseline conditions. This investment would increase the value of property on- and off-site, resulting in long-term, indirect, beneficial economic effects for the area.

**Medium-Low Intensity, Direct plus Indirect.** Moderate, long-term, beneficial effects are expected. Table 4.10-10 shows that during the peak construction and operation year(s), an estimated 4,000 jobs could be created (direct and indirect), which represents an increase of

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



3.47 percent in the ROI. The short-term infusion of jobs could help to reduce regional and local unemployment to the extent that local skills match the needs of warehouse construction and associated employment demands. In addition, a solar-energy-generating facility may result in added temporary construction jobs. If a nonlocal workforce were employed for the construction of the solar energy facility, considering the unique skills sets required, then local hotels, motels, and rental homes would benefit from the short-term added workforce. Total income generation (direct and indirect) during the peak year(s) of economic change could increase by over \$124 million, or 2.7 percent, and total sales volumes (direct and indirect) could increase by more than \$396 million, or 6.06 percent. The economic impact of total changes in sales volume and employment during the peak year(s) of economic change is predicted to be within historical thresholds for socioeconomic change and sustainability in the ROI.

When factoring in the loss of contractor jobs that operated the former UMCDF, the MLIR scenario could result in fewer direct and induced employment changes. An estimated 3,034 total jobs would generate approximately \$100.2 million in income. In addition, the MLIR scenario would create \$355.9 million in sales volume. This economic impact falls within historical thresholds for socioeconomic change within the ROI.

**Low Intensity, Direct.** Minor, short-term, adverse and minor, long-term, beneficial effects are expected. The closure of UMCD would result in an initial short-term, adverse impact on the region as jobs and expenditures cease. However, this would be alleviated as development occurs over the build-out period. Over the build-out period, the LIR scenario could generate a beneficial impact on long-term employment, income generation, sales and expenditures, and tax revenues during the peak year(s) of economic output. Table 4.10-10 shows that during the peak year(s) there could be an estimated increase of 360 direct jobs, as well as over \$26.5 million in sales volume. The economic impact of the direct changes in employment during peak construction years is predicted to be within historical thresholds for socioeconomic change and sustainability in the ROI.

When factoring in the loss of contractor jobs that operated at the former UMCDF, the LIR scenario could result in the direct loss of 564 jobs and \$29.7 million in income, as well as \$5.5 million in sales volume. These losses fall within historical thresholds for socioeconomic change within the ROI.

**Low Intensity, Indirect.** Minor, short-term, adverse and minor, long-term, beneficial effects are expected. In the short term, the direct loss of jobs and expenditures would reduce local sales spending and tax revenue, thereby resulting in an indirect loss of economic activity within the ROI shortly after closure. As redevelopment activities begin, during the peak year(s) of economic change, direct increases in jobs, income, and spending related reuse could result in secondary additional jobs (235 jobs), income (\$9.5 million), sales (\$44 million), and tax revenues. The short-term infusion of construction jobs could help to reduce regional and local unemployment to the extent that local skills match the needs of remediation, construction, infrastructure rehabilitation, and associated employment demands. The economic impact of the indirect changes during the peak year(s) is predicted to fall within historical thresholds of sustainable economic change in the ROI.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



When factoring in the loss of contractor jobs that operated at the former UMCD, the LIR scenario could result in an induced loss of 49 jobs and \$1.9 million in income, as well as \$5.5 million in sales volume. These losses fall within historical thresholds for socioeconomic change within the ROI.

**Low Intensity, Direct plus Indirect.** Minor, long-term, beneficial effects are expected. Table 4.10-10 shows that after closure, during peak construction year(s) an estimated total of 595 jobs could be added (direct plus indirect), which represents an increase of 0.52 percent. In addition, a solar-energy-generating facility may result in added construction jobs to the extent that the local skill sets match the needs for this type of construction. If a nonlocal workforce were employed for the construction of the solar energy facility, local hotels, motels, and rental homes would benefit from the short-term added workforce. Overall, total income generation (direct and indirect) could increase by about \$19.7 million, or 0.43 percent, and total sales volumes (direct and indirect) could increase by \$70.6 million, or 1.08 percent. During the peak construction years, the pulses in total employment and sales volumes (direct and indirect) are not expected to exceed thresholds for economic sustainability in the ROI.

When factoring in the loss of contractor jobs that operated at the former UMCD, the LIR scenario could result in the direct and indirect loss of 613 jobs and \$31.7 million in income, as well as \$14.8 million in sales volume. These losses fall within historical thresholds for socioeconomic change within the ROI.

### 4.10.2.5.3 Sociological Environment (Including Environmental Justice and Protection of Children)

**Medium-Low Intensity, Direct.** Minor, short-term and moderate, long-term, beneficial effects are expected. In the short term, homeless service providers who requested equipment and storage for ongoing community projects (Agape House and CAPECO) would receive these material benefits after closure. In the long term, low-income populations could benefit from the creation of low-skill and unskilled jobs associated with the economic redevelopment of the properties and increased household incomes. Direct jobs created under this scenario (2,680 in a peak year) could attract individuals from within the ROI and may offset some of the local unemployment. This scenario predicts that the increase in population during the year of maximum change would be 2,344 people, which would expand the local tax base for providing social services during reuse construction and at full build-out.

The MLIR scenario for UMCD property would not create disproportionately high or adverse human health or environmental impacts on minority or low-income populations of the surrounding communities. There are no environmental justice populations in the immediate vicinity of the CDA parcels.

No impacts are expected to public health and safety risks. Restricted areas on the site would continue to be surrounded by fencing with limited access to reduce the possibility of public health and safety hazards to children and the general public. The risk for children trespassing on-site is low, given that UMCD is surrounded by security fencing and the installation is located in a very remote, rural area. There are no plans for residential housing as part of the UMCD Redevelopment Plan, so there would be no additional children at risk in the immediate vicinity of reuse construction or from industrial or military operations.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Medium-Low Intensity, Indirect.** Minor, short-term adverse effects are expected. In the short term, immediately following closure, the indirect effect of reduced employment income and taxes may reduce economic support for community support services and charitable operations, as well as reduced economic opportunities for low-income families in the ROI. This job loss represents approximately 1.1 percent of the labor force within the ROI, which is well within the normal range of historical fluctuations within the ROI (i.e., -6.4 to +5.8 percent); therefore, this adverse effect would be minor. Induced job losses and loss of income would impact low-income populations immediately following closure in the short term, but these trends would reverse once redevelopment begins as previously discussed.

**Low Intensity, Direct.** Minor, short-term and long-term, beneficial effects are expected similar to those described for the MLIR scenario. However, the long-term economic benefits would be much lower (as discussed above); therefore, the benefits to low-income populations would be similarly lower under the LIR scenario than the MLIR scenario.

**Low Intensity, Indirect.** Minor, short-term adverse effects are expected similar to those described for the MLIR scenario.

### 4.10.2.5.4 Quality of Life

**Medium-Low Intensity, Direct.** Minor, short-term and long-term, adverse effects are expected. In the short term, following closure, the loss of employment opportunities would result in adverse effects on the quality of life for those directly affected by job loss, although the impact on the overall population, school enrollment, and public safety demands would be negligible. As previously discussed, the 1.1 percent loss of jobs and 0.6 percent reduction in the local population are well within the historic range of annual fluctuations within the ROI (i.e., -6.4 to +5.8 percent for jobs, and -1.83 to +4.29 percent for population); therefore, the overall impact on the ROI is expected to be minor.

In the long term, following redevelopment, the impact of increased direct employment at the CDA Parcel would expand the population of local school systems during peak construction years and from full build-out. The estimated increases in population (direct plus indirect) are approximately 1.1 percent, which would likely increase school populations at a commensurate rate. This increase is well within the historic range of annual population fluctuations in the ROI (-1.83 to +4.29 percent). Furthermore, the student-teacher ratios at schools within the ROI are currently on par with state student-teacher ratios. As such, long-term small increases in the population over the 20-year build-out period would allow for local and regional planning to address the needs of any localized growing student population. Similarly, current shops and services offered within the ROI meet local needs and should grow with the population, given that the population increases in the ROI fall within the RTV range.

Jobs created under this scenario could attract individuals from within the ROI to the local economy, increasing the local population and demand for public services (i.e., law enforcement, fire services, medical services), creating both beneficial and adverse effects. Presently, the rates of law enforcement officers per inhabitants for the ROI are commensurate with the state and considered adequate. The UMCD site is already incorporated into the Hermiston Fire and Emergency Services protection district. The additional responsibilities on public support services

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



due to increases in population during construction and reuse would be within the historic range of population fluctuations, so service providers within the ROI should be able to adapt to the demands, funded by new property tax revenue and sales taxes.

**Medium-Low Intensity, Indirect.** Minor, short-term and long-term, adverse effects are expected. The pulse in induced indirect employment could cause minor, short-term, localized increases in population (2,344 people in a year of maximum economic growth) and correlating student population levels, and social infrastructure needs. At the regional level, these effects would be negligible relative to population trends and the current services in the ROI, as previously discussed.

**Low Intensity, Direct.** Negligible, short-term, adverse effects are expected. The effects would be similar to those described for the MLIR scenario, but are less intense due to the more moderate level of induced population growth projected for the LIR scenario of only 0.13 percent during the peak year.

**Low Intensity, Indirect.** No effects are expected.

### 4.10.2.5.5 Installation Agreements

**Medium-Low Intensity, Direct.** Minor, short-term, adverse effects are expected. Installation agreements between the Army and local agencies for the provision of various services would be continued until disposal of the installation properties is complete. Transfer of the installation properties to the community would create expanded responsibilities for local emergency service providers (fire, law enforcement, and emergency medical care) to cover incidences that may occur on-site on CDA parcels. Emergency services would continue to be provided by local agency suppliers outside the boundaries of UMCD. Due to the high risk of wildfire in the region, the responsibility of taking over the UMCD site would require immediate increased fire department services and other emergency services. The UMCD site has already been incorporated into the West Umatilla County Community Wildlife Protection Plan. Transfer of the property will place additional responsibility on local fire departments as development increases, and an additional fire station may be necessary closer to or on the site. When UMCD is closed and transferred, there will initially be fewer personnel on-site to report any wildfires as these occur, which would increase response times if a wildfire occurred. As the CDA parcels are developed, this effect would be expected to decrease. During construction, there may be an increased risk of trespassing on the site, which would place additional responsibility on law enforcement. The entire UMCD site is fenced, so this effect is expected to be minor.

**Medium-Low Intensity, Indirect.** No effects are expected.

**Low Intensity, Direct.** Minor, short-term, adverse effects are expected. Effects would be the same as those described for the MLIR scenario.

**Low Intensity, Indirect.** No effects are expected.

**AFFECTED ENVIRONMENT AND CONSEQUENCES**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## 4.11 TRANSPORTATION

### 4.11.1 Affected Environment

The affected environment, with relation to transportation, is the roadway network internal to UMCD and the external street network in Umatilla and Morrow Counties.

#### 4.11.1.1 Roadways and Traffic

The southeastern corner of the installation is adjacent to the intersection of I-84 and I-82. Annual average daily traffic (AADT) counts on these roadways near the installation for 2009 were 14,000 AADT for I-84, and 10,000 to 15,000 AADT for I-82 (ODOT 2009). Figure 4.11-1 shows the locations of major roadways in and around UMCD.



**Figure 4.11-1: Roadway Map of Umatilla Chemical Depot and Surrounding Areas**

#### 4.11.1.2 Installation Transportation

UMCD has 196 miles of roads within its boundaries. This includes 165 miles of asphalt paved roads in fair to good condition, and 27 miles of unpaved/gravel roads (UMCD 2007). The



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



roadway pavement width generally is 24 feet with limited or nonexistent shoulders. The main road network is two lanes, and the roadways serving the storage igloos are gravel, single-lane roads with pullouts for passing traffic. There are no traffic counts for the installation; however, the number of vehicles entering and exiting UMCD during the time of full operation was estimated to range from 400 to 600 per day, and this number would likely be higher without rideshare programs. During this timeframe, the entrance/exit gates were somewhat congested between the hours of 6:00 a.m. and 7:00 a.m., and again between 4:00 p.m. and 5:00 p.m. During other times, traffic was very light.

### 4.11.1.3 Public Transportation

The installation is not served by public transportation.

### 4.11.1.4 Rail

Immediately adjacent to and along the south boundary of the installation, the UP operates one of the principle east-west rail line networks, which was a major factor in base location in 1941. At one time, a spur from this line entered UMCD. Rail switches have been removed from the line at UMCD's boundary, and the gates have been locked preventing access to the installation by way of rail. UMCD has an internal rail network of approximately 50 miles of railroad track (see Figure 4.11-2). Compared to the original 1941 construction, the rail system is in poor condition. The track was originally constructed to support ordnance handling and storage on UMCD. Ordnance was transported to and from UMCD via the rail system. Some of the railroad and ties on the approximately 50 miles of railway track within UMCD are below current rail standards or have been removed, and the rail lines were not used in recent years.



**Figure 4.11-2: Rail Yard on Umatilla Chemical Depot**



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.11.1.5 Air Traffic and Airspace

The airspace over UMCD is not restricted, but rather it is categorized as NSA with a zone of surface to 5,000 feet that is only “active” during emergencies. At all other times, it is recommended as a no-fly zone (U.S. Navy 2012). The installation maintains a helicopter-landing pad to accommodate the on-post medical clinic.

There is one noncommercial airport in Hermiston, Oregon (Hermiston Municipal Airport), and two commercial airports within 35 miles of UMCD in Pasco, Washington (Tri-Cities Airport), and Pendleton, Oregon (Eastern Oregon Regional Airport). Due to the dominance of agricultural land use, there are small aircraft flying at low levels in the area associated with crop dusting.

### 4.11.2 Consequences

#### 4.11.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, short- and long-term, adverse and beneficial effects on transportation infrastructure are expected on UMCD. It is anticipated that early transfer would result in increased traffic and increased usage of transportation infrastructure both on and off UMCD. These increases would cause greater wear and tear on existing roadways, thereby causing minor, short- and long-term, adverse effects both on and off the installation. Under this alternative, the Army has various property transfer and disposal methods available, allowing the reuse of property to occur before environmental remedial action has been completed. These variations may ultimately affect the manner in which land and the associated transportation network are developed, including incremental changes in ownership and redevelopment intensity. Off-site, area roads would require upgrades to accommodate new development, resulting in minor, short-term, adverse effects, as further discussed in Section 4.11.2.5. On-site, depending on the types of uses, improvements in some of the transportation infrastructure, such as the rail network would be required. Therefore, long-term, beneficial effects would also be expected on UMCD.

**Indirect.** Minor, long-term, adverse effects are expected near UMCD. In the long term, disposal of UMCD may spawn additional economic growth in the region that could generate additional residential and commercial traffic within the area and adversely affect traffic flow.

#### 4.11.2.2 Traditional Disposal Alternative

**Direct.** Minor, short- and long-term, adverse and beneficial effects on transportation infrastructure are expected on UMCD. For off-site transportation networks, minor, short- and long-term, adverse effects are expected. Effects would be similar to those described under the early transfer disposal alternative, but the effects would occur further into the future.

**Indirect.** Minor, long-term, adverse effects are expected near UMCD. Effects would be similar to those described under the early transfer disposal alternative, but the effects would occur further into the future.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.11.2.3 Caretaker Status Alternative

**Direct.** Minor, long-term, adverse and beneficial effects are expected. The long-term maintenance, or "caretaker status" stage, would no longer be focused on keeping the facilities in a state of repair to facilitate rapid reuse. Rather, maintenance during this period would consist of minimal activities intended primarily to ensure security, health, and safety, and to avoid physical deterioration. Internal and external roadways and travel patterns would benefit, given the reduction in civilian and military traffic accessing the installation. However, reduced maintenance over a prolonged period (approximately 5 to 10 years) under caretaker status would result in gradual deterioration of on-site roads.

**Indirect.** No effects are expected.

### 4.11.2.4 No Action Alternative

No direct or indirect effects are expected with this alternative. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure; therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

### 4.11.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, long-term, adverse and beneficial effects are expected at UMCD. MLIR of UMCD would result in an estimated increase in employees from 840 as of November 2005, to 4,300 on the CDA Parcel. In addition, construction of 5.1 million SF of facilities on UMCD over the next 20 years would increase in traffic in the area. Overall, development would increase three times the current levels seen on UMCD under baseline conditions within the CDA Parcel. This increase in traffic at UMCD would only cause minor adverse effects on regional transportation infrastructure. The I-82 interchange on the southeast side of UMCD would be upgraded to extend an existing local road, thereby creating a new interchange access road from the CDA parcels to I-82. It would also realign the interstate off- and on-ramps and eliminate a sharp turn that currently would not accommodate large trucks. These improvements would serve future development on the CDA parcels.

In the long term, the increase in development would likely spur improvements to roads on the installation, resulting in some beneficial effects. The UMCD Redevelopment Plan calls for the development of a road network that allows access to the redevelopment areas (Industrial, Highway Commercial areas) with truck or rail terminals as a potential reuse option within the CDA Parcel (UMADRA 2010). Some of the railroad and ties on approximately 50 miles of railway track within UMCD are below current rail standards or have been removed, and rail lines were not used in recent years. In the long term, improvements in some of the transportation infrastructure, such as the rail network, gate access, and intersection upgrades, would be required to service demand as necessary, which would include better access and transportation connections, resulting in minor, beneficial effects on transportation (Umatilla County 2002; Morrow County 2009). In addition, developers may be required to construct their own entrances and expand the road network to provide access to individual parcels, creating a beneficial effect by building roads according to county specifications. Furthermore, once the roads are dedicated to the county, these would be maintained as part of the county's road maintenance program. In

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



the short term, heavy construction vehicles and construction traffic could result in minor, short-term, adverse impacts on the available transportation infrastructure during the redevelopment process.

**Medium-Low Intensity, Indirect.** Minor, long-term, adverse effects are expected near UMCD. This reuse scenario would create minor increases in economic growth in the region including the potential for 3,460 new jobs, which could generate additional residential and commercial traffic beyond the levels directly associated with UMCD redevelopment.

**Low Intensity, Direct.** Minor, long-term, adverse and beneficial effects are expected. The LIR scenario would result in an estimated increase in employees from 840 to 1,100. This increase is substantially less than that predicted for the MLIR scenario. In comparison with the MLIR scenario, adverse impacts on transportation would be minor, resulting in less traffic volume and demands on the regional and installation's transportation infrastructure, as compared to baseline conditions. Minor, beneficial and adverse effects would be similar to those expected under the MLIR scenario, but to a lesser degree.

**Low Intensity, Indirect.** Minor, long-term, adverse effects are expected. Effects would be similar to those expected under the MLIR scenario, but to a lesser degree.

**AFFECTED ENVIRONMENT AND CONSEQUENCES**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.12 UTILITIES

#### 4.12.1 Affected Environment

##### 4.12.1.1 Potable Water Supply

Water is supplied to UMCD via on-site wells for potable use, cleaning as part of demilitarization of munitions, fire control, and agricultural purposes. Because the wells were constructed by the military and operated for its own use, water usage data was not recorded. There are seven on-site deep wells installed at UMCD that draw from the basalt aquifers. Four of the seven wells provide potable water at UMCD. Wells 6 and 7 are located in the NGB Parcel, but provide water to the Demil Area on the CDA Parcel. Wells 4 and 5 are located adjacent to the 100 and 200 series warehouses in the southwest corner of UMCD; the existing water rights, which are currently being renegotiated, state that this water is for fire protection purposes. Each well has a water right of 1.11 cubic feet per second; these are currently used for the administrative area (Lanigan 2015; UMADRA 2010). Analytical data show that the water is of excellent quality in all of the operational wells (U.S. Army 2013).

UMCD has two public drinking water systems: one serving the northwest and north-central portion of UMCD, and the second serving the southwest (warehouse) area and the administrative area. Most of the distribution piping in the warehouse/administrative area is cast iron pipe (with lead joints), and there are some lengths of asbestos cement and polyvinyl chloride (PVC) piping. In both systems, water is obtained through groundwater wells and treated at the wellhead with gas chlorination. The warehouse/administrative area system also includes 250,000 gallons of elevated storage, and a 1,000,000-gallon ground reservoir that is not used due to lack of demand (Benkendorf Associates Group et al. 1993a, b).

Two additional water storage tanks are located just to the north of the Industrial/CDA Demil Area for providing water to that facility separately. In addition, a large 1,000,000-gallon aboveground storage tank (AST) is also present but not used due to the potential of contamination from low water usage. Overall, all water-related equipment is in reasonably good condition. Wells and water towers have been maintained, and the three on-site water towers were rebuilt in 1986. Inspection of wells and chlorination areas indicates equipment to be in good working condition. Periodic water testing is provided, as necessary, to test water for conformance with federal and state drinking water standards (Benkendorf Associates Group et al. 1993a, b).

##### 4.12.1.2 Stormwater System

Stormwater runoff at UMCD is minimal due to the small amount of precipitation and highly permeable soils. The administrative area storm sewer/stormwater is carried by gravity to an outfall west of the sewage treatment plant. The outfall discharges to an open ditch, where it is allowed to percolate into the ground. Natural surface drainage channels control any stormwater runoff that accumulates.

The central part of UMCD lacks any well-defined drainage pattern. The minimal runoff generated in this area generally flows into the numerous shallow depressions found in the flat and gently rolling topography in the area.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Surface runoff in the area east of Coyote Coulee is toward the southern boundary into a shallow, elongated depression running parallel to the UP tracks and I-84 (U.S. Army 2013).

### 4.12.1.3 Wastewater Treatment

Wastewater produced at UMCD is treated by the sewage treatment plant and the septic tanks and drain field systems located throughout the facility. UMCD operates these systems in accordance with two NPDES permits and two water-pollution-control facilities permits issued by ODEQ. NPDES permits are required by Oregon for the discharge of wastewater to the ground in order to prevent discharges to surface waters and to protect groundwater from contamination (U.S. Army 2013). There is no sewage treatment plant serving the CDA parcels or buildings.

Twenty-three areas at UMCD have septic tank-leach fields. UMCD operated the septic tank systems and leach fields in accordance with an ODEQ NPDES Permit, which was renewed after it expired in 2013. However, the permit is now inactive, and all the systems on it were shut down at the end of December 2014. The permit applied to the Industrial/CDA Demil Area and approximately 20 other septic systems. None of the septic systems on this permit are in use at this time. Septic systems that will transfer to the CDA will require a new permit if those systems are to be used.

### 4.12.1.4 Energy Sources

**Electricity.** Electricity for UMCD is supplied by UEC. The service is provided at 12,470 volts, three-phase, four-wire, and 60 hertz. The UMCD substation is located east of the main entrance. From this substation, the site electrical system is fed through overhead lines on wooden poles located along roadways similar to a rural electric distribution system. The poles' lines have existed since the original construction, and the poles are in poor condition. A run along the southwest side was replaced with new poles and copper wire (Benkendorf Associates Group et al. 1993a, b). UEC owns the electrical distribution systems surrounding UMCD as well as a newer power grid, which is located within the boundaries of the Industrial/CDA Demil Area (the former UMCDF). All distribution systems located on the property, with the exception of the Industrial/CDA Demil Area (the former UMCDF), are owned by the U.S. Government. The systems consist of approximately 16 miles of overhead lines, 6 miles of underground lines, and 350 transformers (U.S. Army 2013).

Fixed-in-place standby duty generators supply full load power to the services and buildings connected to them. The generators range from 50 to 750 kilowatts and run on diesel fuel. The administrative area has a very large capacity emergency backup generator. In addition, Building 32, Building 57, K Block, and Wells 4, 5, 6 and 7 each have their own backup generators (U.S. Army 2013).

In general, the electrical system has been well maintained in the high-use areas, with upgrades made on an as-needed basis. The UEC has stated that the feeder is capable of supplying 10,000 kilowatts with 5,000 kilowatts going to UMCD, and UEC could increase supply if needed in the future.

**Heating Systems.** UMCD uses a variety of heating systems, including electric resistance heating, heat pumps, propane-fired boiler, natural gas-fired boilers, and electric hot water



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



boilers. The majority of heating systems and boilers are located in the administrative area on the NGB Parcel (U.S. Army 2013).

### 4.12.1.5 Communications

Communications infrastructure at UMCD consists of a combination of underground and overhead lines going to all areas of the site. Telephone service enters the facility on the southeastern corner of the property. Cell phone service that includes the remote areas of UMCD is provided by Verizon and Sprint.

## 4.12.2 Consequences

### 4.12.2.1 Early Transfer Disposal Alternative

**Direct.** Minor, long-term beneficial and adverse effects may occur. In the short term under the early transfer alternative, the ownership of the property would change and utility usage and demand would decrease below baseline levels, resulting in no adverse effect on utility systems. In the long term, minor, beneficial and adverse effects on the utility systems may occur from redevelopment as systems are upgraded and modernized, as further described in Section 4.12.2.5.

**Indirect.** No effects would be expected.

### 4.12.2.2 Traditional Disposal Alternative

**Direct.** Effects would be similar to those described under the early transfer disposal alternative.

**Indirect.** No effects would be expected.

### 4.12.2.3 Caretaker Status Alternative

**Direct.** Minor, long-term, adverse effects are expected on UMCD. Caretaker status would result in decreased demands on installation infrastructure, which could extend the life of some utility systems. However, some utility systems are designed to be used continually over the life of the system, and suspending use of the system may do more harm than good. Reduced use and maintenance of utility systems could result in gradual deterioration over time, resulting in a long-term, adverse effect.

**Indirect.** No effects would be expected.

### 4.12.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment; therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.12.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, long-term beneficial and adverse effects on the utility systems would be expected to occur. Under the MLIR, construction of 5.1 million SF of facilities on the CDA Parcel would occur over the next 20 years, compared to existing square footage of 1.5 million SF. This would result in an increase in utility consumption and needs. Overall, development could increase industrial operations up to three times that of operational levels seen historically on UMCD under baseline conditions, thereby increasing demand on all utility systems. Most of the utility systems serving UMCD were constructed in the 1940s. These utilities have been repaired and maintained as needed, but most utility distribution systems would require repairs, upgrades, and possible replacement to accommodate the anticipated demand. Minor, beneficial effects on the utility systems would result based on improvements made to facilitate redevelopment anticipated in the UMCD Redevelopment Plan. On the other hand, minor, adverse effects may occur if redevelopment outpaces the infrastructure upgrades that are needed. Through continued careful planning, stressors to system capacity would be minimized to ensure that sufficient utility service is provided to current and new tenants into the future.

The electric distribution system within UMCD would be privatized upon ownership transfer to UEC. Under this new ownership, the UEC would be responsible for maintenance and any needed upgrade of the electric system (most of which was constructed in the 1940s) to facilitate the MLIR intensity of development. UEC ownership and subsequent maintenance of electric facilities would result in a beneficial effect with a reduction in the potential for system interruptions and increased carrying capacity within the CDA parcels. With respect to carrying capacity of the surrounding utility grid, it was estimated that energy consumption would be well below current capacity of the UEC electrical grid. Using average electrical consumption statistics provided by the U.S. Energy Information Administration for commercial and industrial buildings, electrical demand would be approximately 100 megawatt-hours (MWh) for 5.1 million square feet of building space. One hundred MWh is well below the current operational capacity of UEC which can already provide up to 10,000 MWh of electrical power to the CDA Parcel.

Water rights and permitted water withdrawals would partially remain with the CDA Parcel and be available to support redevelopment needs. The UMCD Redevelopment Plan indicates that water rights and permitted withdrawals would not be used for irrigation purposes, but rather support needed commercial and industrial uses. A study by the Northeast Oregon Water Association (NOWA) (2015) indicates that maximum industrial development would require 5,922 acre-feet (af) of water, while irrigation of agricultural areas within the CDA Parcel would require an additional 1,902 af of water, for a maximum total of 7,824 af. This level could not be met by existing available water supplies and water rights (NOWA 2015). To reduce water demand, redevelopment has focused on low-water users such as warehouse, distribution, and rail-related facilities, which are also supported by the CDA Parcel's close proximity to existing rail and interstate infrastructure. Utilization of existing water rights and infrastructure discussed further below would support such redevelopment focused on low-water demand facilities. However, without the development of alternative water supply sources, the southwest and northwest parcels designated for agricultural purposes within the CDA Parcel are unlikely to be irrigated, and certain industries that need larger volumes of water may not be feasible (e.g., food processing).

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



To address the limited water carrying capacity of the area, NOWA has proposed implementation of a series of regional water storage and aquifer recharge projects. The project most relevant to the CDA Parcel is known as the "Central Project," which proposes to use existing pump stations on the Columbia River to pump water from the Columbia River to supply regional agricultural and other industrial water needs, using water storage and aquifer recharge methods. In a NOWA Concept Memo released July 30, 2015, NOWA concludes that "the Central Project provides enough delivery capacity to recharge to meet all potable and non-potable needs of the entire developable acreage of the depot (property)." It is estimated that such a system could provide between 11,587 af to 18,403 af of water capacity to support the CDA Parcel. Leveraging existing infrastructure, available land on-site for storage capacity and recharge, and excess carrying capacity from the Columbia River (when available), would allow for a cost effective strategy to meet future water demands for long-term economic development and conserve valuable groundwater carrying capacity for the region.

Possible minor, long-term, adverse effects may occur regarding the distribution of available water. The existing water wells and water storage facilities (water tanks and towers) are unevenly distributed within the UMCD and among the three parcels, with the largest concentration occurring in the administrative area on the NGB Parcel. In addition, the water distribution system was built in the 1940s and likely requires replacement to accommodate increased demand from redevelopment. New tenants would need to negotiate delivery of necessary water supplies, which may originate on the NGB Parcel, or they may be required to construct new wells and water storage or seek new water sources from locations outside of the installation boundary, creating an adverse effect due to increased costs. Cooperative agreements, including shared water infrastructure between tenants, could mitigate this adverse effect.

Redevelopment would likely require that existing wells be refurbished, but the existing storage tank and existing mains are not reusable; these will need to be removed and new facilities constructed. The existing wells are capable of producing approximately 2,000 gallons of water per minute, and the new elevated tank should provide storage for about 120,000 gallons. A new series of water distribution mains will be required to serve future development. Upon full redevelopment, there would likely need to be a new well (or wells) constructed, along with a new elevated tank, providing storage capacity for up to approximately 250,000 gallons, doubling water carrying capacity to service the CDA Parcel. Withdrawals and water balances are regulated by the state, thus future permits would be required to add additional wells and increase water withdrawal rates. New water distribution mains would also be required. The new storage tank and well would be located near the southeast corner of the CDA Wildlife Refuge Parcel. As development occurs, redevelopment would require adding a myriad of internal utilities that will branch off from the major utility network to serve each localized parcel.

Reuse of the installation has limitations posed by the lack of easily expandable or available sewage treatment systems, resulting in a minor, adverse effect. Most areas on UMCD are served by septic systems, and these would need to be replaced by a sewage treatment plant to facilitate the redevelopment envisioned by the UMCD Redevelopment Plan. Although there is a sewage treatment plant serving the administrative area on the NGB Parcel, it is relatively small and was not designed for expansion; therefore, new sewage treatment plant facilities would need to be constructed to accommodate redevelopment. To provide collection and treatment of

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



wastewater, new sanitary sewer mains will need to be constructed along with a package treatment plant in the southern portion of the CDA Parcel. The plant would be located to serve the CDA Parcel via gravity mains. This new facility could provide service to the ORARNG, if deemed desirable. None of the older septic tank leach-field systems are in use at this time. These septic tank leach-field systems that will transfer to the CDA will require a new permit if those systems are to be used in the future.

Given that the preliminary development intensity is very low, all stormwater runoff can and should be handled onsite by localized detention areas. The development intensity is estimated at a FAR of 0.15, or about 6,600 SF of building per acre. If another hard surface parking area for a maximum of 30 cars were considered, the total hard surface area would cover approximately one-half acre, leaving approximately 20,000 SF for setbacks, open space, and stormwater requirements. Some storm sewer infrastructure may be installed on individual sites, and culverts may be installed to cross roads; however, no site-wide storm sewer system is anticipated.

Other utilities such as gas, electric, and telecommunications exist on or adjacent to UMCD but would need to be extended into the various parcels as development occurs. Local providers (Cascade Natural Gas, Pacific Northwestern Bell Telephone, and UEC) would be responsible for extending coverage into the UMCD area.

**Medium-Low Intensity, Indirect.** No indirect effects on utility systems would be expected. Economic growth spawned from redevelopment at UMCD could generate additional infrastructure and utility demands for the region, but the long-term change and capacity of the regional systems are expected to be sufficient to address growing needs.

**Low Intensity, Direct.** Minor, long-term, beneficial and adverse effects are anticipated. The LIR scenario would result in additional development and increased employment on the installation. This would result in an increase in utility usage; however, the usage would be less than that under the MLIR scenario. Existing utility systems would be able to better accommodate this scenario because utility demand would be less than under the MLIR scenario. Most utility distribution systems, however, would still require repairs, upgrades, and possible replacement to accommodate the anticipated demand. Similar to the MLIR scenario, redevelopment is expected to include utility improvements, resulting in a beneficial effect on the utility system.

**Low Intensity, Indirect.** No indirect effects on utility systems would be expected.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.13 HAZARDOUS AND TOXIC SUBSTANCES

#### 4.13.1 Affected Environment

Information in the following section is largely based on information contained in the ECP and ECP Recertification prepared for UMCD (U.S. Army 2010, 2013, 2014).

In 1962, the Army began storing chemical munitions at the facility. The EWL were formally listed on the USEPA's National Priorities List (NPL) in 49 *Federal Register* 27620 on 22 July 1987. The BRAC Commission listed the facility for realignment in 1988. From 1990 to 1994, the facility reorganized in preparation for eventual closure, shipping all conventional ammunition and supplies to other installations. The former UMCD (Industrial/CDA Demil Area) was designed for the sole purpose of destroying the chemical agents stored at the site. UMCD was a federal government-owned and contractor-operated facility. This facility was completed in 2001, and incineration of chemicals began in 2004 (U.S. Army 2006). As of 2009, the incineration campaigns for the nerve agents GB (sarin) and VX were completed. The destruction of the blister agent HD (mustard) was completed in October 2011. Chemical surety ended in March 2012. This marked the end of the UMCD's mission, and the facility is now in RCRA closure. A Federal Facilities Agreement pursuant to CERCLA (involving the Army, USEPA, and the state of Oregon) guides the remainder of the remediation activities.

A variety of activities involving the handling of hazardous substances and generation of listed hazardous wastes has occurred at UMCD through its history. These activities, including motor pool and service station operations, munitions renovation, and ammunition maintenance, generated battery acid, solvents, paints, and waste pesticides. Renovation of conventional munitions also generated hazardous wastes, including red-fuming nitric acid, aniline, explosive-contaminated rinse water, and solvents. Other wastes generated included ordnance and propellant destroyed at the open burning/open detonation grounds.

##### 4.13.1.1 CERFA Designation

The ECP, dated September 2013, classifies 100 parcels on UMCD in accordance with the criteria described in ASTM D5746-98 (*Standard Classification of Environmental Condition of Property Area Types for Defense Base Realignment and Closure Facilities*), and CERFA (Pub. L. 102-426). CERFA directs federal agencies to evaluate all property on which federal government operations will be terminated to identify uncontaminated parcels. .

Within the CDA Parcel, all 9,555 acres are designated as Types 1, 2, 3, or 4 which includes sites that are either uncontaminated (Type 1) or contaminated with petroleum not regulated under CERCLA (Type 2), or that have been contaminated by hazardous substances but no further cleanup is required (Types 3 and 4). There are no Type 5, 6, or 7 areas on the CDA Parcel.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



CERCLA allows the transfer of parcels on which no further remediation under CERCLA is required (Types 1 through 4), and also parcels undergoing a program of long-term remediation if the remedial system has been installed and demonstrated to be operating properly and successfully. As previously discussed, all acreage within the CDA Parcel is designated as Type 1, 2, 3, or 4. Table 4.13-1 and Figure 4.13-1 show the breakdown of acreage by area type definitions for the CDA Parcel.

**Table 4.13-1: Umatilla Chemical Depot CERFA Designations on CDA Properties**

Type	Definition	Total Acreage at UMCD CDA Properties
Area Type 1	Areas where no release or disposal of hazardous substances or petroleum products above <i>de minimis</i> quantities has occurred, and to which there has been no migration of such substances from adjacent areas.	8,944.60
Area Type 2	Areas in which release or disposal of petroleum products above <i>de minimis</i> quantities has occurred.	24.51
Area Type 3	Areas in which release, disposal, or migration of hazardous substances has occurred, but in concentrations that do not require removal or other remedial response.	148.92
Area Type 4	Areas in which release, disposal, or migration of hazardous substances has occurred, but all removal or other remedial actions necessary to protect human health and the environment have been taken.	437.40
Area Type 5	Areas in which release, disposal, or migration of hazardous substances has occurred, and removal or remedial actions are underway, but not all required actions have been taken.	0.00
Area Type 6	Areas in which release, disposal, or migration of hazardous substances has occurred but required remedial actions have not been implemented.	0.00
Area Type 7	Areas that are unevaluated or require additional evaluation.	0.00

Note: restrictive easements were not included in the total acreage under Area Type 1.

Source: U.S. Army 2013, 2016





4-105

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.13.1.2 Storage and Handling Areas

UMCD was a RCRA-permitted hazardous waste storage facility. UMCD also stored HD (mustard) chemical agent, and the nerve agents GB (sarin) and VX designated for demilitarization. It also stored agent related wastes.

UMCD was permitted to store containerized hazardous wastes in storage units located in specified facilities. There were three 90-day storage accumulation facilities on UMCD located in Buildings 5, 7, and 656, on the NGB Parcel. Accumulation points at the installation consisted of different-sized containers or drums used to store various hazardous wastes. The majority of waste consisted of basic cleaning chemicals; paint and paint products; machinery maintenance products; pesticides, herbicides, and rodenticides; batteries; boiler and air conditioning chemicals; and laboratory chemicals (U.S. Army 2010). Once full, the drums were transported to Building 203, which is located on the CDA Parcel. Building 203 stored containerized wastes generated from support activities that do not involve chemical agent operations, and were awaiting transport to off-site facilities for disposal. Hazardous waste was transported off-site by a licensed hazardous waste contractor and disposed in a licensed hazardous waste facility (U.S. Army 2010).

Chemical agent munitions and bulk storage items were stored in I Block and K Block igloos. I Block was used to store only mustard agent and was RCRA-closed in December 2009. J Block was used to store agent-related waste for both UMCD and the former UMCD (Industrial/CDA Demil Area) activities. The K Block and I Block igloos are located on the NGB Parcel. J Block has 57 igloos in the NGB Parcel and 14 in the CDA's Wildlife Refuge area.

### 4.13.1.3 Hazardous Waste Storage and Disposal

UMCD has not operated as a hazardous waste transporter or disposal/treatment facility of hazardous waste, and maintains no such permits. The exceptions are sites 16 and 32 in the Ammunition Demolition Activity (ADA). These were interim-status treatment facilities for the thermal destruction of waste munitions and explosively contaminated debris. The sites were deferred to CERCLA in 1995. Accumulation points at UMCD consisted of 55-gallon drums for storing various combinations of compatible hazardous wastes. Storage at these points did not exceed 90 days from the time the waste started to accumulate in any given drum. Once full, the drums were transported to Building 203, which is located on the CDA Parcel. Hazardous waste was transported off-site from Building 203 twice a year to a licensed treatment, storage, or disposal facility by a licensed hauler (U.S. Army 2010).

Six inactive, closed landfills located on UMCD comprise the "Inactive Landfill" and the "Active Landfill" operable units (OUs) (U.S. Army 1993). The Active Landfill site was closed in 1997, but the name refers to the original distinction between the five inactive landfills located on the NGB Parcel west of the administrative area and the one (formerly) active landfill located on the CDA/Wildlife Refuge between D and E Block igloos. A No Further Action (NFA) Record of Decision has been signed for both the Inactive and the Active Landfill OUs. More information pertaining to the Active Landfill is discussed in Section 4.13.1.4.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.13.1.4 Site Contamination and Cleanup

**Contaminated Sites.** The CERCLA remedial activities at UMCD are divided into OUs. Three 5-year reviews have been conducted on the CERCLA sites present at UMCD. The third CERCLA 5-year review for the UMCD was completed in March 2010, resulting in final regulatory concurrence and signature on 30 July 2010. This review covered UMCD CERCLA sites that had not been completely closed out. These sites have had remedial actions that resulted in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure. A Focused Feasibility Study was completed for the EWL Groundwater OU in December 2011 and is currently being updated. Future 5-year reviews are necessary at the EWL Groundwater OU and the ADA OU because contamination remains above levels that allow for unrestricted use and unlimited exposure (USACE 2010). Additional remedial actions are underway at these sites, as further discussed below.

In March 2012, the Umatilla restoration program underwent an Audit of Environmental Remediation of Chemical Demilitarization Base Realignment and Closure Sites. The Audit's conclusion was that the Army generally had sufficient plans and resource estimates to clean up environmental contamination at UMCD. It was found that planning documents described cleanup strategies and identified sites that required cleanup to a more than adequate level.

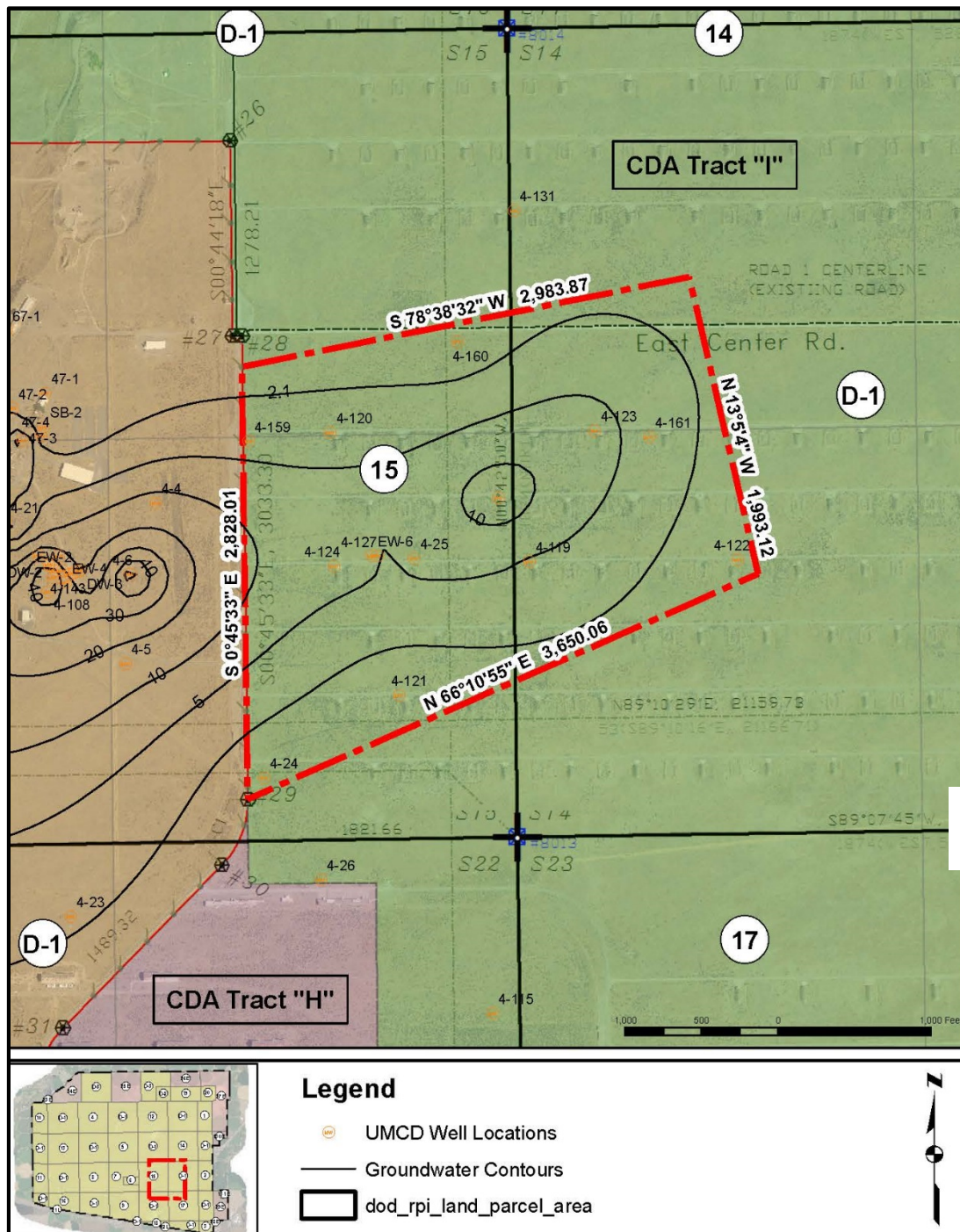
The EWL Groundwater OU addresses contamination in groundwater from the munitions deconstruction plant which discharged wash water contaminated with explosives into two unlined man-made lagoons. A groundwater extraction and treatment system was installed in 1997 and continues to operate. Bioremediation will be implemented in 2018 to augment the treatment process. The eastern plume that extends into the CDA property will continue to be treated in the extraction and treatment system. Army will submit a request to EPA that the portion of the pump and treat system addressing contamination on the future CDA property is operating properly and successfully (OPS). If EPA is not able to make an OPS determination prior to transfer, then the parcel shown on Figure 4.13-2 will be transferred at a later date once that determination is made, or the groundwater on the CDA-retained parcel achieves the groundwater cleanup standard.

The Active Landfill, located in the CDA Wildlife Refuge Parcel, is a 5-acre solid waste disposal area that was closed and capped. Because solid waste remains in place beneath the cap, use restrictions are necessary to prevent damage or destruction of the cap. Use restrictions include no residential use, no excavation of soils, and no driving on the site. There is also a restriction against use of the shallow groundwater due to the anthropogenic occurrence of nitrates and selenium unrelated to the landfill.

Site 39, the Quality Assurance Function Range, is located in the northern part of the CDA Wildlife Refuge Parcel, north of North Patrol Road. From 1945 to 1975 this site was used as a rifle and pistol range, and from 1945 to 1970 flares, photoflash grenades, and mines were tested in the southern portion of the site. Remedial actions were completed in 2008. Institutional controls will be implemented via deed restrictions to prohibit residential use and limit digging and trenching activities.



**AFFECTED ENVIRONMENT AND CONSEQUENCES**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.13.1.5 Special Hazards

**Asbestos-Containing Material.** An asbestos survey was completed in 1992 (Dames and Moore 1992). Many of the buildings were found to have ACM. Most of the friable asbestos was abated, especially in buildings that were in use. Much of the nonfriable asbestos has been replaced with non-ACMs during maintenance activities, such as reroofing. Asbestos siding debris that had fallen on the ground was removed from the warehouse Area 100 buildings in October 2011. Twenty asbestos-clad buildings and three metal buildings in the 100 area were demolished in 2015. Asbestos and non-asbestos debris was collected from around the 100 area buildings and disposed.

The Army will place a covenant into the deed requiring that the transferee comply with all applicable laws relating to asbestos prior to use of structures containing ACM. The Army will provide notice in the transfer and conveyance documents for those buildings that are known or suspected to contain ACM. Appendix D outlines ACM provisions the Army would typically provide in property transfer documents.

**Lead and Lead-Based Paint.** Most facilities and buildings at UMCD were constructed before the ban on the use of LBP in 1978 and, if painted, are likely to contain one or more coats of such paint. Residential buildings have been abated for LBP, although most have since been demolished. An LBP survey was conducted by the UMCD Safety Office in 1995 and 1996 (USACE 1996). Storage igloos, safety shelters (700 series), and loading piers (800 series) on UMCD were excluded from the analysis because these structures were not painted. In September 2009, a visual site inspection was conducted and representative buildings from each series of buildings were inspected for the condition of exterior paint. Cracked and peeling paint was observed on buildings in the 100 and 200 series. No abatement has occurred, except that twenty of the 100-area buildings have been demolished. Appendix D outlines LBP provisions the Army will provide in property transfer documents.

**Polychlorinated Biphenyls.** Polychlorinated biphenyls (PCB) contamination has occurred in trace to low concentrations below the regulatory action limit at former transformer sites located between Buildings 493 and 419, Building 14, Building 11, Building 25, east of Building 20, west of Building 2, and northwest of Building 15. PCB waste was historically stored at Building 203 and at the former Defense Reutilization and Marketing Office area at Building 42 (U.S. Army 2013). As of April 1990, all transformers with a PCB concentration higher than 50 ppm had been removed from service (U.S. Army 2013).

**Radon.** All buildings tested for radon at UMCD have radon levels below the action level of 4 picocuries per liter (U.S. Army 2013).

**Underground Storage Tanks.** The CDA Parcel on UMCD currently has no underground storage tanks (USTs).

**Aboveground Storage Tanks.** All ASTs were managed in compliance with the UMCD Spill Prevention Control and Countermeasures Plan pursuant to federal and state oil-spill-prevention regulations. There were 19 active ASTs present at UMCD (U.S. Army 2013). There are two ASTs located on the CDA Parcel. One AST, located on the eastern side of Building 403, was

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



used to store fuel oil. This currently empty tank is constructed of single-walled steel with a 2,000-gallon capacity, an overfill containment pan on the fill pipe, and a level indicator gauge. The tank is seated in a 2,240-gallon capacity, curbed, concrete containment structure with no drainage outlets. There is no potential for spills or discharges from the containment area, and any precipitation that collects will evaporate before it overflows the structure (U.S. Army Chemical Materials Agency 2004; U.S. Army 2013). The second AST on the CDA Parcel is located near Building 133. This AST, used to store diesel, has a 280-gallon capacity and serves the Well 4 generator.

Most of the propane tanks previously present at UMCD were leased from the propane supplier. These were removed when the installation closed.

**Pesticides and Herbicides.** The UMCD maintained a Pest Management Plan in accordance with the implementing regulations of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The majority of the mixing, use, and storage of pesticides and herbicides took place on the NGB Parcel within the administrative area. Secondary containment of stored chemicals occurs in Building 8, and rinsate waters are collected and disposed of by an off-site contractor. Pesticide use on UMCD is strictly monitored. Sites where FIFRA-controlled compounds were stored or released have been assessed for environmental impacts, and risk-based cleanup has occurred as necessary (U.S. Army 2013).

The northeast corner of C Block on UMCD is reported to have been sprayed with the pesticide Malathion during a commercial overflight (crop dusting) operation near UMCD. The reporting of this spraying was later found to be in error. During a Supplemental Remedial Investigation conducted in 1993, 16 soil samples were collected, composited into four samples, and analyzed for Malathion and Target Compound List (TCL) pesticides. None of the samples collected contained detectable levels of either TCL pesticides or Malathion (U.S. Army 2013).

**Medical and Biohazardous Waste.** A small quantity of medical waste was generated over the years at UMCD at the Occupational Health Clinic. Waste was sent to JBLM, Washington, for disposal. No waste has been sent to the former active landfill (U.S. Army 2010).

**Radionuclides.** In the past, UMCD was authorized 54 M8A1 and 54 M22 chemical agent detectors, which contain no more than 300 microcuries of the alpha-emitting isotope americium-241 in a sealed cell. The sources were never opened on-site, and the alarms were sent off-site when these needed service. The M8A1s were replaced by the M22s and were stored at Building 656, under U.S. Army-wide Nuclear Regulatory Commission (NRC) Materials License No. 12-00722-06 (later changed to No. 21-32838-01). These agents were used in the detection of aerosols and gases potentially released from chemical munitions stored in K Block igloos. License No. 12-00722-06 expired in 2011, and UMCD is no longer listed on the replacement License No. 21-32838-01. The license at the former UMCD (Industrial/CDA Demil Area) authorized possession of cesium-137 at 500 millicuries total; this license was terminated 28 April 2010, after the end of operations.

The Oregon Department of Human Resources provided a permit to UMCD to possess uranium and thorium. The State of Oregon Radiation Protection Services stored material in igloo A928 for emergency response to a radioactive spill. Materials were stored under a Memorandum of



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Understanding between UMCD and the Oregon Health Division, dated 20 July 2009 (U.S. Army 2013). This permit expired on 31 July 2011.

Currently, no radioactive material is known to exist at UMCD (U.S. Army 2013). A radiation safety inspection was conducted by the NRC on 5 April 2007, which found no violations. Furthermore, results from a radiation survey on 20 September 2012, reported radioactivity in normal ranges according to the meters being used. As a result, coverage under the NRC license was no longer necessary. The locations tested were areas of past storage or suspected storage of radioactive materials and radiation meters. Included was a survey of igloo A928 used by the State of Oregon Radiation Protection Services.

**Spills.** The CDA property has not had recorded hazardous material or waste spill.

### 4.13.1.6 Ongoing Remedial Actions

Two CERCLA environmental cleanup projects are ongoing at UMCD. These projects are at different stages of completion and represent the majority of the last known environmental concerns for the installation: EWL Groundwater OU and the ADA OU (discussed in Section 4.13.1.4).

### 4.13.2 Consequences

The reuse of the property must be consistent with the remedial constraints, land use restrictions, and the protection of human health and the environment. The Army will continue the remaining remediation action on the EWL Groundwater OU. The Army will provide notification on the past storage for 1 year or more of hazardous substances in quantities greater than or equal to 1,000 kilograms or hazardous substances of CERCLA reportable quantity (whichever is greater). The deed will contain the CERCLA covenant and access clause.

#### 4.13.2.1 Early Transfer Disposal Alternative

**Direct.** In the short term, no effects would be expected from early transfer disposal because remediation and investigative programs would continue in accordance with approved plans in concurrence and consultation with appropriate regulatory agencies, regardless of whether the property is transferred or not. Necessary land use controls would be put in place to ensure protection of human health and the environment, and controls would be placed on parcels that are still under investigation and cleanup. For an NPL site, both USEPA and the state governor must concur on the early transfer approval. Early transfer cannot occur until the CERCLA guarantee (covenant) is explicitly deferred by USEPA and the state through the early transfer approval process. Once the transfer has occurred and the proposed remedy for the contaminated site is "operating properly and successfully," the Army shall provide the new owner with a written guarantee that all necessary response actions have been taken, regardless of whether the cleanup was conducted by the federal government or the new owner (USEPA 2014d).

In the long term, minor, adverse effects may occur because of redevelopment, as further discussed in Section 4.13.2.5. Hazardous waste generation and disposal that may occur during redevelopment and renovation activities in the long term are regulated under Oregon Hazardous

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Waste Management Regulations (OHWMR) and federal programs, thereby reducing effects on the environment. Renovation and demolition of older structures may also generate wastes containing ACM and LBP. Demolition activities that include ACM and LBP must adhere to OHWMR and federal regulations.

**Indirect.** Minor, long-term, adverse effects might occur, as further discussed in Section 4.13.2.5. Over the long term, depending on activities of future tenants, minor quantities of hazardous materials, such as cleaning products, fuels, and pesticides, would be required during the use of buildings and structures on the property. These materials and wastes would be expected to have limited effects on the site due to the limited quantities and use of these chemicals. Furthermore, the management of the use of these materials would be subject to federal, state, and local regulations.

### 4.13.2.2 Traditional Disposal Alternative

**Direct.** No short-term effects would be expected from traditional disposal methods because ongoing remediation programs would continue regardless of the alternative selected, as previously discussed. This alternative is similar to the early transfer alternative and would require the continuation of remedial and monitoring actions. The long-term remedies must continue to be monitored and shown to be operating properly and successfully. Until that determination is made by USEPA Region 10, the property cannot be transferred. In the long term, minor adverse effects might occur following disposal because of redevelopment and demolition activities, as further discussed in Section 4.13.2.5.

**Indirect.** Minor, long-term, adverse effects may occur, as further discussed in Section 4.13.2.5. Effects would be similar to those presented under the early transfer alternative; however, impacts would take place further in the future.

### 4.13.2.3 Caretaker Status Alternative

**Direct.** Minor, beneficial effects would occur. Investigative and remedial efforts would continue to occur during caretaker status. Storage and use of hazardous materials would decline to a minimal level. The decreased storage and use of hazardous substances would result in long-term, beneficial effects, relative to status quo operating conditions.

**Indirect.** Minor, adverse effects would be expected. ACMs, LBP, and PCB-containing fixtures are still located in structures. Renovations that would have otherwise taken place may not be initiated for facilities, resulting in long-term, adverse effects, relative to status quo operating conditions.

### 4.13.2.4 No Action Alternative

No direct or indirect effects are expected. Under the no action alternative, the Army would continue operations at UMCD similar to those planned prior to the 2005 BRAC Commission's recommendations for closure and realignment, including implementation of ongoing remedial programs required under CERCLA and RCRA (to include closure of the former UMCDF).

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.13.2.5 Reuse

**Medium-Low Intensity, Direct.** Minor, long-term, beneficial and adverse effects would be expected. Construction, demolition, and renovation activities may increase the potential for use, storage, transport, and generation of hazardous substances and hazardous wastes relative to baseline conditions, resulting in adverse effects. Increased renovation and demolition of buildings would remove ACM, LBP, or other hazardous substances from the environment, resulting in a beneficial effect. Under all circumstances, hazardous waste generation and disposal are carefully regulated under OHWMR and federal programs, thereby reducing effects on the environment. Necessary land use restrictions would be put in place to ensure protection of human health and the environment in accordance with regulatory agency requirements.

All of the former UMCDF buildings that had processed agent have been demolished per the UMCDF RCRA permit. The remaining buildings will be available for reuse. Minor effects would be expected within the CDA Wildlife Refuge Parcel, given that this area would be set aside for habitat conservation and limited economic development (e.g., PV solar-power-generation facility) in order to generate revenues to actively manage this area for wildlife conservation purposes. Herbicides and pesticides could be used sometime in the future on the CDA Wildlife Refuge Parcel or other CDA parcels, such as the agricultural parcel located in the southwest corner of the installation, for vegetation management or insect pest-control measures (e.g., reducing vegetation around solar PV panels or for invasive species control on the agricultural parcels in the southwest and northwest). Such activities would be conducted in keeping with application labels and habitat management goals. Limited use of herbicides and pesticides may result in minor, adverse effects because it involves the release of a hazardous substance to the environment with the potential for adverse effects (e.g., exposure to nontarget species). In any event, such uses would have a net benefit on biological resources (habitat and wildlife) in the area because these activities would be performed to further conservation goals, as further discussed in Section 4.8.2.

**Medium-Low Intensity, Indirect.** Over the long term, depending on activities of future tenants, minor quantities of hazardous materials, such as cleaning products, fuels, and pesticides, would be required during the use of buildings and structures on the property. These materials and wastes would be expected to have limited effects on the site due to the likely limited quantities and use of these chemicals. The management and the use of these materials would be subject to federal, state, and local regulations.

**Low Intensity, Direct.** Minor, long-term, beneficial and adverse effects would be expected. The effects would be similar to those described above for the MLIR scenario, but lower in intensity given that building intensity is approximately three times lower for the LIR scenario.

**Low Intensity, Indirect.** Minor, long-term, adverse effects would be expected. The effects would be similar to those described above for the MLIR scenario, but lower in intensity given that building intensity is approximately three times lower for the LIR scenario.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.14 CUMULATIVE EFFECTS

#### 4.14.1 Introduction

In this section, the cumulative effects of the proposed alternatives are identified. Cumulative impacts are those that result from the incremental effects of an action when considering past, present, or reasonably foreseeable future actions, regardless of agencies or parties involved. Cumulative impacts can result from individually minor, but collectively significant factors occurring over time.

The following section summarizes potential cumulative impacts for each action and within each resource area, as appropriate. For most resources, the ROI is the same as presented in the resource-specific consequences section. If different, the analysis area is specifically defined under each resource section. Cumulative impacts are considered for the 20-year period for implementing redevelopment at UMCD. The cumulative effects of disposal and reuse may include growth-inducing effects that may affect surrounding land use, population density, and related effects on the environment. This section also addresses the potential cumulative effects for all of the alternative actions in context of a larger spatial and temporal scale.

The regional population is projected to continue to grow in Umatilla and Morrow Counties. From 2000 to 2010, Umatilla County increased in population by 7.6 percent, and Morrow County increased by 1.6 percent (U.S. Census Bureau 2015a, b). According to the long-term county population forecast by the Oregon Office of Economic Analysis, the population of Umatilla County is expected to grow by approximately 30 percent between 2010 and 2035, a healthy average growth rate of nearly 1.2 percent annually (Oregon Office of Economic Analysis 2013). Similar to Umatilla, projected Morrow County population growth would be approximately 28 percent, or 1.1 percent per year, by 2035 (Oregon Office of Economic Analysis 2013). However, Oregon's agricultural-based population fluctuates widely due to seasonal effects with one-quarter of all employment related to the agriculture industry.

According to the Oregon Economic and Community Development Department, the economic status of Umatilla and Morrow Counties in 2005 was considered "severely distressed." This designation is due to the counties' unemployment rates, which were both higher (10.7 and 10.6, respectively) than the state average (7.1 percent) in 2005 (Institute for Water and Watersheds 2006, U.S. Bureau of Labor Statistics 2014). The closure of UMCD added to this decline, but at the ROI scale, UMCD was not a significant contributor to the regional economy, employing only 0.3 percent of the total ROI labor force (349 people in 2005 for military and civilian employees). Including contractor employees from the previous UMCD operations, UMCD employed 1,449 people, approximately 1.1 percent of the total ROI labor force. By 2014, unemployment rates improved in both counties (9.1 and 8.5 percent, respectively), yet it is still higher than the state average (7.7 percent) (U.S. Bureau of Labor Statistics 2014). In the future, cumulative, minor socioeconomic benefits that may occur would be contingent on the new tenants' ability to stimulate additional economic growth in the region. Once transferred, redevelopment of UMCD would continue to have long-term, beneficial economic effects on the surrounding economies through expenditures and local employment.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



The region's core economy is centered on agriculture, food processing, lumber, and livestock industries. From the early years of settlement to present day, Umatilla and Morrow Counties' economies have been supported largely by farming and ranching. In Umatilla, agriculture contributes about \$100 million in annual income and supports local food processing, transportation, trade, service employment, and payrolls. In Umatilla, food-manufacturing positions were down by 3.7 percent in 2012, and economists estimate that food-manufacturing jobs will fall in the long term. One of the reasons for the decline is due to recent greater international competition, which has kept inventories high and demand low.

Despite the recent decline, the agriculture industry continues to be a major economic contributor to the region, largely due to the connectivity of infrastructure; it is heavily dependent on Oregon's transportation system intersecting the region, with I-84 heading east to west, and I-82 traveling north into the Tri-Cities area of Washington. In addition to major highway transportation systems, the region has noteworthy water transportation facilities along the Columbia River and rail transportation services (Institute for Water and Watersheds 2006). This infrastructural advantage may also allow for employment shifts and business opportunities by other sectors in the future.

### 4.14.2 Cumulative Actions

The disposal of UMCD will result in the redevelopment of the CDA Parcel, and expanded and increased military training activities on the NGB Parcel. Although military training will continue as in the past, there is the potential for additional military training to be conducted in the future. Disposal may also result in public visitation to the Wildlife Refuge Parcel, as well as commercial, warehouse, and other industrial uses within the CDA Parcel that would increase the traffic flow in the area. The cumulative effects of the disposal and reuse may include growth-inducing effects as well as unrelated regional growth that may affect land use changes, population density, or growth rates, and related effects on air, water, and other natural systems.

Overall, UMCD reuse and redevelopment actions make up the largest proposed or planned development currently in the ROI. The large size of the property at UMCD likely exceeds the ROI's capacity to absorb the land for job-generating purposes. As a result, UMCD will be marketed to a larger set of end users who may not be in the ROI, but who would consider the site a positive business location.

The following planned and ongoing development projects and proposals are identified in the region:

- Limited development opportunities are within the Port of Umatilla with its four industrial parks (McNary, Pendleton, Westland and Hermiston Industrial Parks) and the Port of Morrow with its four industrial parks (South Morrow, Airport, East Beach, and Boardman Industrial Parks) (Port of Umatilla 2014, Port of Morrow 2013).



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- Renewable energy developments in the region that are being constructed or are in the planning stage including a methane digester, solar energy project, and several wind turbine farms. A solar facility is also a proposed reuse activity on or near the Wildlife Refuge Parcel.
- The Naval Weapons Systems Training Facility Boardman, located approximately 10 miles west of UMCD is proposing to increase training activities and airspace for the Navy and ORARNG, which includes developing ranges and facilities and introducing new weapons systems for testing and training (U.S. Navy 2012).

In particular, wind energy is an important component of renewable energy and emerging business growth opportunity for the region in meeting energy demand and economic development goals. The construction and operation of wind turbines can provide multimillion-dollar impacts on the economy, primarily through local expenditures, land lease payments, and property tax revenue. In Umatilla and Morrow Counties, there are numerous renewable wind energy projects in various stages of proposal, permitting, or approval or already in operation (Renewable Northwest Project 2014). In Umatilla County, there are twelve wind energy projects within approximately 30 miles of UMCD. In Morrow County, there are seven additional wind projects within approximately 30 miles of UMCD, and more wind projects further west. Approximately 5 miles south from UMCD, Three Mile Canyon has been operating since 2009 with 37 turbines and a 9.9-megawatt capacity. Adjacent is the Echo Windfarms, which has also been operating since 2009 with six turbines and a 64.5-megawatt capacity (Renewable Energy Project 2014). As the regional energy demand increases, wind energy will likely continue to provide a sustainable energy source and opportunities for economic development for the region.

The disposal and reuse of UMCD is not expected to reverse or halt the regional trend of development with other development projects in the region. The above regional setting has been taken into consideration collectively when evaluating cumulative effects as detailed in Section 4.14.3. Cumulative effects associated with GHG emissions and associated global climate change effects are addressed in Section 4.14.4.

### 4.14.3 Alternatives Overview

#### 4.14.3.1 Early Transfer Disposal Alternative

Under the early transfer disposal alternative, minor, beneficial, cumulative effects are anticipated for land use, aesthetics and visual resources, and socioeconomics. Minor, adverse, cumulative effects are anticipated for aesthetics and visual resources, air quality, noise, water resources, socioeconomics, and transportation, while moderate, adverse cumulative effects are anticipated for biological resources. Other than the effects associated with the proposed action as discussed in previous sections, no additional cumulative effects would be anticipated for geology and soils, cultural resources, utilities, or hazardous and toxic substances.

**Land Use.** Minor, long-term, beneficial, cumulative effects are anticipated for land use under the early transfer disposal alternative. Land use patterns in the area would be similar to existing patterns, and redevelopment would likely stimulate economic growth and enhanced quality of life in the community. The state of Oregon planning requirements directs development to

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



currently urbanized areas, such as within cities of Irrigon, Umatilla, and Hermiston. The area immediately surrounding UMCD is agricultural, and land use is not expected to change appreciably in the future. Economic growth and development is anticipated to occur in an orderly fashion, due to the requirements of Oregon state law.

The UMCD is located northeast of Naval Weapons Systems Training Facility Boardman. The proposed Boardman Northeast MOA would overlie the current NSA that is above UMCD. The UMCD NSA has a zone of surface to 5,000 feet, and is only "active" during emergencies; all other times it is a recommended no-fly area. The Boardman Northeast MOA is not a restricted area, so local aviators have the ability to transit the airspace when it is not active. Lands underneath the MOA would experience aircraft overflights associated with military aircraft during emergency operations. There would be a minor decrease in available airspace time for nonparticipating aircraft due to expansion of the proposed MOA.

**Aesthetics and Visual Resources.** Minor, short-term, adverse and long-term, minor, beneficial, cumulative effects are expected for visual and aesthetic resources under early transfer disposal. Minor, adverse effects are anticipated during the construction phase of projects in the region due to construction equipment, excavated materials, and dust and debris. In the long term, the natural landscape would be preserved on the Wildlife Refuge Parcel with protection and conservation of the natural vegetated habitat and visual quality. This may provide minor, long-term, beneficial effects to the general public in the region, if public access is permitted in the future.

**Air Quality.** Minor, long-term, adverse effects are expected because of increased activity at UMCD and in the region, including operational emissions and increased traffic flow. In addition, minor, short-term, adverse effects from dust, and exhaust emissions associated with demolition and construction vehicles are expected. These associated ozone precursor emissions would slightly contribute to area-wide and regional air quality conditions. Minor, long-term, adverse, cumulative effects would be expected because of increased activity at UMCD and regional population growth, including operational emissions and increased traffic flow. Disposal and reuse of UMCD, when added to the cumulative projects in the region, might also stimulate additional economic growth in the ROI over the long term, which could generate additional emissions from traffic and industry operations within the area.

**Noise.** Minor, long-term, adverse, cumulative effects are expected for the early transfer disposal alternative from increased traffic and construction noise in the region due to redevelopment, long-term induced economic development, and population growth

**Geology and Soils.** No additional cumulative effects are expected.

**Water Resources.** Minor, short- and long-term, adverse, cumulative effects may occur on groundwater, with negligible effects on surface water. Adverse effects would occur as a result of direct and induced economic growth and development that would generate increased construction, impervious surfaces, water usage, and wastewater discharge. However, the effects on water quality are expected to be local and negligible, because erosion- and sediment-control and other BMPs would routinely be employed during construction, demolition, and renovation activities, and because the impacts would be small and spread over a large area

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



over many years. In the long term, further development may adversely affect groundwater supplies by expanding the amount of water withdrawn from the aquifer beyond the existing level of water used at UMCD. With redevelopment, additional vehicles (which are potential sources of contaminants such as lubricants, coolants, and fuels) would increase the potential for contamination. Contaminants could leach downward via percolating water into the groundwater, especially if these activities occur close to a well. Likewise, additional use of fertilizers, pesticides, and herbicides, and increased warehouse and industrial activities, could also contribute to an increase in groundwater contamination loads.

**Biological Resources.** Moderate, short- and long-term, adverse, cumulative effects are expected to occur because of early transfer. Redevelopment could result in moderate, adverse impacts on high quality habitats and associated ecological communities (e.g., bitterbrush shrub-steppe habitat) that were once regionally widespread. Redevelopment may stimulate additional economic growth that contributes to additional habitat loss within Umatilla and Morrow Counties.

Use of the NGB Parcel by the ORARNG may lead to more intensive military uses of this parcel at some time in the future. Construction of a formal Intermediate Training Complex could result in additional habitat loss and adverse impacts on associated biological communities within the NGB Parcel.

More frequent and company-sized training exercises could result in recurrent, localized disturbances of wildlife and declines in habitat quality on the NGB Parcel. Development of an ORARNG natural resource management plan for the area would assist in the reduction of impacts on native ecological communities and likely support implementation of management programs similar to the existing UMCD INRMP. In addition, establishment of hardened trails, restrictions of off-road activities, and habitat restoration would further mitigate adverse effects.

**Cultural Resources.** No additional cumulative effects are expected.

**Socioeconomics.** Minor, short-term, adverse and long-term, minor, beneficial effects would be expected. Immediately following closure but prior to construction and reuse, the ROI will experience a loss of jobs and expenditures. However, the early transfer of UMCD would enable immediate initiation of redevelopment activities that would result in immediate employment opportunities and expenditures associated with reuse. These would also result in induced employment creation, increased local sales volume, possible economic diversification, and expansion of the tax base in the local and regional economies. Local social service infrastructure may experience adverse impacts from an increase in local area to cover, including fire protection services.

**Transportation.** Minor, long-term, adverse cumulative effects are expected near UMCD because of the early transfer disposal alternative. Following property transfer, future changes in ORARNG training may increase the number and frequency of ORARNG soldiers traveling to the area for training. This activity, along with regional projects and population growth, could result in additional economic growth in the region, generating additional industrial and commercial traffic, as well as increased maintenance requirements on road networks. Road networks are currently operating well below their design capacities; therefore, only minor cumulative effects are expected. CDA has identified future interchange improvements to address access to UMCD.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Short-term projects would improve Lamb Road and the Army Depot Access Road (CDA 2014a, b). Long-term projects over the next 20 years would lengthen and realign the I-82 and I-84 on- and off-ramps accessing the UMCD site (CDA 2014a, b, c). Full build-out of these interchanges would alleviate traffic congestion and improve traffic safety for people accessing UMCD sites in the future.

**Utilities.** No cumulative effects are expected.

**Hazardous and Toxic Substances.** Minor short-term and long-term cumulative effects are expected. Following property transfer, future changes in ORARNG training may increase the use and generation of hazardous substances and wastes. In addition, expanded economic development and industrial operations may generate additional industrial support services and businesses that may use and generate hazardous substances and wastes. This may result in short-term and long-term cumulative adverse effects when added to redevelopment activities within the CDA Parcel.

### 4.14.3.2 Traditional Disposal Alternative

Under the traditional disposal alternative, cumulative impacts would be very similar to those described above for the early transfer disposal alternative, but would occur further into the future.

### 4.14.3.3 Caretaker Status

Under caretaker status, minor, long-term, beneficial, cumulative effects would occur on land use, aesthetics and visual resources, air quality, noise, water resources, transportation, and utilities. Reduced facility operations would result in decreases in mission activities, resulting in decreased air quality emissions from vehicle trips and industrial operations, reduced water usage, and reduced wastewater generation within the watershed and region. On the other hand, reduced management of shrub-steppe habitat, grasslands, and invasive species would result in minor, adverse, cumulative effects on biological resources, because the habitat may be more subject to fire hazards and invasive species impacts. Regionally, these habitats have diminished and additional developments in the ROI may further reduce acreage in the future. With respect to economic development, caretaker status would result in minor, adverse, cumulative effects within the ROI, because job loss and decreased expenditures associated with closure would have some effect on the overall economy and economic development. This reduction would in turn result in long-term, minor, beneficial, cumulative effects on transportation and utilities, as demand would decrease slightly within the region.

### 4.14.3.4 No Action Alternative

The no action alternative would result in no cumulative effects. Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure and realignment. Therefore, no effects would occur relative to continuation of the Army's mission and conditions in November 2005.

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 4.14.3.5 Reuse

Following property disposal, adverse, cumulative effects would generally become greater as the intensity of reuse becomes greater. In general, minor, adverse, cumulative effects would be anticipated for air quality, noise, biological resources, water resources, transportation, and aspects of land use and socioeconomics. Minor, long-term, beneficial, cumulative effects may occur for aesthetics and visual resources, air quality, and aspects of land use, water resources, and socioeconomics. No changes in cumulative effects would be anticipated for geology and soils, cultural resources, utilities, or hazardous and toxic substances. Cumulative effects that would take place under the LIR and MLIR scenarios are minor with the exception of biological resources, where moderate, adverse effects could occur.

**Land Use.** Under the reuse scenarios, minor, long-term, beneficial and adverse, cumulative effects are expected. Under reuse, the intensity of redevelopment would be above the current use of the property. Development of the LIR as well as MLIR scenarios would likely involve an increase of development and investment capital in the ROI. Implementation of the UMCD Redevelopment Plan may stimulate further development and alteration of land use in the area that could support economic growth and enhanced quality of life in the community. New development in the region would be regulated and guided to previously developed areas by Oregon State law and county zoning regulations. The proposed redevelopment would also likely have the effect of better integrating the property at UMCD into surrounding communities, because the proposed industrial/warehousing, business, and commercial uses associated with redevelopment would be more consistent with land uses in nearby communities, such as Irrigon, Hermiston, and Umatilla, than past ammunition storage and associated operations. Furthermore, the proposed redevelopment in combination with other new development projects in the ROI would comply with Morrow and Umatilla Counties' long-range planning for the area.

Minor, adverse effects could be expected under the LIR and MLIR reuse scenarios because the intensity of development could be higher overall than in surrounding communities. The level of employment represented by the LIR and MLIR scenarios would not be consistent with the levels of employment in nearby communities, such as Irrigon, Hermiston, or Umatilla, for example. While the existing regional labor market would be able to supply some of the employees represented by this projection, it is likely that other employees would commute or relocate to the area.

**Aesthetics and Visual Resources.** Minor, long-term, beneficial, cumulative effects are expected on aesthetics and visual resources due to implementation of either the LIR or MLIR reuse scenarios. As redevelopment occurs on UMCD, the open landscapes provided by the Wildlife Refuge Parcel and agricultural lands surrounding the UMCD are not expected to change due to requirements of the UMCD Redevelopment Plan, Oregon State law, and county zoning regulations. In the long term, the natural landscape would be largely preserved on the Wildlife Refuge Parcel, with protection and conservation of the natural vegetated habitat and visual quality. This may provide minor, long-term, beneficial effects to the general public in the region, if public access is permitted in the future. Minor, adverse effects are anticipated during the construction phase of projects in the region due to construction equipment, excavated materials, and dust and debris.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Air Quality.** Minor, long-term, adverse, cumulative effects are expected for either the LIR or MLIR reuse scenarios. Cumulative air quality impacts could occur when multiple projects affect the same geographic area at the same time or when sequential projects extend the duration of air quality impacts on a given area over a longer period. Air pollutant emissions associated with engine exhaust from construction equipment and vehicles would slightly contribute to area-wide and regional air quality conditions. These cumulative effects are expected to be minor, considering that the air quality status of the region as an attainment area for air emissions, and that any new sources would be regulated and permitted by ODEQ. Disposal of UMCD may also stimulate economic growth in the region, which could generate additional emissions from traffic and industry operations within the ROI.

**Noise.** Minor, long-term, adverse, cumulative effects are expected due to implementation of either of the reuse scenarios. These effects would be due to increases in employment and corresponding commuter traffic and delivery trucks associated with redevelopment and economic development that may be induced within the immediate vicinity of the property and surrounding area. Cumulative effects can be avoided through proactive acoustical engineering during the planning stage. Noise from construction and Military Training could also result in some disturbance to wildlife in the adjacent Wildlife Refuge Parcel. At the same time, wildlife often habituate to sounds that have no biological significance to their survival, and any disturbance would be expected to be transitory.

**Geology and Soils.** No cumulative effects are expected.

**Water Resources.** Minor, long-term, adverse and beneficial, cumulative effects are expected under either the LIR or the MLIR reuse scenarios on groundwater, with negligible effects on surface water. These effects would occur because of direct and induced economic growth and development that would generate increased construction, impervious surface, water usage, and wastewater discharge. Economic market forces generated by reuse would increase further infrastructure and development off the installation, thereby adding to the level of impervious surfaces within the watershed. Given the rural nature of the region, increases in impervious surface would have only a negligible, adverse effect on recharge. In the long term, further development and population growth in the ROI may adversely affect groundwater supplies by expanding the amount of water withdrawn from the aquifer beyond the existing level of water used at UMCD and surrounding areas. With redevelopment, additional vehicles (which are potential sources of contaminants, such as lubricants, coolants, and fuels) would increase the potential for groundwater contamination. Contaminants could leach downward via percolating water into the groundwater, especially if these activities occur close to a well. Likewise, additional use of fertilizers, pesticides and herbicides, and increased warehouse and industrial activities, could also contribute to an increase in groundwater contamination loads.

**Biological Resources.** Moderate, short- and long-term, adverse, cumulative effects are expected to occur due to implementation of either the MLIR or LIR reuse scenario. Redevelopment, along with regional projects and growth, could result in moderate, adverse effects on high quality habitats and associated ecological communities (e.g., bitterbrush shrub-steppe habitat) that were once regionally widespread. Economic growth within the redevelopment area may stimulate additional housing and commercial development in the



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



region outside of the CDA Parcel, which would likely contribute to additional regional habitat loss. The preservation of the majority of the largest regional remnants of high quality shrub-steppe habitat may also facilitate a trade-off to pursue future commercial and industrial development of shrub-steppe habitat elsewhere in Umatilla and Morrow Counties. Affected shrub-steppe habitats would be expected to be predominately of lower quality and smaller patch-size than present on UMCD.

**Cultural Resources.** No cumulative effects are expected.

**Socioeconomics.** Minor, short-term, adverse and minor, long-term, beneficial effects would be expected. Immediately following closure but prior to construction and reuse, the ROI will experience a loss of jobs and expenditures. The LIR and MLIR scenarios would result in minor increases in new job creation, local sales volume, possible economic diversification, and expansion of the tax base in the local and regional economies. All socioeconomic impacts during the peak construction year(s) are predicted to be within historical thresholds for socioeconomic change and sustainability in the ROI. Local social service infrastructure may experience adverse impacts from an increase in local area to cover, fire protection in particular.

In addition to UMCD closure and reuse, loss of contractor jobs from the closure of UMCD would result in further losses of jobs, income, sales volume, and local population (see Section 4.10 for further discussion). The effects of these additional job losses are also predicted to fall within historical socioeconomic thresholds in the ROI.

**Transportation.** Minor, long-term, adverse, cumulative effects are expected near UMCD due to implementation of either the LIR or the MLIR reuse scenarios. Future changes in ORARNG training may increase the number and frequency of ORARNG soldiers traveling to the area for training. This activity, along with regional projects and population growth, could result in additional economic growth in the region, generating additional industrial and commercial traffic, as well as increased maintenance requirements on road networks. Road networks are currently operating well below their design capacities; therefore, only minor, cumulative effects are expected. Furthermore, CDA has identified future interchange improvements to address access to UMCD. Short-term projects would improve Lamb Road and the Army Depot Access Road (CDA 2014a, b). Long-term projects over the next 20 years would lengthen and realign the I-82 and I-84 on- and off-ramps accessing the UMCD site (CDA 2014a, b, c). Full buildout of these interchanges would alleviate traffic congestion and improve traffic safety for people accessing UMCD sites in the future, particularly under the MLIR reuse scenario.

**Utilities.** No cumulative effects are expected.

**Hazardous and Toxic Substances.** Minor short-term and long-term cumulative effects are expected. Cumulative effects would be similar to those for the Early Transfer Alternative.

### 4.14.4 Greenhouse Gases and Global Climate Change

The greenhouse effect is the result of heat absorption by certain gases in the atmosphere (called greenhouse gases, or GHGs, because these trap heat in the lower atmosphere) and reradiation downward of some of that heat. Water vapor is the most abundant GHG, followed by

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



carbon dioxide (CO<sub>2</sub>) and other trace gases. Human activity has been increasing the concentration of GHGs in the atmosphere (mostly CO<sub>2</sub> from combustion of coal, oil, and gas, plus a few other trace gases). The global concentration of CO<sub>2</sub> in our atmosphere today far exceeds the natural range over the last 650,000 years. Global surface temperatures have increased about 0.74 degrees Celsius (°C) (plus or minus 0.18°C) since the late-nineteenth century, and the linear trend for the past 50 years of 0.13°C (plus or minus 0.03°C) per decade is nearly twice that for the past 100 years (National Oceanic and Atmospheric Administration 2015).

The proposed action, the disposal of property by the Army, would have no effect on GHG emissions or global climate change directly. However, the secondary action, the reuse of UMCD by others, would emit GHG to the earth's atmosphere from vehicles and other associated emissions resulting from redevelopment of UMCD. The reuse by others also would result in the removal of some vegetation, which could otherwise absorb CO<sub>2</sub>. Cumulatively, the proposed disposal and reuse of UMCD could increase CO<sub>2</sub> emissions due to reductions in vegetation cover, additional energy generation associated with energy service needed for redevelopment, and additional vehicles associated with redevelopment. Nonetheless, only some of these cumulative emissions would represent a net increase in global GHG emissions, as many of these emissions already take place at UMCD. All of the new emissions are associated with the redevelopment of the property by others. The carbon emissions associated with UMCD's operations ceased with the installation's closure.

It is estimated that redevelopment would generate a cumulative total emissions net increase of 0.02 to 0.13 million tons of CO<sub>2</sub> equivalents (tCO<sub>2</sub>eq) per year relative to the no action alternative, depending on the eventual intensity of redevelopment at UMCD at full buildout. These emissions levels represents a very small portion of the total estimated emissions for the entire state of Oregon of 43.5 tCO<sub>2</sub>eq/year released, as estimated by the USEPA (2007). Overall, it is estimated that redevelopment at full build-out would increase state-level CO<sub>2</sub> emissions by 0.05 to 0.3 percent above baseline conditions. Therefore, the net change of GHG concentration in a regional and global context is insignificant.

It is important to place any potential carbon emissions associated with the proposed action in the context of UMCD's participation in the federal government's overall plan to reduce carbon emissions. EO 13693 (*Planning for Federal Sustainability in the Next Decade*), states a goal of at least a 40 percent reduction in direct GHG emissions from federal agencies and activities through fiscal year 2025, relative to the baseline year of fiscal year 2008. The U.S. Army Energy Strategy for Installations also contains strategies to reduce energy waste and improve efficiency. Although UMCD is closed, part of its missions have transferred to other installations that will need to comply with EO 13693.

It is likely that the redevelopers of the property will embrace similar goals, as USEPA's policies and regulations associated with Corporate Average Fuel Economy (CAFE) and other standards, as well as the country's movement away from dependence on foreign oil, and increasing reliance on sustainability and renewable sources, would result in reduction of energy waste and improved energy efficiency.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



According to USEPA's Office of Air and Radiation (Meyer 2008):

To date, research on how emissions of CO<sub>2</sub> and other GHGs influence global climate change and associated effects has focused on the overall impact of emissions from aggregate regional or global sources. This is primarily because GHG emissions from single sources are small relative to aggregate emissions, and GHGs, once emitted from a given source, become well mixed in the global atmosphere and have a long atmospheric lifetime. The climate change research community has not yet developed tools specifically intended for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source, and [USEPA is] not aware of any scientific literature to draw from regarding the climate effects of individual, facility-level GHG emissions.

Current measurements and modeling can observe and verify warming at global to continental scales. Climate, and correspondingly environmental, impacts, are observed on a local level, but cannot be modeled at this time using existing models. It is currently beyond the scope of existing science to connect a specific source of GHG emissions with specific climate impacts at an exact location (Myers 2008). Based on the limitations on available science in determining environmental impacts from a single source of additional GHG emissions, any such impacts from the proposed action cannot be determined with scientific confidence.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### **4.15 MITIGATION AND MANAGEMENT MEASURES**

The Army's methodology is to create encumbrances to protect specific resources only when required by a specific statute or because of final agreements with regulatory agencies. For example, CERCLA Section 120 requires deeds to include a right of the federal government to re-enter the property to undertake required remedial action. In other cases, statutes may impose restrictions on all owners. In such cases, a specific encumbrance is not required. A deed restriction runs with the land forever, or until removed in accordance with its own terms.

Federal, state, and local regulations and policies applying to entities that receive properties at UMCD will govern to a large extent the appropriate use and conservation of the environment, including air quality, wetlands resources, water quality, cultural resources, and other resources. Beyond such regulations and policies, mitigation and management measures may be implemented by the Army or the CDA in order to manage the disposal and redevelopment of UMCD successfully according to the principles of sound and sustainable planning, as outlined below.

Specific deed notification and restrictions may be required of the Army and the CDA, in keeping with the assumptions of this EA, along with mitigation and management measures that will ensure successful management of environmental resources according to the principles of sound environmental planning. These are outlined below for each scenario.

#### **4.15.1 Army Obligations in the Programmatic Agreement**

Army obligations fully described in the PA (Appendix B of this EA) are considered mitigations required under the NHPA. These mitigation measures are as follows:

- Consistent with the NHPA and PA, complete an architectural inventory and a Properties of Religious and Cultural Significance survey for the entire installation, and conduct an archaeological survey on the parcels that are leaving federal control. These surveys were completed. Two historic period archaeological sites were identified and recommended as eligible for listing on the NRHP. These are historic wagon routes that are significant cut-off routes from Cottonwood Bend on the Umatilla River to Irrigon and Boardman, Oregon. Two isolated finds were also located and are likely NRHP-eligible. Additional archaeological investigations at these two finds were recommended. The CTUIR conducted a survey for areas of religious and cultural significance. The architectural inventory was completed and identified as an historic district with a period of significance of 1941-1965. The CTUIR survey identified Traditional First Foods within the project area in particular within the Coyote Coulee area. The Coyote Coulee area and resources are perceived as an individual historic property considered NRHP eligible. Other sacred locations are also identified within the CDA Parcel project area especially in the northeast corner.



## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- For NRHP-eligible archaeological sites to be transferred out of federal control, consult with the Oregon SHPO and the CTUIR to determine appropriate mitigation measures. For NRHP-eligible Properties of Religious and Cultural Significance to be transferred out of federal control, consult with the CTUIR and the Oregon SHPO to determine appropriate treatment measures. For NRHP-eligible aboveground historic properties, mitigation will be conducted, in accordance with the terms of the PA and NHPA.

Future NHPA compliance for UMCD lands transferred to another federal agency will be the responsibility of the receiving agency.

### 4.15.2 Early Transfer/Traditional Transfer Alternatives

Beyond the mitigation requirements specified in the PA, the Army will implement appropriate management measures to fulfill obligations pertaining to Army policy and regulations for the disposal of property, and may implement additional mitigation to avoid, reduce, or compensate for adverse effects that might occur as a result of early transfer or traditional disposal, outlined as follows:

- Develop sample conveyance documents that would notify future owners of particular requirements concerning natural and cultural resources in accordance with Army regulations and guidance. These documents would also identify past hazardous substance activities at each site, as required by CERCLA and CERFA, including restrictions on land use.
- Continue remediation actions as prioritized by the Army, completing all required remediation prior to traditional disposal.
- Until final disposal, maintain installation buildings, infrastructure, and natural resources to the extent provided by Army policy and regulations.
- Manage the property to ensure that the federal facility remains in compliance with federal laws and regulations.
- The RCRA permit and the Federal Facility Agreement (FFA) will impose additional mitigations designed to protect human health. As a component of remedy implementation, the Army may restrict certain types of future land use, impose institutional controls, or take other actions affecting land use to protect human health and the environment. Such restriction would be included in conveyance documents for federal property on future land use. Besides including the UMCDF and at least some of the lands upon which the storage igloos are situated, it will also include the Active Landfill OUs, and that portion of the RDX groundwater plume that crosses from the EWL across Coyote Road onto the CDA Parcel. In addition, the Army will be required to conduct 5-year reviews on the Active Landfill OU and on the RDX groundwater plume until it achieves cleanup both on the CDA Parcel and the NGB Parcel.

## **AFFECTED ENVIRONMENT AND CONSEQUENCES**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### **4.15.3 Caretaker Status Alternative**

Beyond the mitigation requirements specified in the PA, the Army will implement appropriate management measures to fulfill obligations pertaining to Army policy and regulations relative to caretaker conditions, and may implement additional mitigation to avoid, reduce, or compensate for adverse effects that might occur as a result of early transfer or traditional disposal, outlined as follows:

- Conduct installation security and maintenance operations to the extent provided by federal policies and regulations.
- Continue to identify clean or remediated portions of the installation excess properties, and prioritize restoration and cleanup activities.
- Recycle solid waste and debris, where practicable.
- Continue remediation actions as prioritized by the Army.
- Maintain necessary natural and cultural resources management measures, including continued close coordination with other agencies.
- Actively support the leasing of property over the interim period between closure and redevelopment, where environmental restoration efforts permit, to provide for job creation, habitation, and maintenance of structures, and rapid reuse of the installation.
- Allow USFWS and ODFW access to pursue wildlife management and research objectives established in previous partnerships.
- Continue maintenance of wildlife water devices to minimize potential impacts on wildlife.

### **4.15.4 No Action Alternative**

Under the no action alternative, the Army would continue operations at UMCD at levels similar to those occurring prior to the BRAC Commission's recommendations for closure. This continuation of operations would include the continuation of the Army's obligations as stewards of environmental and cultural resources, as required by federal laws, policies, and EOs. Thus, no changes to existing effects would occur relative to continuation of the Army's mission, relative to conditions in November 2005. Implementation of this alternative is not possible, however, because the BRAC closure recommendations have the force of law.

### **4.15.5 Reuse**

Following property disposal, non-Army entities would assume redevelopment planning and execution of redevelopment actions. Measures to reduce or avoid impacts associated with intensity-based reuse scenarios, including specific mitigation measures, except for those related to federally protected interests, remediation, or other Army concerns, are not the responsibility

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



of the Army, but are the responsibility of those who are redeveloping the property. As previously discussed, the Army would implement cultural resources identification and mitigation measures specified in the PA. The Army would mitigate adverse impacts on cultural resources in accordance with the PA, as shown in Appendix B and summarized in Section 4.15.1. Potential mitigation measures for other resources that may be implemented by non-Army entities to reduce adverse effects are discussed in Sections 4.2 through 4.13, as appropriate. An overview of the potential mitigation measures that may be implemented by non-Army entities are outlined below, along with an assessment of the likelihood of implementation (presented in brackets below).

- *Land Use.* Adverse effects associated with development of the properties at UMCD to a level of intensity equal to LIR or MLIR could be at least partially reduced through sound planning and design, and creation of appropriate buffer zones. County officials have already put new land use zoning mechanisms in place to provide for orderly growth throughout the ROI. Morrow County has developed zoning ordinances for UMCD reuse areas that fall within the county, including a military zone for the land to be used by the ORARNG, a wildlife habitat zone for the land to be used as a wildlife/habitat conservation area, and a limited use overlay zone for the land that will be used as industrial areas. Morrow County also has designated a Umatilla Army Depot Transition Zone for the areas designated as Phase I and VI development. Umatilla County has integrated the UMCD reuse areas into its Comprehensive Plan (last revised 3 December 2014) to allow for zoning exceptions surrounding the reuse of the site, and establishing zones designated Depot Industrial, Umatilla Depot Refuge, and Umatilla Depot Military to coincide with planned reuse of the site.
- *Air Quality.* The permit process established by the Clean Air Act provides effective controls over potential stationary air emission sources. Additional mechanisms, such as BMPs to control fugitive dust during construction and demolition, could be used to control airborne contaminants. Adherence to permit limits would ensure that only minor, adverse, direct effects on air quality would result from reuse activity. [*Implementation:* Beyond permitting requirements, implementation of additional mitigation is uncertain.]
- *Geology and Soils.* Conservation of farmland soils and continuation of agricultural areas will ensure long-term protection of this valuable resource. Relative to construction activities, disturbance of erodible soils should be avoided wherever possible. Should soil be disturbed, erosion-control measures should be implemented. The requirement for geotechnical studies prior to construction could also result in fewer potential impacts. Construction largely within previously disturbed and developed areas will reduce impacts to farmland soils and reduce soil disturbance. [*Implementation:* Beyond adherence to permitting and regulatory requirements, implementation is uncertain.]
- *Water Resources.* Application of BMPs could aid in reducing effects on water quality. Construction of stormwater retention systems could help mitigate impacts associated with stormwater runoff from impervious surfaces. Business operational practices designed to reduce potential effects on water resources, such as measures to prevent the release of engine oil into storm drains, or oil/water separators built into the storm

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



drains, could also be implemented at the installation properties during and after redevelopment. [*Implementation:* Beyond adherence to permitting and regulatory requirements, implementation is uncertain.]

Aquifer recharge projects being proposed may provide needed groundwater carrying capacity to support planned redevelopment and agricultural practices. For example, the NOWA has proposed three regional projects using existing pump stations on the Columbia River that would pump water from the Columbia River to supply regional agricultural water needs, as further discussed in Section 4.12.2. Of these three projects, the one identified as the "Central Project" is the furthest along and would most likely be the first project built with particular relevance to the BRAC disposal parcel. In a NOWA Concept Memo released July 30, 2015, the NOWA concluded that the Central Project "provides enough delivery capacity to recharge to meet all potable and non-potable needs of the entire developable acreage of the depot (property)."

- *Biological Resources.* Disposal could result in the loss of remnant high-quality communities and historically important communities that once were widespread across the region. Several conservation measures are recommended to preserve this habitat.
  - *Establish Habitat Conservation Areas.* The UMCD Redevelopment Plan proposes the establishment of a 5,700-acre Wildlife Refuge Parcel for the preservation of bitterbrush shrub-steppe habitat. This area would be primarily managed for the conservation, enhancement, and possible nonconsumptive recreational use (e.g., bird watching, hiking, nature photography) of this habitat. To ensure long-term protection, both Umatilla County and Morrow County have established zoning for the Wildlife Refuge Parcel including regulations for solar energy development. Outside of the refuge area, development footprints should avoid bitterbrush shrub-steppe habitats to the maximum extent practical. It is recommended that restrictive conservation covenants or lease restrictions be developed for larger patches of bitterbrush shrub-steppe habitat within the Industrial/Unrestricted and Highway Commercial/Industrial parcels to encourage development siting to avoid sensitive habitats. Provided the limited extent of site development, there is sufficient opportunity to accomplish both the development and habitat conservation goals outlined within the UMCD Redevelopment Plan. [*Implementation:* Conservation of sensitive shrub habitat is very likely to occur, given commitments made in the Redevelopment Plan.]
  - *Special Status Species Protection.* No federally listed species are currently known to occur within the project area. Potential impacts on habitat utilized by SOC's can be minimized or avoided by conducting project level surveys prior to initiating any site-clearing activities. Impacts on bird SOC's and BCC's can be minimized by avoiding habitat disturbance during the breeding season. All abandoned structures should be surveyed for bat colonies prior to initiating demolition activities during the breeding season. [*Implementation:* Implementation is uncertain.]

## AFFECTED ENVIRONMENT AND CONSEQUENCES

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- *Invasive Species Control.* In accordance with state law and sound habitat management principals, future landowners should take steps to eradicate invasive species. [*Implementation:* Implementation is very likely given state requirements.]
- *Natural Resource Management Planning and Implementation.* Development of a landscape scale natural resources management plan and implementation program would reduce adverse effects on sensitive habitat, SOCs, vegetation communities, wildlife, cryptobiotic soils, reduce invasive species risks, and reduce wildfire risks. As part of this plan, it is recommended that (1) hardened trails are established within the Wildlife Refuge Parcel to reduce off-trail foot traffic; (2) off-road vehicle usage is restricted; (3) impaired habitats are restored; and (4) avian SOC nest monitoring and protection measures be continued. [*Implementation:* Implementation is uncertain.]
- *Utilities.* Renovation and upgrades of utility systems will minimize potential for service disruptions and increase carrying capacity, including modernization of the water distribution and storage system, replacement of and upgrades to sewer lines, construction of stormwater systems in areas with high impervious surface area, upgrades to the electrical distribution system, and evaluation and installation of energy efficiency systems and application of green building and Leadership in Energy and Environmental Design (LEED®) designs to reduce energy consumption and increase energy efficiency.

It is the intent of the Army to transfer a portion of its water rights with the CDA Parcel but an agreement has not been finalized. As previously discussed, application of aquifer recharge projects may be used to provide ample water supply to the CDA parcel for both industrial and irrigation purposes, as further discussed in Section 4.12.2.



## **FINDINGS AND CONCLUSIONS**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## **5 FINDINGS AND CONCLUSIONS**

### **5.1 INTRODUCTION**

This EA has been prepared to evaluate the potential effects on the natural and human environment from the disposal and subsequent reuse of surplus property at UMCD consisting of approximately 9,555 acres. The primary action is disposal with four alternatives considered, including early transfer disposal, traditional disposal, caretaker status, and the no action alternative. The secondary action is reuse with two reuse scenarios (LIR, MLIR) that provide the boundaries for the intensity of redevelopment that may occur upon full-build out of the UMCD Redevelopment Plan. The following sections provide the findings and conclusions of this EA.

### **5.2 FINDINGS**

The following subsections summarize the potential effects on the human and natural environment resulting from implementation of each type of action (i.e., disposal, no action, and reuse). Resource areas for which no effects were identified are not discussed. The effects among the early transfer, traditional disposal, and caretaker alternatives are very similar. With proper adherence to deed restrictions and legal requirements, there are no potentially significant environmental effects from implementing any of the intensity-based reuse scenarios or the no action alternative. Negotiated terms of transfer or conveyance for UMCD historic properties not previously mitigated by the Army will result in a requirement for the new owner to consult with the Oregon SHPO prior to undertaking any actions that could adversely affect those resources.

In general, environmental effects are characterized as negligible, minor, moderate, or significant and beneficial and adverse effects. For context in the discussion of findings that follows, significance is defined in 40 CFR 1508.27, and conditions requiring an EIS (which imply significant adverse effects on environmental resources may be found) are specified in Army regulations 32 CFR 651.4. Significant adverse effects include, among others, violation of a federal or state law or permit. A negligible effect is not easily detectable and is very minor. A minor effect is a slight impact that is detectable and that may be naturally restored or easily minimized. A moderate effect is an impact that is readily apparent and may not be naturally restorable, but is below a level of significance; moderate effects may be reduced by mitigation or BMPs.

#### **5.2.1 Consequences of the Early Transfer Disposal Alternative**

For early transfer disposal, the results of the analysis found that minor, adverse effects would occur for all resource areas. Most of these effects are considered short term. Minor-to-moderate, adverse effects would occur for biological resources and cultural resources. Minor, beneficial effects would occur for land use, aesthetics and visual resources, noise, utilities, and transportation. Minor-to-moderate beneficial effects are expected for socioeconomics. Adverse effects may be reduced if mitigation measures are incorporated when the UMCD Redevelopment Plan is implemented, as outlined in Section 4.15.

## FINDINGS AND CONCLUSIONS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 5.2.2 Consequences of the Traditional Disposal Alternative

For traditional disposal, similar effects described for the early transfer disposal alternative would occur, but may occur further into the future as transfer and redevelopment may be delayed due to remediation activities.

### 5.2.3 Consequences of the Caretaker Status Alternative

For the caretaker status alternative, minor, adverse impacts were found for land use, aesthetics and visual resources, biological resources, cultural resources, socioeconomics, utilities, transportation, and hazardous and toxic substances. Some minor, beneficial effects would also occur for land use, air quality, noise, groundwater, biological resources, transportation, and hazardous and toxic substances. Soils would experience negligible, adverse effects.

### 5.2.4 Consequences of the No Action Alternative

Implementation of this alternative would result in no beneficial, adverse, or cumulative effects.

### 5.2.5 Consequences of the Reuse

Direct, indirect, and cumulative effects of the two reuse scenarios evaluated also have the potential for a variety of adverse and beneficial, and short-term and long-term effects.

Within the UMCD Redevelopment Plan, the following four goals were developed with public involvement:

- achieving highest and best use of UMCD's industrial areas (including the Industrial/CDA Demil Area or the former UMCDF)
- enhancing military training activities by ORARNG
- preserving (and possibly restoring) UMCD's extensive shrub-steppe plant and animal communities
- protecting Native American sacred sites and significant historical sites present at UMCD

Present development intensity on the CDA Parcel alone (not including the Wildlife Refuge or NGB parcels), includes a total floor area of all buildings of approximately 1.5 million SF over 3,914 acres. After property transfer and full build-out, development intensity outlined in the UMCD Redevelopment Plan was assumed to result in a development density that is similar to current conditions or up to three times the current development density. The LIR and MLIR scenarios are intended to provide the boundaries for the reasonable long-term redevelopment of UMCD as foreseen in the Redevelopment Plan.

**Medium-Low Intensity Reuse.** Effects related to reuse are more noticeable under the MLIR scenario than under the LIR scenario. This represents development intensity up to three times the current site development density. Reuse of the installation for the MLIR scenario would

## FINDINGS AND CONCLUSIONS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



result in effects similar to and more intense than under the LIR scenario, given the increase in development density. Minor, adverse effects are expected on all resource areas. For biological resources and cultural resources, minor-to-moderate, adverse effects are expected. Minor, beneficial effects would also occur for land use, aesthetics and visual resources, noise, transportation, utilities, and hazardous and toxic substances. In addition, minor-to-moderate, beneficial effects are expected for socioeconomics.

**Low Intensity Reuse.** The LIR scenario for UMCD represents a development intensity that is commensurate with the existing density at the installation. It represents a mixture of conservation, industrial, commercial, storage, and agricultural uses. The results of the analysis of environmental and socioeconomic effects generally found overall minor, adverse, impacts on all resource areas. Minor-to-moderate, adverse impacts would occur in the context of cultural resources. Beneficial effects on land use, aesthetic and visual resources, noise, socioeconomics, transportation, utilities, and hazardous and toxic substances would occur.

### 5.3 CONCLUSIONS

Analyses in this EA show that implementation of the proposed action, disposal, and redevelopment of federal property at UMCD, and the alternatives would not result in significant adverse environmental effects. Redevelopment of UMCD would also result in minor, adverse and beneficial effects on socioeconomics. Therefore, an EIS is not required prior to implementation of the proposed action, and issuance of a FNSI is appropriate

A Notice of Availability of the EA and Draft FNSI will be published in the *East Oregonian* and *Hermiston Herald* inviting the public and all interested or affected parties to provide comments during the 30-day review period of this EA and Draft FNSI. This EA is available for review on the Web at [http://www.hqda.pentagon.mil/acsimweb/brac/public\\_reviews.html](http://www.hqda.pentagon.mil/acsimweb/brac/public_reviews.html), as well as at public libraries in Hermiston, Umatilla, Boardman, and Heppner, Oregon.

## **FINDINGS AND CONCLUSIONS**

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Umatilla Chemical Depot, Oregon

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Umatilla Chemical Depot, Oregon



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Umatilla Chemical Depot, Oregon

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Environmental Assessment for Disposal and Reuse of  
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Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## ACRONYMS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## 10 ACRONYMS

°C degrees Celsius

°F degrees Fahrenheit

µg/m<sup>3</sup> micrograms per cubic meter

### A

A.D. Anno Domini

AADT annual average daily traffic

ACHP Advisory Council on Historic  
Preservation

ACM asbestos-containing material

ADA Ammunition Demolition Activity

af acre-feet

ARNG Army National Guard

AST aboveground storage tank

Army U.S. Department of the Army

ASTM American Society for Testing  
and Materials

### B

B.C. Before Christ

BCC Bird of Conservation Concern

BMP Best Management Practices

BP before the present

BRAC Base Realignment and Closure

BRRM Base Redevelopment and  
Realignment Manual

### C

CAFE Corporate Average Fuel  
Economy

CAPECO Community Action Program of  
East Central Oregon

CDA Columbia Development  
Authority

CEQ Council on Environmental  
Quality

CERCLA Comprehensive Environmental  
Response, Compensation, and Liability  
Act

CERFA Community Environmental  
Response Facilitation Act

CFR Code of Federal Regulations

CGA Critical Groundwater Area

CO carbon monoxide

CO<sub>2</sub> carbon dioxide

CTUIR Confederated Tribes of the  
Umatilla Indian Reservation

CWA Clean Water Act

### D

DARCOM Development and Readiness  
Command

dB decibel

## ACRONYMS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



DNL day-night average noise level

DOD Department of Defense

### E

EA Environmental Assessment

ECP Environmental Condition of  
Property

EDC Economic Development  
Conveyance

EFSC Energy Facility Siting Council

EIFS Economic Impact Forecast  
System

EIS Environmental Impact  
Statement

EO Executive Order

EOU Eastern Oregon University

ESA Endangered Species Act

ETA early transfer authority

EWL Explosives Washout Lagoons

### F

FAR Floor Area Ratio

FBI Federal Bureau of Investigation

FHWA Federal Highway Administration

FIFRA Federal Insecticide, Fungicide,  
and Rodenticide Act

FNSI Finding of No Significant Impact

FPASA Federal Property and  
Administrative Services Act of 1949

FPPA Farmland Protection Policy Act  
of 1981

### G

GB sarin nerve agent

GHG greenhouse gas

### H

HD blister agent mustard

HIR high-intensity reuse

HUD U.S. Department of Housing  
and Urban Development

### I

I- Interstate

I-LRA Implementation Local  
Redevelopment Authority

ICRMP Integrated Cultural Resources  
Management Plan

INRMP Integrated Natural Resources  
Management Plan

### J

JBLM Joint Base Lewis-McChord

### L

LBP Lead-Based Paint

## ACRONYMS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



LEED© Leadership in Energy and  
Environmental Design

L<sub>eq</sub> equivalent noise level

LIR low-intensity reuse

LRA Local Redevelopment Authority

### M

MHIR medium-high-intensity reuse

MIR medium-intensity reuse

MLIR medium-low-intensity reuse

MOA Military Operation Area

MWh megawatt hour

### N

NAAQS National Ambient Air Quality  
Standards

NDAA National Defense Authorization  
Act for Fiscal Year 2012

NEPA National Environmental Policy  
Act of 1969

NFA No Further Action

NHPA National Historic Preservation  
Act

NO<sub>2</sub> nitrogen dioxide

NOWA Northeastern Oregon Water  
Associateion

NPDES National Pollutant Discharge  
Elimination System

NPL National Priorities List

NRC Nuclear Regulatory  
Commission

NRHP National Register of Historic  
Places

NSA National Security Area

### O

O<sub>3</sub> ozone

OAR Oregon Administrative Rules

ODEQ Oregon Department of  
Environmental Quality

ODFW Oregon Department of Fish and  
Wildlife

ODOT Oregon Department of  
Transportation

OHWMR Oregon Hazardous Waste  
Management Regulations

OPS operating properly and  
successfully

ORARNG Oregon Army National Guard

ORS Oregon Revised Statutes

OU operable unit

OWRD Oregon Water Resources  
Department

### P

PA Programmatic Agreement

PCB polychlorinated biphenyls

## ACRONYMS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



PLS planning level survey

PLVS planning level vegetation survey

PM<sub>2.5</sub> particulate matter measuring  
2.5 micrometers or less in diameter

PM<sub>10</sub> particulate matter measuring  
10 micrometers or less in diameter

ppb parts per billion

ppm parts per million

PSD Prevention of Significant  
Deterioration

PSEL plant site emission limits

Pub. L. Public Law

PV photovoltaic

PVC polyvinyl chloride

PX Post Exchange

### R

RCRA Resource Conservation and  
Recovery Act

ROI Region of Influence

RTV rational threshold value

### S

SF square feet

SHPO State Historic Preservation  
Officer

SO<sub>2</sub> sulfur dioxide

SOC Species of Concern

### T

TCL Target Compound List

tCO<sub>2</sub>eq tons of carbon dioxide  
equivalents

### U

U.S.C. United States Code

UEC Umatilla Electric Cooperative

UMADRA Umatilla Army Depot Reuse  
Authority

UMCD Umatilla Chemical Depot

UMCDF Umatilla Chemical Agent  
Disposal Facility

UP Union Pacific Railroad

USACE U.S. Army Corp of Engineers

USEPA U.S. Environmental Protection  
Agency

USFWS U.S. Fish and Wildlife Service

UST underground storage tank

### V

VOC volatile organic compounds

VX chemical nerve agent



## **APPENDIX A                      SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**

**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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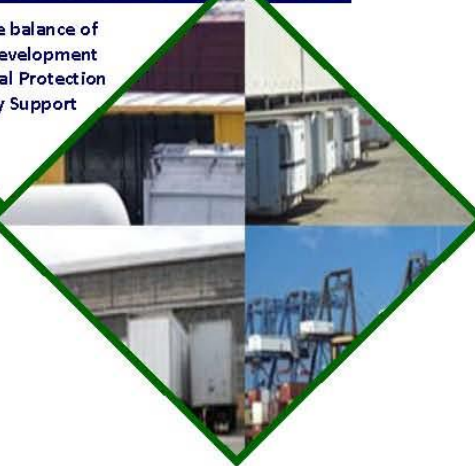
**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**U.S. ARMY UMATILLA CHEMICAL DEPOT  
BASE REDEVELOPMENT PLAN**



Planning the balance of  
Economic Development  
Environmental Protection  
& Military Support



Umatilla Army Depot Reuse Authority

August 2010

Supported by the Dana Mission Support Team

*"Solutions Planning for the Changing Environment of the Umatilla Chemical Depot"*

*"This study was prepared under contract with the Confederated Tribes of the Umatilla Indian Reservation, Oregon, on behalf of the Umatilla Army Depot Reuse Authority with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the UMADRA and does not necessarily reflect the views of the Office of Economic Adjustment."*

## SELECTED COMPONENTS OF THE UMGD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA

Base Redevelopment Plan

Representation

### ABSTRACT

For more than two decades county and regional leaders as organized by the State of Oregon and recognized by the Department of Defense (DoD) as the Umatilla Army Depot Reuse Authority (UMADRA – LRA), have been studying and preparing for the eventual closure of the Umatilla Army Depot. From August 2009 through August 2010 the LRA and its support contractor, Dana Mission Support Team, devoted over 10,000 hours to the development of a Redevelopment Plan, Implementation Strategy, and a Homeless Assistance Plan that fulfills the requirements of the DoD and Department of Housing and Urban Development (HUD) Base Realignment and Closure (BRAC) process.

Closure realignment of the Umatilla Army Depot represents a significant challenge due to a variety of factors. Much of the Depot's infrastructure and buildings are 70 years of age in generally poor condition. Moreover, many of the Depot's structures and land area has been developed for unique military applications not easily converted to civilian use, and in some circumstances represent continuing environmental liabilities. The Depot in 1941 was intentionally located in a remote, desert location and today remains isolated from any large metropolitan population."

The UMADRA - LRA recognized the inherent challenges and balanced three principle land-use categories in the Redevelopment Plan:

- A major training facility for the Oregon National Guard;
- Habitat protection through the creation of a U.S. Fish and Wildlife Refuge;
- And industrial zoning to aide in off-setting the economic impact of base closure to the community.

That *land-use plan*, presented within this document, represents a broad-based consensus among local, regional, and state interests. Upon DoD/HUD acceptance of the plan, the DoD would evaluate LRA recommendations for a variety of land conveyance mechanisms and determine the best utilization for the transfers of the property based on the approved uses for the land.

Umatilla Army Depot Reuse Authority

August 2010

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA

Base Redevelopment Plan

Representation

### REPRESENTATION

Approved by the Umatilla Army Depot Reuse Authority on July 29, 2010

#### UMADRA - LOCAL REDEVELOPMENT AUTHORITY MEMBERS

William (Bill) Hansell,	<i>Chairman / Commissioner</i>
George Anderson,	<i>Attorney</i>
Terry Tallman,	<i>Vice-Chair / County Judge</i>
Carla McLane,	<i>County Planner</i>
Kim Puzey,	<i>Port Director</i>
John Turner,	<i>Port Commissioner / President BMCC</i>
Gary Neal,	<i>General Manager</i>
Lisa Mittelsdorf (alt),	<i>Director of Economic Development</i>
Joe Taylor,	<i>Port Commissioner / Agriculture</i>
Dr. Rodney Skeen, PhD, PE	<i>Manager CTUIR / DOSE-EMP</i>
Carl Scheeler,	<i>Wildlife Program Manager</i>
Rosenda Shippentower,	<i>Tribal Board of Trustees Treasurer</i>
William Quaempts,	<i>Tribal Board of Trustees, Member at Large</i>

#### EX-OFFICIO LRA BOARD MEMBERS

Scott Fairley,	<i>Governor's Office</i>
LTC. Christian Rees,	<i>Oregon National Guard</i>

Umatilla Army Depot Reuse Authority

August 2010

## SELECTED COMPONENTS OF THE UMGD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA

Base Redevelopment Plan

Representation

### LRA SUPPORT STAFF

#### DANA MISSION SUPPORT TEAM – LRA SUPPORT STAFF

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Dennis Walters	<i>Facilitator/Vice President</i>
Nancy Ness	<i>Homeless Assessment / Administrator</i>
Barry C.K. Moravek	<i>Communications Specialist / VP Western Operations</i>
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Kevin Bradford	<i>Graphics / Technical Expert</i>
John Hanson	<i>Assessor / Chemical Engineer</i>
Timothy McAnarney	<i>BRAC Technical Specialist</i>
Stephen Heck	<i>Air Quality, EPA Superfund Subject Matter Expert</i>
Steve Mallory, AIA, CSI	<i>Principal Architect</i>

Umatilla Army Depot Reuse Authority

August 2010

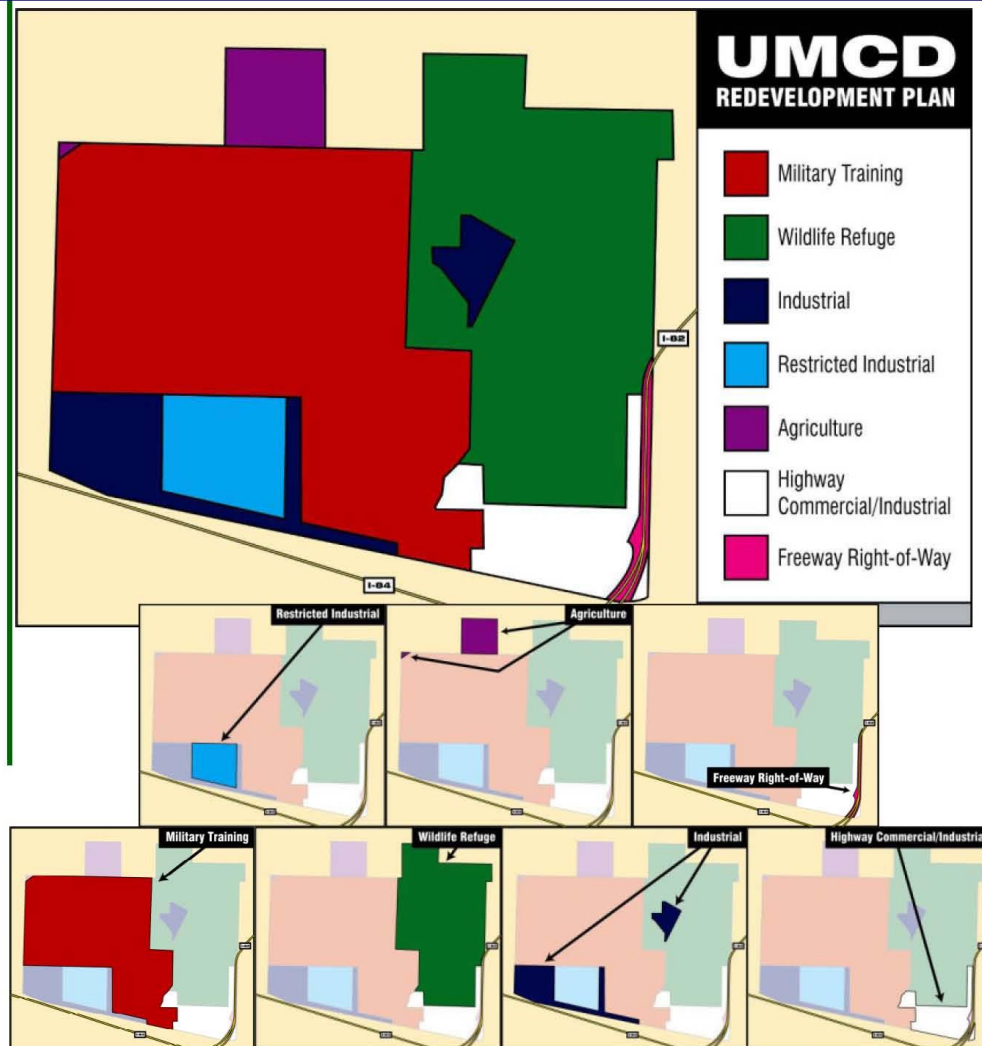


**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA | Final

**SECTION A: REDEVELOPMENT PLAN**  
**PART I: REDEVELOPMENT AND IMPLEMENTATION STRATEGY**



Umatilla Army Depot Reuse Authority

July 29, 2010

Supported by the Dana Mission Support Team

*"Solutions Planning for the Changing Environment of the Umatilla Chemical Depot"*

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**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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UMADRA | Section A: Redevelopment Plan  
Part I: RPIS

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# SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## EXECUTIVE SUMMARY

The Umatilla Army Depot Reuse Authority (LRA) has developed this Redevelopment Plan and Implementation Strategy (RPIS or Redevelopment Plan or Plan) for the Umatilla Chemical Depot (UMCD or Depot). The Depot, which is approximately 17,000 acres in size exclusive of restrictive easements, is located in Northern Morrow and Umatilla counties in northeastern Oregon. Originally listed in the 1988 Base Realignment and Closure (BRAC) process, the Department of Defense ultimately recommended closure of UMCD during the 2005 BRAC round of announcements. The chemical demilitarization operation at UMCD is anticipated to culminate in 2012 (or later).

The LRA was established in order to address the economic impacts associated with the closure of UMCD, and to facilitate environmental goals as well as reuse opportunities by the Oregon National Guard. Leaders of the region as well as representatives supporting the State of Oregon's interests have served on the LRA for over two decades.

This Redevelopment Plan and Homeless Assistance submission to HUD and the Military Department is in conformance with Public Law 101-510, Section 2905(b)(7)(K)(iii)—“the Secretary of Defense shall dispose of buildings and property under clause (i) in accordance with the Record of Decision or other decision document prepared by the Secretary in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.). In preparing the Record of Decision or other decision document, the Secretary shall give substantial deference to the Redevelopment Plan.

This Redevelopment Plan is important because the Military Department will use it to conduct the property disposal environmental analysis required by NEPA. The Military Department treats the Plan as a part of the proposed federal action for the installation. The Plan also serves as the basis for consideration of land transfers and property conveyance mechanisms.

This RPIS is divided into three sections:

**1.0: Planning Process.** The LRA utilized an extensive planning process with guidance from the Department of Defense Office of Economic Adjustment (OEA). The process employed a series of methods to collect information about the status and condition of UMCD as well as the thoughts and desires of the general public about reuse options. A total of ten tasks were completed by the LRA contractor, the Dana Mission Support Team (DMST), between the period of July 2009 and August 2010.

**2.0: Redevelopment Plan.** The Redevelopment Plan recommends specific redevelopment land use zones to accommodate the three overarching goals of economic development, environmental preservation, and military reuse.

**3.0: Implementation Strategy.** The Implementation Strategy makes specific recommendations regarding conveyance mechanisms for the land, a follow-on analysis specific to infrastructure recommendations, a ten-year business plan, and the establishment of an Implementing LRA to manage the economic development conveyances being recommended.

### A Plan for the Future

This Redevelopment Plan and Implementation Strategy makes a series of recommendations to the US Department of the Army for the reuse of the Umatilla Chemical Depot in order to create jobs, preserve the environment, and foster the development of a training facility for the Oregon National Guard.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### REDEVELOPMENT PLAN—OVERVIEW

There are six overarching factors that govern the opportunities and limitations with respect to reuse at UMCD:

- The state and national economy is recovering from a deep recession, and 1,170 individuals will lose their jobs or be relocated due to the pending UMCD closure. A significant portion of those positions are unique in character in that they were created as temporary project based jobs with special skill sets affiliated with the demilitarization of chemical weapons.
- UMCD offers significant locational and access-infrastructure advantages associated with transportation facilities, but is isolated from any larger metropolitan population base.
- The existing condition of the buildings and infrastructure at UMCD, with the exception of the UMCDF structures, are generally substandard. Many of the UMCD structures have unique military applications and are not easily converted to alternative uses.
- UMCD's physical expanse and existing site conditions offers large-scale reuse opportunities generally in short supply elsewhere including military training, habitat preservation, and certain types of large scale industrial and institutional applications.
- Preservation of shrub-steppe is a major environmental priority for the LRA.
- The Oregon National Guard has a specific, immediate opportunity to develop a training facility.

All of the factors listed immediately above have impacted both the Redevelopment Plan and the Implementation Strategy.

Set against the backdrop of these factors are three overarching goals established by the LRA:

- Economic Development (job creation)
- Environmental Preservation (with a special emphasis on the shrub-steppe habitat)
- Military Reuse (accommodating the needs and plans of the Oregon National Guard)

During a Values Mapping discussion held by the LRA in the summer of 2009, the above three overarching goals were weighted. The economic development and environmental preservation goals each hold a 40% weight while the military reuse goal holds a 20% weight. The weighting scheme developed by the LRA relates to the relative priority of the three objectives, not to a direct allocation of acreage.

#### Weighted Overarching Goals

40% - Economic Development  
40% - Environmental Preservation  
20% - Military Reuse

The LRA believes this Redevelopment Plan and Implementation Strategy not only addresses all of the factors identified above, but also accommodates these three overarching goals.

### SUMMARY OF PLAN COMPONENTS

The Redevelopment Plan and Implementation Strategy is the culmination of the work completed in eight separate assessments of regional needs and capabilities. A brief summary of each assessment is provided below. Complete renditions of the respective assessments are presented in *Section A\_Part II*.

# **SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN** Environmental Assessment for Disposal and Reuse of Umatilla Chemical Depot, Oregon



Figure 1: Proposed Land-Use Map





## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Morrow and Umatilla County Social and Economic Assessment

(See also: Section A\_PII: 1.0)

The LRA has an opportunity unique to all of Oregon—planning for the development and preservation of 20,000 “new” acres. Never before in Oregon has this amount of land become instantly available for planning and reuse.

The DMST assisted the LRA by utilizing a proprietary methodology to assess the development assets at UMCD, and to prioritize redevelopment strategies based upon their greatest likelihood of success.

#### **Economic Assessment**

The LRA used an objective approach to identify reuse opportunities that have the greatest likelihood for success.

This approach, referred to as *Building Communities*, analyzes 85 key success factors essential for advancing one or more of 25 alternate land reuse strategies. Both social and economic factors are considered in this analysis.

This Social and Economic Assessment begins by summarizing the relative comparative advantage of UMCD with respect to the 85 key success factors. These factors include social factors such as health care and quality neighborhoods as well as economic factors such as infrastructure and a quality labor force. For each of the factors, a score of between ‘0’ and ‘4’ is identified, and a brief synopsis explaining the key success factor score is presented.

The Social and Economic Assessment also presents regional economic trends, real estate trends, short-term reuse opportunities, and an analysis of maintenance costs associated with the preservation of the UMCD resources.

Finally, the Social and Economic Assessment provides an analysis of the potential impacts of job losses due to the closure of UMCD.

An analysis completed by WorkSource Oregon (also known as the Oregon Employment Department) identified the economic reliance and impact of UMCD on adjacent communities and counties.

In total, approximately 1,170 employees work at UMCD, with 635 residing in Morrow and Umatilla Counties. The total annual estimated payroll of the depot workers for the two counties is \$44,654,000. In addition to the direct employment, an additional 252 induced jobs are supported in the region. In total, therefore, an estimated 907 jobs representing total labor income of \$52 million annually will be lost at UMCD upon closure if mitigating actions are not taken.

Industries that will be most impacted by the decline in household spending resulting from the closure of UMCD include food and drinking places, offices of physicians/dentists/health practitioners, real estate establishments, private hospitals, retail, and wholesale trade.

Table 1: Prioritized Key Strategies

TOP STRATEGIES PRIORITIZED BY KEY SUCCESS FACTOR RESULTS INCLUDE (SCORED ON A SCALE OF 0-100):	
STRATEGY	POINTS
Energy Development	91.3
Telecommunications Businesses	83.8
Transportation Distribution Center	77.5
Attracting Government Funding	75.0
Environmental Restoration	73.8
Business Recruitment	73.0

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### UMCD Land and Facilities Assessment

(See also Section A\_PII: 2.1 and 2.2)

The DMST completed two separate land/facilities reports, one summarizing the characteristics of the land and the other report summarizing the conditions of the facilities at UMCD.

**Land** - In total, the UMCD currently occupies 17,054 acres acquired either through purchase or Federal land transfer. In addition to fee simple land acquisition and transfers from the Public Domain, the Army also acquired by direct purchase and condemnation a number of restrictive easements for an additional 2,674 acres for a total of 19,728 acres. There are 1,411 Army owned structures encompassing approximately 3.6 million square feet.

#### Land and Buildings

The UMCD offers a large expanse of land as well as a large number of buildings (in various shapes and conditions) unique to the region.

The Depot can be divided into 15 specific land use sub-areas. The storage and demolition of ordnance and buffer zone land uses account for more than three-quarters of the Depot's acres of ownership and restrictive easements.

The land area is a semi-arid desert. The land cover outside of the administrative area is largely a drought-adapted steppe with a native shrub-steppe vegetation type. Elevations on the Depot range from 400 to 677 feet above sea level. The topography, with the exception of Coyote Coulee that cuts across the facility along a north 30-degree east axis, is largely flat to gently rolling terrain with slopes ranging from 0% to 7%. In general, topography does not represent a land use constraint on the Depot for any major land use with the exception of Coyote Coulee. The slopes in Coyote Coulee range from 5% to 10% along the western edge to 30% to 45% along the eastern edge of the escarpment.

The UMCD has excellent access to road, rail, and river transport. The Base contains approximately 196 miles of internal roadway, of which 160 miles are paved. The southeastern corner of the UMCD is adjacent to the intersection of Interstate 84 and Interstate 82. Immediately adjacent to the Depot, the Union Pacific Railroad operates one of the principle east-west rail line networks - a major factor in base location in 1941. The Depot, itself, has an internal rail network of approximately 50 miles of railroad track. Rail car loading facilities are available to and from Columbia River barges.

The landmass occupied by the Depot is part of a far larger region that constituted the historic homeland of the Cayuse, Umatilla, and Walla Walla Tribes. The Umatilla people occupied villages from Umatilla Rapids to Roosevelt Washington along the Columbia River taking advantage of abundant Salmon resources as a primary food source.

The existing water rights on the Depot represent a potential "limiting factor" in terms of reuse for intensive agriculture or industrial land uses. If all the current water rights on the Depot were applied exclusively for irrigated agriculture it is estimated that only 450 to 700 acres of the Depot's 17,054 acres could be brought into production depending upon the crop type. It should be anticipated that no further groundwater water rights of any significance could be issued under the "critical ground water areas" designation currently imposed by the State of Oregon.

The Port of Umatilla currently holds a water right to draw water from the Columbia River and retains substantial water rights equal to 80,000 gallons per minute of which less than 25% is currently allocated. The Port had an appraisal on the value of the water right conducted in 2000, where the value of water right was estimated at between \$39 million - \$51 million. Providing water to the site could be utilized as "matching funds" for development projects. Water capacity may also be available from the City of Irrigon's municipal system for industrial, institutional, or commercial land uses.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



A review of BLM records has affirmed that formerly withdrawn lands from the public domain that includes 18 of 20 separate parcels have mineral rights retained by the BLM. Generally, the owner of the surface (fee less minerals) can use aggregate for his or her own purpose on site, but cannot commercially sell aggregate for off-site use without acquiring those rights from the BLM. There are two sections of land from the formerly withdrawn lands where mineral rights were not retained.

The other “non-withdrawn” tracts acquired by the Army when the Depot was first established were primarily sections of land that were initially railroad grants in 1896 and 1906. These grants were for the fee estate including minerals and would have included mineral rights at the time of acquisition. Later tracts acquired through condemnation would have also included mineral rights.

**Facilities:** This report also assesses the major facilities across UMCD. The assessment looks at the following general areas: Administrative areas, 100, 200 and 400 warehouse areas, K Block facilities, igloos, and the currently operating Umatilla Chemical Disposal Facility (UMCDF) where the remainder of the UMCD chemical weapons is being destroyed. The older UMCD facilities span across the entire Army Depot. Depot structures, with the exception of the UMCDF, were constructed to military base standard structures of the 1940’s era. Only a small number of structures have been occupied or used for the entire Depot life. Many were or still remain, un-used, un-occupied, or have been neglected for several years.

Conditions of the older major buildings and facilities at the Depot were evaluated by performing technical walkdown surveys, reviews of existing documentation, and interviews of Depot personnel for various architectural and engineering aspects. Overview inspections were conducted for the headquarters and administration buildings, warehouses and warehouses converted to offices, shop facilities, the fire and emergency response facility, on-base housing, military billets, recreational facilities including the gym, swimming pool, and the hall, and the dining hall and other older or deteriorating structures.

The facilities report is primarily a qualitative assessment of structures deemed for possible re-use. Detailed in-depth quantitative analyses of structures are necessary to establish valid re-use alternatives and the levels of required refurbishment and associated costs. For example, specific quantitative data including structural conditions, earthquake resistance, major dimensions/sizes, strengths of structural members, conditions and code compliance of wiring inside walls, and other data was not gathered for the purposes of this report. Some building and facility engineering drawings for some facilities were available; however specifications for the facilities were not found nor provided. Military standard design criteria and loads, material specifications, standard details, etc. from the 1940’s and 1950’s era could not be obtained to support preliminary conclusions.

Costs of surviving re-uses will depend upon the type of re-use selected, the decisions on the level of code compliance, and will require detailed quantitative building assessments for the intended reuse.

**Summary:** While UMCD has excellent transportation access, it harbors a number of significant limitations restricting certain realignment options in the short-term. Those limitations include:

- Isolation from a larger metropolitan population. The estimated Morrow County population in 2009 was 11,533 individuals with only 5.4 persons per square mile. Umatilla County’s estimated population in 2009 was 73,347 with its primary population centers of Hermiston (population 13,000) and Pendleton (population 17,000) 12 and 35 miles from the UMCD. The nearest population concentration is the small community of Irrigon with a population of 1,702;
- A facilities and infrastructure base that was largely created 70 years ago with limited capacity and generally in poor repair;
- Facility and land use configurations that are unique in their military application, restricting easy application to civilian uses; and



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- Environmental limitations that will require remediation before reuse.

The above limitations impact the ability to replace job losses associated with Base closure with alternative high wage positions in a quick enough fashion to be effective if the plan strategy restricts itself to the only a narrow UMCD focus without considering more comprehensive alternatives. If both short-term and long-term optimization of potential benefits is to be achieved for local, regional, and national interests, the final Redevelopment Plan must creatively integrate the Depot's strategic limitations and potential opportunities.

### Infrastructure Assessment

(See also Section A\_Part II: 2.3)

*Conclusions reached in the Infrastructure Assessment report are preliminary and require more in depth physical examination and inspections as this process moves into the Implementation phase. The information collected to date, however, is sufficient for this RPIS.*

The evaluation team encountered certain limitations during the building and infrastructure inspection. Internal building utilities were mostly covered by walls and the team did not remove or demolish any barriers (e.g. walls) to make observations. The team additionally did not perform any tests for asbestos, lead-based paint, potential contaminants or condition of existing materials (e.g. pavement, structural integrity, wire insulation). The team consists of professionals with many years of design and construction experience that are able to identify potential discrepancies from current acceptable standards for safety and occupancy.

#### Infrastructure

Much of the infrastructure at UMCD will require significant improvement in order that many of the reuse alternatives become feasible.

The team did make infrastructure observations beyond the original scope of work in an attempt to identify possible resources that may have value for future reuse, specifically, the electrical ground circuit, the airport runway and the gravel resources. While these may or may not have value for future use, the resources should be documented and considered.

If additional resources are available to the LRA, it is recommended by the DMST that additional infrastructure analysis be completed in order to develop a specific Infrastructure Redevelopment Plan consistent with the reuses and implementation strategy identified in this Plan.

#### THIS REPORT CONTAINS THE FOLLOWING INFRASTRUCTURE ELEMENTS:

- Airport Runway
- Electrical Ground Connectivity
- Electrical Power Distribution
- Gravel Resources
- Potable Water
- Roadways
- Railroad
- Storm Drainage
- Sanitary Sewer
- Umatilla Chemical Demilitarization Facility Infrastructure

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Environmental Assessment

(See also Section A\_PII: 2.4)

The environmental assessment did not identify any environmental constraints that will preclude the presently envisioned redevelopment of UMCD. Mutually agreeable demarcation of economic and environmental-related reuse zones, and careful planning of future activities within each of those zones, will clearly support acceptance and subsequent implementation of the Redevelopment Plan.

#### **Environmental Condition**

The LRA has identified the remaining “environmental clean-up” requirements that must be addressed in order to redevelop UMCD.

The U.S. Army has two major options regarding environmental cleanup of UMCD and property transfer under the Base Closure and Realignment Act of 1988 (BRAC; P.L. 100-526) and Defense Closure and Realignment Act of 1990 (P.L. 101-510). These options are:

1. Cleanup of all operable units under authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; 42 U.S.C. 9601-9675, as amended) to those conditions set by the OU-specific Record of Decision (ROD). In such case, the site-specific covenant then documents that all known remedial actions were taken prior to property transfer from the Army to the Local Redevelopment Authority (LRA). The deed should specify that the Army will be responsible for remediating any contamination after date of transfer (start arising only from military service actions). This includes an access agreement with the LRA to perform such cleanup [CERCLA Section 120(h)(4)(D); or,
2. Early Transfer Authority: Property transfer occurs prior to completion of ROD requirements, but only after clear and mutually agreed upon stipulations exist as to the respective (Army vs. LRA) responsibilities regarding, “who, what, when, and where” for completing the necessary site-specific remedial actions. Such agreements will probably include engineering controls (eg. physical barriers) and/or institutional controls (eg. deed restrictions). The purpose of these land use controls is protection of human health and the environment before, during, and sometimes after site-specific cleanup.

Furthermore, the roles and responsibilities of the Army and property recipients regarding non-CERCLA cleanup actions must be clearly defined and agreed upon prior to transfer of a particular property. Such regulatory-based actions at UMCD include:

1. Decontamination and decommissioning (D&D) of the Umatilla Chemical Agent Disposal Facility (UMCDF) under authority of the Resource Conservation and Recovery Act (RCRA; 42 U.S.C. §6901 et seq., as amended).
2. Removal of lead-based paint, asbestos containing materials, polychlorinated biphenyls, and radon gas mitigation in structures, all under authority of the Toxic Substances Control Act (TSCA; 15 U.S.C. §2601 et. seq.).
3. Removal of other substances or materials that could pose serious hazard to onsite workers (eg. accumulated bio-hazardous wastes in presently unused buildings) under Section 5(a)1, General Duty Clause, of the Occupational Safety and Health Act (OSH; P.L. 91-596, as amended).

The LRA will work closely with the Army to ensure that property-specific cleanup is indeed appropriate to its future reuse, as defined to the extent possible by the UMCD Redevelopment Plan. This plan must accommodate the following Army-led remedial actions that will probably continue for the next 20 years:

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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### UMADRA | Section A: Redevelopment Plan

Part I: RPIS

1. Monitoring of selenium attenuation in alluvial groundwater at the Active Landfill site (OU 5);
2. Monitoring of RDX/TNT removal (via enhanced bio-physical treatment processes) in alluvial groundwater at the Explosives Washout Lagoon Site (OU 3);
3. Monitoring effectiveness of removing unexploded ordnance (UXO) at the Ammunition Disposal Area (ADA; OU 4).

The LRA will build upon the Army's significant cleanup programs made over the past 30 years if the following actions occur:

1. Ongoing and planned remediation of the industrial areas (eg. west warehouses and operations buildings) is protective of present and future worker health and safety;
2. Removal or retrofit of existing buildings and infrastructure (eg. utilities, roads) incorporates timely and appropriate environmental decontamination efforts (eg. removal of avian feces or other residual contamination) prior to initiating site-specific demolition or reconstruction activities;
3. Identification and mitigation of project-specific environmental impacts early in the planning process via performing site-specific biological and socio-cultural surveys and subsequent application of best management (environmental engineering) practices, respectively.

The creation and maintenance of an active partnership among the Army, the LRA and future property recipients will expedite the property transfer process, and promote the long-term economic and environmental goals for reuse of the UMCD. Such relationship should result in:

1. Achieving highest and best use of the Depot's industrial areas (including the UMCDF);
2. Enhancing military training activities by the Oregon National Guard;
3. Preserving (and possibly restoring) the Depot's extensive shrub-steppe plant and animal communities;
4. Protecting Native American sacred sites and significant historical sites present at the Depot.



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Market Assessment

(See also Section A\_PII: 3.0)

The Market Assessment forecasts market demand for short-term leasing and long-term potential for redevelopment based upon regional economic conditions, trends, and pressures affecting redevelopment. The scope of this study addresses land use types including agricultural, commercial, industrial, and recreational.

In an economic context the condition of the national, state, and regional economy is challenged. With the national unemployment rate recently near 10%, and a state and local unemployment rate even higher, communities and businesses across America are simply looking to “keep what they have”, rather than engage in significant job-creating investments. On the brighter side, the forecast for the national, state, and regional economy is improving.

This Market Assessment provides high-level economic statistics showing the trends and current conditions of the economy. The relevance of the economic statistics to the reuse decision-making by the LRA is emphasized in this analysis.

The report analyzes four types of land reuses: agriculture, commercial, industrial, and recreational. The following are the conclusions from this analysis:

- Industrial reuse opportunities clearly represent the greatest prospect for UMCD. Outstanding access and location, combined with the prospect for huge parcel sizes, affords numerous industrial reuse opportunities.
- Commercial and recreational uses are also possible, but are not likely to dominate the reuse of the UMCD. If specific alternatives for commercial and recreational reuse opportunities are considered desirable then the site selection is most likely to occur in the southeastern quadrant of UMCD, and capitalize on access to Interstate 84 and Interstate 82.
- Value-added agriculture opportunities may be possible, but the viability of this strategy is impacted by the availability of water and the existing capacity of the Port of Morrow and Port of Umatilla to accommodate such development.

Despite these opportunities, significant obstacles and challenges hamper many of the reuse possibilities that a typical community could advance. The key success factor methodology utilized by DMST concludes that 38 of 85 development factors rank substandard. This eliminates most economic development strategies from viable implementation. Focusing upon development strategies with greater success potential is recommended by DMST.

Despite the limited opportunities, the top strategies that remain stand a significant likelihood of success. The State of Oregon identifies three industrial development strategies as the top strategies for 2010 and 2011. Simultaneously, the key success factor analysis for UMCD pinpoints these three strategies as the approaches with the greatest likelihood for success:

- Energy Development
- Transportation Distribution Centers/Logistics
- Telecommunications Businesses

Finally, this market analysis forecasts that demand for reuse opportunities will increase as the state and national recession dissipates. In fact, the timing for the reuse of UMCD may coincide very well with a rebounding economy.

#### **Market Assessment**

Despite a challenging state and national economy, UMCD does afford reuse opportunities consistent with emerging market conditions.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Homeless Accommodation Assessment

(See also Section B in its entirety)

A Homeless Assistance Plan to the U.S. Department of Housing and Urban Development (HUD) was drafted in conformance with BRAC procedures and 24CFR 586.30. The report addresses:

- Information about homelessness in the communities in the vicinity of the installation
- Notices of Interest proposing assistance to homeless persons and/or families
- Legally binding agreements for buildings, property, funding, and/or services
- An assessment of the balance between economic and other development needs
- A description of outreach undertaken by the LRA

#### Homeless Accommodation

Two homeless service providers expressed interest in personal property in order to fulfill their respective missions.

Of the fifteen Notices of Interest received, only two were from homeless service providers although seven establishments had been invited to participate.

The two NOIs from homeless assistance providers requested personal property. The Agape House request for personal property includes office equipment, office furniture, a forklift, pallet jacks, mechanical tools, and woodworking tools to better serve their clients. CAPECO requested the use of two igloos and any and all household goods appropriate for independent living quarters.

After review of their NOIs, the LRA voted unanimously to recommend support to the service providers for their requests.

**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Redevelopment Alternatives Assessment**

(See also Section A\_PII: 5.0)

The LRA considered a series of alternatives before selecting a Final Redevelopment Plan and Implementation Strategy.

Five alternatives were prepared that considered alternate land use scenarios and alternative governance structures in recognition that the successful advancement of an implementation strategy required a broad consensus among the regional and state stakeholders.

**Alternatives**

Five prospective alternatives were presented and considered by the LRA before selecting the preferred alternative.

The table below provides a summary of the alternatives that were considered.

Table 2: At-a-Glance Alternatives

ALTERNATIVE	DESCRIPTION
#1—Preferred	A proactive approach by the LRA to designate specific land for industrial, commercial, military, and open spaces purposes
#2—Large-Scale	Development size standards (perhaps defined by an investment amount, jobs, or other parameters) that would be required in order for development activity to occur
#3—County Line	Each county would have total autonomy as to the identification of specific land uses
#4—Collaborative County Line	A Joint Powers Agreement would be developed that would recognize the individual desires of the counties but be incorporated in one overarching plan agreed by the entire LRA. Implementation activities would be governed by a local entity (probably the respective Port District)
#5—No Action	Concluding that there is not sufficient benefit to prescribe and implement specific land uses, the LRA would disband leaving total authority for land reuse to the US Department of the Army

In addition to the five Alternatives, three options for the management of the shrub-steppe habitat were evaluated. The first option would set aside land specific for the preservation of shrub-steppe. The second option would create a management overlay zone allowing shrub-steppe preservation in conjunction with additional objectives. The third option would provide for a combination of the first two options.

In addition to the description of the alternatives, three additional sections of this report are presented:

- An analysis of many of the suggested large-scale reuse opportunities analyzed in the context of the five alternatives
- An analysis of the 16 submitted Notices of Interest and their “fit” with the five alternatives
- Land use maps for each alternative



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 1.0: PLANNING PROCESS

The LRA conducted a competitive process during the Spring/Summer of 2009 and selected the Dana Mission Support Team (DMST), a joint effort by Dana Engineering, Inc. and MSE Technology Applications, Inc., to conduct the BRAC-defined planning process.

A task oriented process outlined by the LRA with guidance from OEA provided the guiding factors used by the DMST to meet the following objectives:

- Provision of a local office to provide line-of-site communications to LRA and Public; records keeping; website maintenance; and administrative functions.
- Development of a broad, current assessment of the land, buildings, and infrastructure
- Inventorying of economic development and reuse opportunities
- Assessment of the current environmental condition of UMCD
- Completion of a market analysis
- Identification of homeless service opportunities
- Consideration of viable alternatives for redevelopment
- Provision of widespread opportunities for public input
- Development of the Redevelopment Plan and Implementation Strategy (RPIS)

The DMST established an administrative office in Umatilla, Oregon to ensure responsive communications with the LRA and the general public.

Under the leadership of the LRA, the DMST helped to coordinate LRA meetings, public workshops, focus group sessions, and public hearings to produce the Redevelopment Plan and all coordinating documents. The table on page 14 briefly summarizes the inputs and outputs of the planning process.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA | Section A: Redevelopment Plan

Part I: RPIS

Table 3: The Planning Process

THE PLANNING PROCESS					
Inputs			Outputs		
Procedure	Amount	Date *	Tasks/Reports	Date *	Purpose
LRA Meetings	12	Monthly	Early Community Outreach (four reports)	August October November	Public outreach: identification of community's future vision of UMCD; Values Mapping
Website Feedback	Ongoing	Entire Year	Land Analysis	October	Description of the characteristics of the land
Direct Feedback to LRA Members and DMST Staff	Ongoing	July June	Facilities	November	Summary of UMCD, Administrative Area, warehouses, igloos, etc.
Public Workshops	2	August September	Environmental Assessment	November	General summary of the environmental condition of the land and buildings
Focus Group Sessions	3	October November	Infrastructure	December	Summary of airport runway, grounding network, electrical distribution, gravel resources, potable water supply, roads, railway, storm drains, sanitary wastewater, natural gas, and UMCD facilities
Public Forums	2	April June	Social and Economic Assessment	December	Summary of the economic reuse opportunities at UMCD
<i>* The dates in this table refer to the range of dates from July 2009 – August 2010.</i>			Market Assessment	December	Determination of the market demand for short-term leasing and long-term potential at UMCD
			Alternatives Report	April	Presentation of five general alternatives for UMCD reuse.
			Redevelopment Plan and Implementation Study	August	Final recommendation by the LRA to the Department of the Army and HUD

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### INITIAL PLANNING AND PUBLIC OUTREACH

Due to the importance of Initial Planning and Public Outreach, DMST provided four separate reports related to communications and outreach to the LRA and posted them on the website for public review. These reports can be located under *Exhibits: Early Outreach Reports* or at [http://www.missionumatilla.com/dmst\\_reports.html](http://www.missionumatilla.com/dmst_reports.html).

*Deliverable Report Task 2.2* was the first report and summarizes the results of an LRA meeting that utilized a proprietary DMST approach, *Values Mapping®*, to envision the “characteristics of an outstanding LRA Board” and the “characteristics of outstanding land use for the UMCD”. The results of this meeting helped to build consensus related to the internal and external functions of the LRA.

#### Public Outreach

Extensive outreach to the general public has helped to ensure that the LRA is being responsive to community needs and expectations.

*Deliverable Report Task 2.3* summarizes the results of the early public outreach workshop that was conducted on October 20, 2009. This report collected information from the general public on “outstanding land use for the UMCD”. The results show the general public supports economic development, natural resource management, environmental stewardship, contributions to livability, and thoughtful planning as the top priorities.

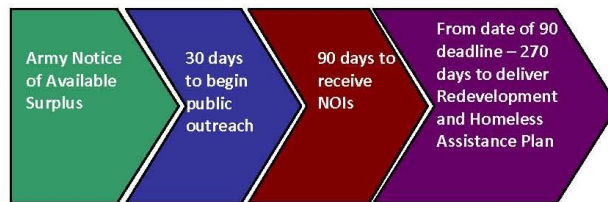
A third report (*Deliverable Report Task 2.6*) summarizes the findings from two focus group sessions conducted on October 27, 2009. The report provides a summary of what the general public *expects* to happen, what *concerns* they have, what *suggestions* they have, what *economic benefits* and *environmental protection objectives* they have, and offers insight on the proposed use by the Oregon National Guard. In general, the public expects the reuse of UMCD will generate both economic and environmental benefits.

Finally, *Deliverable Report Task 2.7* summarizes the results of 18 personal interviews that were conducted of LRA members and community opinion leaders in the fall of 2009. The report summarizes responses to seven specific questions: duration of involvement, personal vision, personal expectations, limitations for reuse, planning concerns, suggestions to LRA, and governance options. In general, the report underscores the continued commitment by LRA members to achieve the benefits of reuse of UMCD they have been seeking for nearly two decades.

The findings of all of the public outreach sessions have been incorporated by the LRA into the reports and this Redevelopment Plan and Implementation Strategy. The public input was fully considered by the LRA in arriving at its final Plan.

### The Notice of Interest Process

Another key element of the public outreach effort relates to the process to call for and receive Notices of Interest (NOI) from the Homeless Service Providers (HSP) and Public Benefit Conveyance (PBC) qualified agencies in the local region.



The NOI process sets the timeline for the delivery of the Redevelopment Plan to the DoD and HUD.

The LRA was allowed an extension by HUD and DoD when DMST began their support contract in August of 2009. This

## SELECTED COMPONENTS OF THE UMGD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### UMADRA | Section A: Redevelopment Plan

Part I: RPIS

allowed for more extensive outreach to be done ensuring all Homeless Service Providers in the area were allowed the opportunity to participate in the process. This extension moved the submittal deadline of the Redevelopment Plan from May 30, 2009 to August 20, 2010. (270 days from Nov. 23, 2009 – Deadline for receipt of NOIs)

DMST held two public workshops to encourage the local community to become active participants in the process. The workshops included bus tours of the Umatilla Chemical Depot, presentations explaining the process and the deadlines, and subject matter experts to field questions. The BRAC and HUD guidelines require the LRA to review the NOIs and make recommendations within their redevelopment plan for property transfers. It is up to the DoD to accept these recommendations and make the final decisions. There are three important and distinct aspects to the Public Benefit Conveyance (PBC) Process (The process used to guide the LRA in recommendations to the DoD/HUD for property transference after the Redevelopment Plan has been approved): Homeless Assistance, Public Benefit Conveyances, and Negotiated Sales.

#### Types of PBCs

- Homeless Use
- Educational
- Public Health
- Correctional Facility
- Public Parks/Recreation
- Historic Monuments
- Port Facilities
- Highways
- Wildlife Conservation
- Law Enforcement
- Public Airports
- Self-Help Housing
- Emergency Management

As mentioned in the Homeless Assessment summary, the LRA received fifteen NOIs.

2 Homeless Service Providers  
12 Public Benefit Conveyance Requestors  
1 Private Interest  
0 for Negotiated Sales

The LRA assigned a subcommittee to review the NOIs. The NOI Review Team consisted of one member from each of the five political entities and one ex-officio member from the Oregon National Guard. The LRA consultant team acted as mediator, requirement's guide, and recorded the informational sessions and NOI review meetings.

Early discussions and meetings identified the need for a process in which the LRA could evaluate information needed to make decisions. A proposal decision tree was developed which provided key factors for consideration and gave determination to each criterion. Although originally developed to assist in determining reuse alternatives, the tool was modified to be applicable to most decision criteria throughout the planning process, including the evaluation of NOIs as they relate to the Redevelopment Plan.

Additionally, the subcommittee reviewed the documents against criteria mandated by the BRAC/HUD guidelines such as organizational profile capacity; previous experience; comprehensive plans; land use compatibility with the redevelopment plan; need for proposed use; community benefit; LRA values of environmental, economic, and military support; financial plan; and personal property. Other contributing factors included local and state zoning laws; land use laws; environmental remediation needs; and similar factors.

The NOI subcommittee brought their recommendations before the board in March of 2010. The LRA board voted on each of the recommendations after the presentation. The final determinations were:

- Two Homeless Service Providers approved without reservation.
- U.S. Fish and Wildlife approved and incorporated into land-use plan with modifications.
- Oregon National Guard approved and incorporated into land-use plan with modifications.



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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### UMADRA | Section A: Redevelopment Plan

Part I: RPIS

- Oregon Dept. of Transportation submitted 2 NOIs: 1 for transfer of an easement approved without reservation; 1 for a staging area that was approved with reservation to negotiate location.
- Morrow and Hermiston Schools: The LRA determined it was not in the best interest of the local children to have educational services near the proposed military training facility. Recent changes in Oregon land-use law would prohibit the establishment of schools beyond area Urban Growth Boundaries without special exception and circumstances.
- Hermiston Fire District: The LRA did not recommend approval based on current and future planned needs at the site. The approval of this PBC would remove the required capability to provide fire protection to depot property – a high fire danger environment with annual fire events.
- City of Irrigon: The LRA did not recommend approval based on current and future planned needs at the site. There were several concerns regarding the potential approval of this NOI: the requested properties were outside the Urban Growth Boundary and not easily annexed under Oregon land-use law; the NOI did not support the LRA environmental and military support goals; it was unclear who the sponsoring federal agency would be.
  - Although the NOI was not approved, the LRA has worked diligently with the City of Irrigon to support and accommodate their needs including a significant number of modifications to the land-use plan.
- Umatilla County retracted their NOI shortly after submittal.
- The Ports of Umatilla and Morrow were both approved as modified by full LRA discussions.
  - The LRA's eventual recommendation for no-cost economic development conveyance replaced the Ports original NOI's as the preferred alternative for these portions of the land-use plan.
- Two private interests were determined not to be eligible for a Public Benefit Conveyance but will be kept on file for potential economic development opportunities.

# SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



UMADRA | Section A: Redevelopment Plan

Part I: RPIS

## 2.0: REDEVELOPMENT PLAN

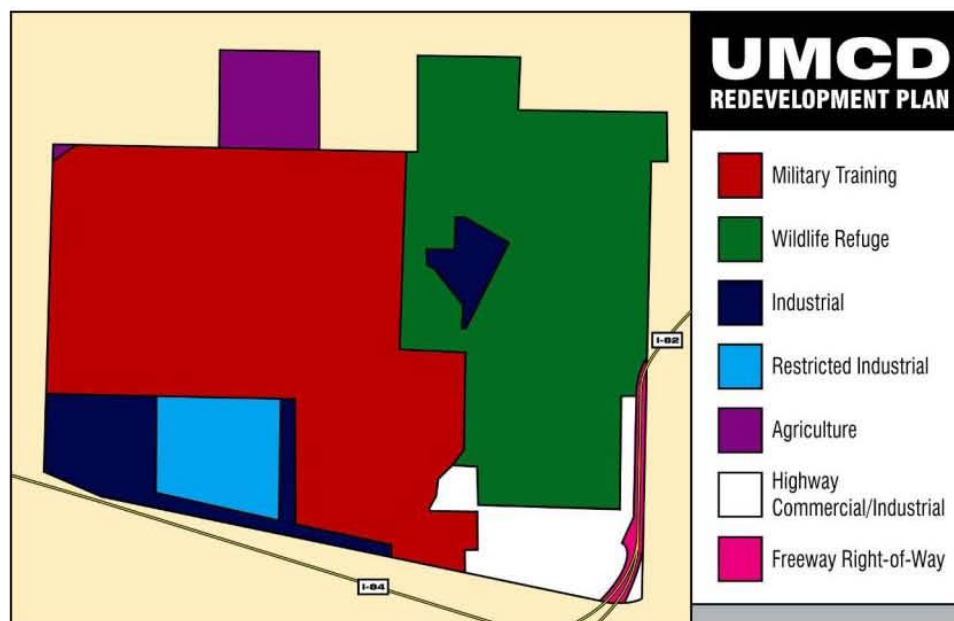


Figure 2: UMCD Redevelopment Plan

The Redevelopment Plan section of this document presents the seven zones that have been selected by the LRA for reuse of UMCD. These zones are graphically depicted in the figure above. A GIS-based map also presents the reuse plan on the following page.



# **SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN** Environmental Assessment for Disposal and Reuse of Umatilla Chemical Depot, Oregon



Figure 3: UMCD Proposed Land Reuse



## SELECTED COMPONENTS OF THE UMGD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### REDEVELOPMENT ZONES

This Redevelopment Plan suggests six major redevelopment zones:

- Military Training
- Wildlife Refuge
- Industrial (and Restricted Industrial)
- Highway Commercial/Industrial
- Agriculture
- Freeway Right-of-Way

As shown on the map on the previous page, approximately 75% of the overall acreage is split between the Military Training and Wildlife Refuge uses. The table at right presents the total acreage for each of the respective Redevelopment Zones. (Note: The acreage estimates are based on a GIS analysis that will have some variance with more accurate field survey techniques. There is approximately a 100-acre discrepancy between the 17,054 acres of known ownership at UMGD at the GIS based redevelopment zone acreage analysis.)

Table 4: Redevelopment Zone Acreage

Redevelopment Zone Acreages	
Zone	Acres
Military Training	7,421
Wildlife Refuge	5,613
Industrial	1,794
Highway Commercial/Industrial	1,348
Agriculture	655
County Road ROW (estimated)	120
Freeway Right-of-Way	TBD
<b>Total</b>	<b>16,951</b>

The Industrial Zone is comprised of two sub-zoning designations:

- General Industrial
- Restricted Industrial

The table below provides a broad overview of the general redevelopment activity that will take place in each of the respective Redevelopment Zones and sub-zones.

Table 5: Description of Zones

Description of Redevelopment Zones		
Zone	Sub-Zone	General Description of Redevelopment Activity
Military Training		Land that is set-aside and secured for use by the Oregon National Guard for military training exercises
Wildlife Refuge		Land managed by the US Fish and Wildlife Service to preserve the shrub-steppe habitat for existing and potential wildlife species
Industrial	General	General industrial uses of the land
	Restricted	Industrial use that is limited to the utilization of igloos for storage
Highway Commercial/Industrial		Acreage that is set aside for Highway Commercial/Industrial Redevelopment opportunities
Agriculture		Exclusive Use Agriculture to be used in a land exchange for nearby Industrial Zoning
Freeway Right-of-Way		Simply a change in ownership to allow the Oregon Department of Transportation to own the land associated with I-82

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Military Training Zone

Since the early 1980s, the Department of the Army, through the Corps of Engineers, has licensed the Oregon Army National Guard use of the UMCD. The license authorized construction projects and maintenance of UMCD facilities at ORNG expense. Historical facility uses include a 25M live-fire range, field maintenance shop and vehicle compound, tank crew proficiency course, billeting, dining facility, helipad, and simulations.

Previous LRA and ORNG negotiations included a recommended federal-to-federal transfer agreement dated March 21, 2000. The original proposed property transfer included the Ammunition Disposal Area (ADA) (1,760 acres), K-block (1,400-1,500 acres), area south of ADA (20 acres), three ammunition bunkers, buildings 36, 52, 53, and 54 until replaced in K-Block, and building 115 until new maintenance facility is available.

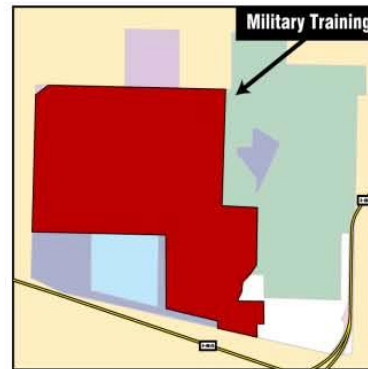


Figure 4: Military Training Zone

The current interest of the ORNG is summarized below:

- The Department of the Army has acknowledged that the ORNG has validated training requirements and a long history of use at the UMCD, and encourages the LRA to work with Major General Raymond F. Rees, Adjutant General, Oregon in development of a plan to maintain the training requirements of the ORNG.
- Maintain the ORNG's range and training activities and facilities while working in concert with area representatives to provide economic and resource management opportunities for the local communities. The proposal by ORNG has the endorsement of United States Army Vice Chief of Staff General Peter W. Chiarelli. Chiarelli has recommended that the proposal by ORNG be included in the redevelopment plan.
- Capitalize on the opportunity to use vacated demilitarization facilities, ranges, and field training areas to establish a formal Intermediate Training Complex (ITC).
- The ORNG presence on the UMCD is beneficial to the surrounding communities, the State of Oregon, and the nation in support of ongoing Overseas Contingency Operations.

The current proposal by ORNG includes the development of an ITC with specifications as follows:

- Designed to support individual and collective training
- Training facilities are focused on individual through platoon weapons proficiency and company maneuvers
- Full-time manning support and cantonment facilities
- Small arms range and maneuver space
- Construction will generally be limited to the requirements necessary to support training of a company sized element (100-150 soldiers each)

The required facilities include:

- Company Supply and Administration (8,940 sq. ft)
- Open bay barracks (570 beds including classrooms and laundry)
- Dining facilities (200 people per company) (13,500 sq. ft Consolidated Dining Facility)
- ID Processing Center (1,044 sq. ft)
- Field Maintenance Shop (6,144 sq. ft. building plus vehicle parking area)
- M1 Abrams Tank Simulation Conduct of Fire Trainer (SIMCOFT) Facility
- Range Operations building (2,508 sq. ft.)



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- Ammunition Holding Area
- Small Arms Live-Fire Range Complex
- Tank Crew Proficiency Course (TCPC) (two miles by 1 mile)
- Mobile Conduct of Fire Trainer Pad (M-COFT)
- Helipad
- Fuel Storage and issue point
- Supporting Infrastructure including Utilities and Roadways

One of the factors to overcome with the designation of land for use by the ORNG is the inability for the respective taxing authorities (Umatilla County, Morrow County, Port of Umatilla, Port of Morrow) to benefit from property taxes under the federal Payment in Lieu of Taxes (PILT) program. While land designated for use as a US Fish and Wildlife-managed refuge is eligible for federal PILT payments, the land owned and managed by the ORNG is not.

While federal PILT payments are not available, the ORNG offers other economic benefits including personnel and their associated payroll, expenditures in nearby communities, and the ability to design and construct the road network through portions UMCD.

The estimated support staff for the ITC would be 63 employees with an annual projected salary of \$3,258,430. The table below summarizes the facilities, soldiers trained, firing range requirements, and land use requirements of the ORNG at UMCD.

Table 6: ORNG Staffing, Facilities, and Land Requirements

Oregon National Guard Staffing, Facilities, and Land Requirements			
Facility	Annual Throughput Requirement	Firing Points/Lanes	Land Use Requirements
Intermediate Training Center	9,780 Soldiers	NA	100 acres
Ammunition Supply Point	NA	NA	35 acres
Field Maintenance Shop/Unit Training Equipment Site	NA	NA	10 acres
Range Operations and Maintenance Facilities	NA	NA	15 acres
Combat Pistol Qualification Course	196 Soldiers	15	553 acres
25m Zero Range	644 Soldiers	16	811 acres
Modified Record Fire Range	644 Soldiers	16	1,446 acres
Grenade Launcher Range	51 Soldiers	4	60 acres
Maneuver Training Area	3,685 Soldiers	NA	5,200 acres

\*Annual throughput requirement is based on commanders seeking 100 percent qualification of all personnel on their assigned weapon

\*Weapons surface danger zones overlap decreasing the total land use requirement

\*All ranges are constructed to TC 25-8 standards

\*Based on all units assigned to training for four three-day periods per year

\*Based on four field training exercises per year

### Administrative Area District

Despite the fact that the Administrative Area at UMCD has benefited from the greatest long-term commitment to use and maintenance of the buildings, the Administrative Area represents one of the least sought after portions of the 20,000 acre-facility.

While the administrative complex is comprised of structures that can be immediately occupied, the 1940s era construction is largely outdated, inefficient, and subject to higher maintenance costs than

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



new construction.

The most accessible and highly-visible portion of UMCD is the Administrative Area, a 191-acre campus with direct access to Interstate 84.

The Administrative Area is comprised of buildings that have formed the headquarters for the military operations since 1941. Most of the structures are World War II-era buildings that have been maintained sufficient for military standards, but would require significant improvements in order to meet building code requirements.

Throughout the public process to outline the future of UMCD, very little interest was expressed by either public or private entities for reuse of the complex. While on one hand the complex contained structures and settings that uniquely present the history of UMCD, the specific ownership and management of this area is somewhat uncertain.

Recognizing the need to have centralized management and maintenance of the Administrative Area, the Oregon National Guard has stepped forward to utilize the Administrative Area not only for their needs, but also to facilitate the use of the Administrative Area by other state agencies. Future reuse of the Administrative Area may also include other public and private uses. The ORNG has experience managing Memorandums of Understanding/Agreement with public and private interests to utilize land and facilities.

One of the specific reuses of the land generally recognized as the administrative area relates to the request by the Oregon Department of Transportation for approximately seven acres serving as a maintenance and materials storage area. It is recommended that a portion of the administrative area be utilized for this purpose.

The former depot Administrative Area is well suited for a variety of institutional and civic uses that may be developed on a shared facility basis. The area is intended as the cantonment area for the Oregon National Guard's training facility designated on 7,230 acres adjacent to the Administrative Area. Other institutional users may include the Oregon Department of Transportation, Oregon State Police, and Red Cross. The area is well suited for further development as a regional emergency services center serving the entire Pacific Northwest. It also has the potential to serve as a training facility for state and local law enforcement.

Other institutional and civic use applications may include a visitor center associated with the proposed U.S. Fish and Wildlife Service refuge adjacent to the designation. That facility or an adjacent building may also serve as a historic interpretative center for Interstate travelers regarding the role and former activities of the Depot. Commercial educational services and major event entertainment such as a site for an Eastern Oregon State Fair Grounds have also been suggested. Limited subsidiary commercial travel services may be offered, primarily food service, for visitors with an interest in the wildlife refuge and historic heritage of the former depot.



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Wildlife Refuge Zone

Leadership at CTUIR has generated a response by the US Fish and Wildlife Service (USFWS) to establish a 5,613 acre wildlife refuge to preserve and support the shrub-steppe habitat as well as other plant and wildlife species at UMCD.

The USFWS proposes to manage the shrub-steppe and grassland habitats of the UMCD as a unit of the National Wildlife Refuge System for the benefit of the American people. This would include a jurisdictional transfer of the land from the Department of Defense to the Department of Interior/USFWS.

UMCD represents some of the last large contiguous tracts of shrub-steppe habitat on the Columbia Plateau. USFWS indicates that protection of these habitats is critical to assuring the long term viability of shrub-steppe species including burrowing owls and long billed curlews within the Columbia Plateau in Oregon. The current breeding population of owls on UMCD is a local, regional, and nationally significant population and may be the largest in the state.



Figure 5: Wildlife Refuge Zone

The area has potential for providing opportunities for environmental education and public uses where appropriate and would provide economic stimulus for the surrounding towns. Transfer to the USFWS for management could occur as soon as the current mission is completed.

UMCD is located within the Pacific Flyway zone. Habitats within the area serve as resting, feeding, and nesting areas for migratory birds, wildlife, and invertebrates. Species current listing status was obtained from Oregon Department of Fish and Wildlife (2008) and USFWS (2008).

Burrowing Owls are declining in the northern half of their breeding range. The breeding range does include UMCD, and most of the western half of the United States as well as parts of Canada and Mexico.

The annual population decline is approximately 1.5%, with a cumulative decline of approximately 45% over the past 40 years. The overall breeding range for the Burrowing Owls has been reduced by 56% during this 40-year period.

The following migratory bird species have occurred on the area during at least portions of the year. Each species current (9/12/2009) listed status for this region is listed on the following page.

**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Table 7: Migratory Bird Species

Migratory Bird Species		
Species Name		Listing Status
Northern sagebrush lizard	<i>Sceloporus graciosus graciosus</i>	Federal Species of Concern/State Sensitive
Bald eagle	<i>Haliaeetus leucocephalus</i>	Federal Monitor/State Threatened
Burrowing owl	<i>Athene cunicularia</i>	Federal Species of Concern/State Sensitive
Loggerhead shrike	<i>Lanius ludovicianus</i>	Federal Species of Concern/State Sensitive
Sage sparrow	<i>Amphispiza belli</i>	Federal Species of Concern/State Sensitive
Ferruginous hawk	<i>Buteo regalis</i>	Federal Species of Concern/State Sensitive
Swainson's hawk	<i>Buteo swainsoni</i>	Federal Species of Concern/State Sensitive
Long-billed curlew	<i>Numenius americanus</i>	Federal Species of Concern/State Sensitive
Peregrine falcon	<i>Falco peregrinus</i>	State Sensitive
Lewis' woodpecker	<i>Melanerpes lewis</i>	Federal Species of Concern/State Sensitive
Grasshopper sparrow	<i>Ammodramus savannarum</i>	State Sensitive
Green-tailed towhee	<i>Pipilo chlorurus</i>	Federal Species of Concern
Brewer's sparrow	<i>Spizella breweri</i>	Federal Species of Concern

The USFWS does not anticipate any immediate facilities expansion. Visitor services programs which may include environmental education, interpretation, wildlife observation, and limited facilities could be incorporated into the management of the area. In the long run, new visitor facilities could be constructed for the wildlife area.

With respect to fire suppression, the USFWS has a program that addresses this significant concern. Opportunities for a multi-agency fire suppression plan governing the entire UMCD would ensure that the future property owners coordinate and collaborate fire suppression efforts.

It is in the interest of development authorities (most notably the Ports of Morrow and Umatilla) that the land designated at UMCD for National Wildlife Refuge status contributes toward the future capability of the port districts to advance their industrial development interests in other locations. (See: "Special Considerations" later in this chapter). That is, the establishment of this habitat conservation area along with other resource management conservation measures included in the Plan should serve to enable the respective port districts to advance their development projects in other areas of lesser habitat significance with the knowledge that one of the two largest and best preserved reserves in the Columbia Basin of shrub-steppe habitat has been protected.

Easily lost in the redevelopment of UMCD is the realization that much of the 17,000 acres of land that has been reserved for military and industrial purposes under the Redevelopment Plan is now being designated for habitat and wildlife preservation in some capacity. (See: Special Considerations section.)

It should be noted that this Plan advocates for the protection of shrub-steppe not only in the refuge area, but beyond this designated area. The shrub-steppe areas of UMCD would also be protected by a shrub-steppe overlay that may allow for the advancement of shrub-steppe preservation with economic goals simultaneously. The specific areas of UMCD outside of the refuge area to be protected by the shrub-steppe overlay would be determined during the plan implementation phase.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Industrial Zone

Two distinct areas for industrial zoning are included in this Redevelopment Plan. As shown in the map at right, there are two major areas for industrial reuse:

- Land in the southwestern corner
- The UMCDF area

The largest segment of Industrial-zoned land forms the entirety of the southern border of UMCD within Morrow County, and includes the industrial warehouses and some of the igloos south of the most southern boundary of the ADA area.

The industrial land use is intended to accommodate a broad range of both heavy and light industrial applications in areas that have largely been previously committed to associated activities. The land use designation in the plan is primarily associated with existing brownfield sites with developed transportation links, both rail and Interstate highway, well situated for future industrial development after infrastructure modernization and building remediation. The acreage associated with the previously committed developed areas is significant enough to accommodate larger scale industrial applications that are often difficult to locate. Moreover, the location of these areas is at some distance from urban concentrations reducing urban interface conflicts and transportation related impacts.

The designation is intended to accommodate a range of potential future industrial categories including industrial services: manufacturing and production; warehouse, freight movement and distribution; wholesale sales; and utility and energy related applications. Industrial services may include firms engaged in the repair or servicing of industrial, business or consumer machinery, equipment, products or by-products. Manufacturing and production firms, both light and heavy, may be involved in the manufacturing, processing, fabrication, packaging, or assembly of goods.

Warehouse, freight movement, and distribution activities may include but not be limited to major wholesale distribution centers; truck or rail terminals, warehouse complexes, emergency services stockpile and distribution facilities; and terminals for the storage and shipment of agriculture products.

Utility and energy related applications could include energy recovery plants, NEO-electric grid Hub, and alternative energy development.

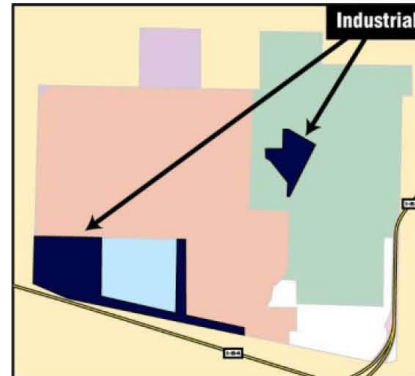


Figure 6: Industrial Zone



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Industrial Reuse of UMCDF Area** - By far the greatest economic value at UMCD is represented by the Umatilla Chemical Disposal Facility (UMCDF). The facility, which contains entirely modern structures, was constructed at an approximate cost of \$700 million. The facility became operational in 2004.

Two primary complications exist for reuse and salvage at UMCDF: 1) portions of the structures are contaminated by their chemical demilitarization mission, and 2) the existing permit with the Oregon Department of Environmental Quality would require modification in order to reuse many of the structures.

Despite these two challenges, the upside for reuse and salvage is significant. A broad engineering ballpark estimate of value at 2% - 5% of the original construction cost would yield between \$14 million and \$35 million for the LRA. It would be required that the LRA plan to reinvest any salvage earnings back into the job-creating mission.

The LRA has concluded that there is significant potential value in preserving and reusing equipment and structures at UMCDF. From a reuse perspective, the buildings with the greatest industrial redevelopment value at UMCD are virtually all located at UMCDF. Opportunities for industrial development benefiting from modern buildings, utilities, and other infrastructure can be significant.

A more in-depth analysis of the reuse of the UMCDF facility could be part of the follow-on infrastructure analysis and business plan overseen by an Implementing LRA.

The LRA would need to work with Oregon leaders and the Oregon Department of Environmental Quality to continue measures that have already been initiated by the LRA to modify the DEQ permit so that valuable assets are not otherwise destroyed. The demolition of certain contaminated facilities will still be a requirement of the RCRA permit.

Preliminary discussions have been held with the Port of Umatilla to be the lead agency to coordinate the UMCDF reuse and salvage strategy under the auspices of an Implementing LRA.

### Restricted Industrial

This land, bordered by general industrial zoning to the west, south, and east will be limited to the utilization of the igloos for storage. Use of the roads for ingress and egress to the igloos will be allowed, but all traffic and industrial use must be sensitive to the objective of the preservation of the shrub-steppe habitat. As such, all traffic in the Restricted Industrial zone must remain on the roads. A total of 942 acres are designated as Restricted Industrial.

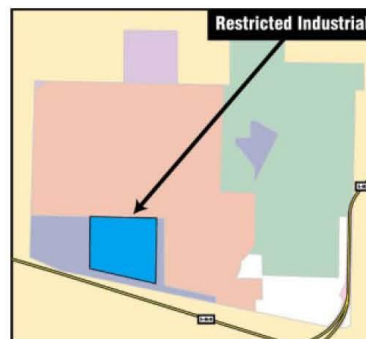


Figure 7: Restricted Industrial Zone

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Highway Commercial and Industrial Zone

Only the far Southeastern corner of UMCD is suggested for potential future highway commercial development in combination with industrial development, hence the combined Commercial-Industrial designation. The area may be exclusively or primarily used for industrial applications with limited or no highway commercial development dependent upon market demand.

Various factors combine to limit the likelihood of retail commercial development at UMCD:

- Existing commercial land is already zoned and available within urban growth boundaries of neighboring Oregon communities
- Commercial development is generally more successful when it is in greater direct proximity to residential areas
- Oregon's land use system strives to minimize the distance between commercial and residential areas
- The existing infrastructure system is generally insufficient for large-scale commercial development

Offsetting these competing factors for commercial development is the significant access and visibility afforded by the southeast corner of UMCD to both Interstate 84 and Interstate 82.

One of the Notices of Interest received by the LRA relates to the fact that a portion of Interstate 82 was built on land through an easement to the Oregon Department of Transportation (ODOT). ODOT submitted an NOI requesting the land be conveyed to the State of Oregon for continued transportation purposes. The LRA supports this NOI, and recommends a Public Benefit Conveyance for this purpose.

The Highway Commercial/Industrial designation is designed to accommodate a range of industrial and commercial land uses. Located at the junction of two Interstates, portions of the designated area are well suited for highway related commercial applications that may include food and vehicle services, lodging, and large-scale truck stops classified as industrial services.

The designation is also intended to accommodate a range of potential future industrial categories including industrial services; manufacturing and production; warehouse, freight movement and distribution; wholesale sales; and utility and energy related applications.

Significant portions of the designation have been previously committed to industrial style land uses. Industrial services may include firms engaged in the repair or servicing of industrial, business or consumer machinery, equipment, products or by-products. Manufacturing and production firms, both light and heavy, may be involved in the manufacturing, processing, fabrication, packaging, or

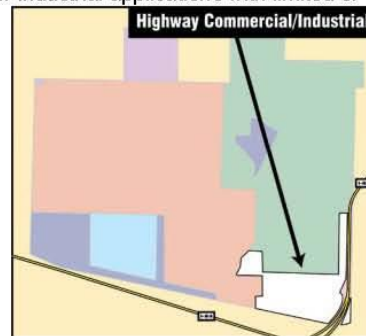


Figure 8: Highway Commercial/Industrial Zone



Figure 9: ODOT Freeway Right-of-Way



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



assembly of goods. Warehouse, freight movement, and distribution activities may include but not be limited to major wholesale distribution centers; truck or rail terminals, warehouse complexes, emergency services stockpile and distribution facilities; and terminals for the storage and shipment of agricultural products. Utility and energy related applications could include energy recovery plants, NEO electric grid Hub, and alternative energy development.

### Agriculture

One of the small exceptions to the generally-rectangular overall shape of UMCD is a 655-acre portion of land near the west end of the northern boundary of UMCD.

The City of Irrigon has a strong interest to develop additional industrial land within its current (or possibly extended) urban growth boundary.

It is the intention of the LRA, consistent with the stated desire of the City of Irrigon, to exchange this section of land with another section of land located within the City of Irrigon urban growth boundary in order that such land can be utilized for industrial purposes.

Similar to adjacent lands, the land in the 655-acre parcel is capable of agricultural production.

The agriculture land use zone is intended for exclusive use agricultural applications as recognized under the Oregon Land Use System and as contained in the Morrow County Zoning Code. Such uses may include irrigated agriculture or grazing lands.

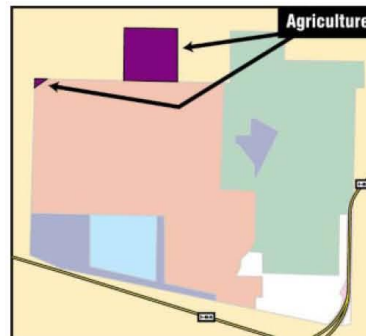


Figure 10: Agricultural

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### REDEVELOPMENT CONSIDERATIONS

The following considerations relate to specific requirements, opportunities, obligations, and policies desired by the LRA as the redevelopment effort moves into the implementation phase.

#### Shrub-Step Policy

The UMCD is situated within the Artemisia-Agropyron (A-A) steppe zone within the lower Umatilla Basin. The UMCD complex represents one of the two largest remaining bitterbrush shrub-steppe habitats in the Columbia Basin.

In the early stages of the planning process the LRA recognized and prioritized the accommodation of three principle objectives. One of those objectives was the retention and management of the shrub-steppe habitat values embodied on the UMCD. The other two critical objectives were the mitigation of economic impacts associated with the closure of the Base and accommodation of a vitally important training facility for the Oregon National Guard.

**Habitat Land-Banking Intent** - To maximize the accommodation of all three objectives, the RPIS represents a strategy that blends interrelated considerations both on and off the UMCD. In the case of shrub-steppe habitat conservation, the RPIS aggressively employs four land use designations and/or conservation techniques, as described below, to optimally conserve shrub-steppe values while simultaneously addressing the other principle objectives of the plan. In so doing, it was the specific intent of the LRA members to provide a large, managed reserve of some of the highest quality shrub-steppe habitat in the region as part of the RPIS so that potential commercial and industrial development elsewhere in the Umatilla and Morrow county region could potentially proceed in future years with the knowledge that important resource values had been adequately protected on the UMCD.

By intentionally restricting or eliminating the economic development options on significant portions of the UMCD for important habitat conservation objectives, community leaders as represented on the LRA have specifically developed a tradeoff strategy designed to retain and pursue economic development options judged to exist in more suitable locations elsewhere, both on the UMCD and the region.

**U.S. Fish and Wildlife Service Habitat Refuge** - The RPIS calls for the establishment of a US Fish and Wildlife Service Refuge on the UMCD for dedicated management of bitterbrush shrub-steppe resource values. The proposed Refuge would be 5,613 acres in size or approximately 33% of the UMCD.

**Restricted Industrial District** - Beyond the federal Refuge, three other mechanisms are recommended in the Plan to expand the footprint of the shrub-steppe habitat protection objective. As previously noted, the first of those mechanisms is the establishment of a "Restricted Industrial District" in the southwest quadrant of the Depot located in Morrow County. The District would be 942 acres in size.

Under the RPIS this District would receive special protections under the Morrow County Zoning Ordinance allowing for the industrial or commercial use of the existing igloos storage bunkers and road network located in the designation, but it would strictly prohibit any further development of industrial land uses on existing undisturbed land or any activities beyond the basic igloo footprint that could constitute a risk or disturbance to habitat values. It is also the intent that these same types of protections would be included as restrictive conservation covenants or lease restrictions by an Implementation LRA if so selected by the Department of Defense as the conveyance vehicle.

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Resource Management Plan by the Oregon National Guard** - The Oregon National Guard has a distinguished track record and established planning and natural resource management protocol for the protection of sensitive habitat values. The ORNG also has the financial resources for such activities. Under the RPIS, that area designated as the Oregon National Guard Training District has as its primary purpose the provision of a critical training facility. A secondary objective of the District, however, is to provide a habitat buffer and habitat expansion, where appropriate, to compliment the adjacent U.S. Fish and Wildlife Service Wildlife Refuge. The Oregon National Guard Training District is 7,421 acres in size, supplementing the resource values of the 5,613 acre Refuge District.

Many of the areas designated within the Oregon National Guard Training District and the Guard's training activities themselves, are conducive to the conservation of shrub-steppe habitat. The Oregon National Guard has committed to the development of a natural resources plan and management protocol that, to the extent possible, blends resource protection with the primary mission of the District (military training). These measures are likely to be similar or largely identical in nature to those that the Army has maintained over time that has resulted in the high quality shrub-steppe resource that is present today.

**Conservation Covenants in Select Industrial Areas** - The final of the four conservation measures undertaken in the RPIS to support shrub-steppe habitat values is the potential or actual establishment of conservation covenants or lease term restrictions in select areas of the UMCD designated for Industrial or Highway Commercial/Industrial zone designation.

The overriding land-use objective in these limited District designations under the RPIS is economic development to compensate for the impacts associated with base closure. Most of the areas in question have already been committed to some form of development and significant disturbance under previous Army activities. However, in select locations under certain redevelopment scenarios it may be possible to accommodate certain natural resource management objectives while simultaneously meeting the primary objective of industrial or commercial development.

Where appropriate, these measures would be implemented by the Implementation LRA through the use of conservation covenants or lease term restrictions. Precautions for fire management or the protection of highly sensitive resource values would likely be a primary consideration.

### Environmental Clean-Up

One of the most significant concerns of the LRA is the poor environmental condition of portions of the land and buildings at UMCD.

Specifically, due to the nature of the original construction (World War II-era), many of the building have residual asbestos and lead-based paint.

In order that the industrial and warehousing structures be reused, the LRA strongly requests that the Army remediate all of the asbestos and lead-based paint on the existing structures as well as portions of existing structures that have deteriorated and separated from existing buildings (siding on the industrial warehouses in the southwest corner of UMCD, for example).

In addition to asbestos and lead-based paint, the LRA requests continued operations of the pump-and-treat system as well as remediation of solid waste landfills on the sight.

The Planning Process section of this RPIS summarizes the environmental condition of the property, and prescribes specific recommendations and activities that the LRA requests of the federal government. As such, these activities and recommendations are incorporated into this RPIS.



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Water and Sewer Infrastructure

The Infrastructure Report in this Redevelopment Plan provides significant detail on the condition—and deficiencies—of the existing water and sewer systems. With the exception of the systems serving UMCD, the sewer and water infrastructure is generally deficient to meet the general reuse opportunities and recommendations outlined in this Redevelopment Plan.

In general, the water and sewer systems have been maintained to the degree necessary in order to meet the evolving military/defense mission of UMCD. Given the period of time that has elapsed since the primary military function of UMCD, the water and sewer systems not only would fail to meet the military uses of the past, but also the Industrial and the Highway Commercial/Industrial uses of the future.

It is strongly recommended that a water and sewer master plan be developed for UMCD that fosters the projected uses at UMCD. In other words, future projected uses consistent with the land use plan outlined in this Redevelopment Plan should define the specific sewer and water infrastructure capacity and design of the improved system.

Without significant planning—and ultimately, construction—of an improved water and sewer system, the possibility of virtually all of the prospective reuse alternatives are negated at UMCD.

Notably, two significant variables affect the availability of water at UMCD—one negative and one positive.

The Oregon Department of Water Resources has designated the area as a *critical groundwater area*. This designation establishes significant restrictions on the area in terms accessing groundwater resources.

On the positive side, the Port of Umatilla has substantial water rights that could be applied to future reuses at UMCD if certain economic development goals and objectives are met. In addition, the City of Irrigon has expressed interest in extending their municipal sewer and water infrastructure to UMCD.

In general, the existing water rights on UMCD would be allocated on a prorated share basis within Morrow County and Umatilla County. A detailed utilities plan for both water and wastewater will need to be prepared in the future to ascertain the most cost effective and rational development approach associated the provision of basic utility services.

### Road Policy

This Redevelopment Plan recommends the development of a road network that serves the following objectives:

- Allows access, restricted where appropriate, to the redevelopment zones (Military Training, Wildlife Refuge, Industrial, Highway Commercial/Industrial)
- Allows traffic to pass to and through UMCD for improved access associated with the City of Irrigon area
- Recognizes the security considerations of the Oregon National Guard
- Designates certain portions of the road system as County Right-of-Way (necessary, for example, through the wildlife refuge)
- Allows for the development and maintenance of the road system in a sustainable fashion, largely developed by the Oregon National Guard

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Law Enforcement Policy

Historically, the Department of the Army has provided for the security and law enforcement requirements at UMCD. Because the reuse of UMCD will entail ownership and management by multiple agencies and organizations, an interagency agreement for the provision of law enforcement should be established. A collaboration of federal, state, and local authorities should be considered in order that the people and property throughout the complex be protected.

### Security

Security is a consideration for all of the reuse zones within UMCD. Security is a paramount concern for the Oregon National Guard. As such, land owned and managed by the Oregon National Guard will have a secured perimeter fence. Security for other reuses will be established as reuse activities are defined.

### Fire Protection Policy

The suppression of wildfire on the 17,000-acre complex has historically been a significant concern and responsibility of the Army. As recently as 2009, for example, a 3,000-acre fire consumed portions of UMCD at a fire suppression cost of approximately \$500,000.

As the Oregon National Guard and the US Fish and Wildlife Service will be responsible for approximately 75% of the overall land mass, an interagency agreement between the two agencies and other relevant organizations such as rural fire districts should be established in order to protect the people, natural environment, and built environment at UMCD.

### INTEGRATION WITH COUNTY ZONING CODES

Both Morrow and Umatilla Counties will need to draft zoning code language specific to the various reuse functions prescribed in this plan:

- Military Training Facility
- Wildlife Refuge
- Institutional/Public (for the Administrative Area)
- General Industrial
- Restricted Industrial
- Highway Commercial/Industrial

Both counties also have detailed, approved planning provisions in place for areas surrounding the Depot lands. The most appropriate and efficient approach to accommodate the transfer of the Depot site with respect to Oregon's land planning requirements is through the use of a "post acknowledgment plan and ordinance amendment".

The land use designations suggested in the LRA Master Plan can be incorporated into the respective Morrow and Umatilla county comprehensive plans, following the "post acknowledgement amendment process" and approved by LCDC. If the planned uses are similar to the surrounding uses or similar to the current uses at the site this process would likely be sufficient. If significant changes in zoning are required under the LRA's Master Plan then a "Goal 13 Exception Request" may be required in the amendment process.

The consensus of state and local planning officials is that there will be no requirement to consider potential off-sets from existing inventories of industrial or commercial lands already designated in the Morrow County, Umatilla County, Hermiston, Umatilla, or Irrigon urban growth boundaries.



## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### 3.0: IMPLEMENTATION STRATEGY

The LRA has indicated its intent to move into an implementation phase after the approval of this RPIS. As shown in the schematic below, the LRA is recommending three types of conveyance mechanisms:

- Federal legislation for land transfer to state ownership
- Federal agency-to-agency transfer
- Economic development conveyance

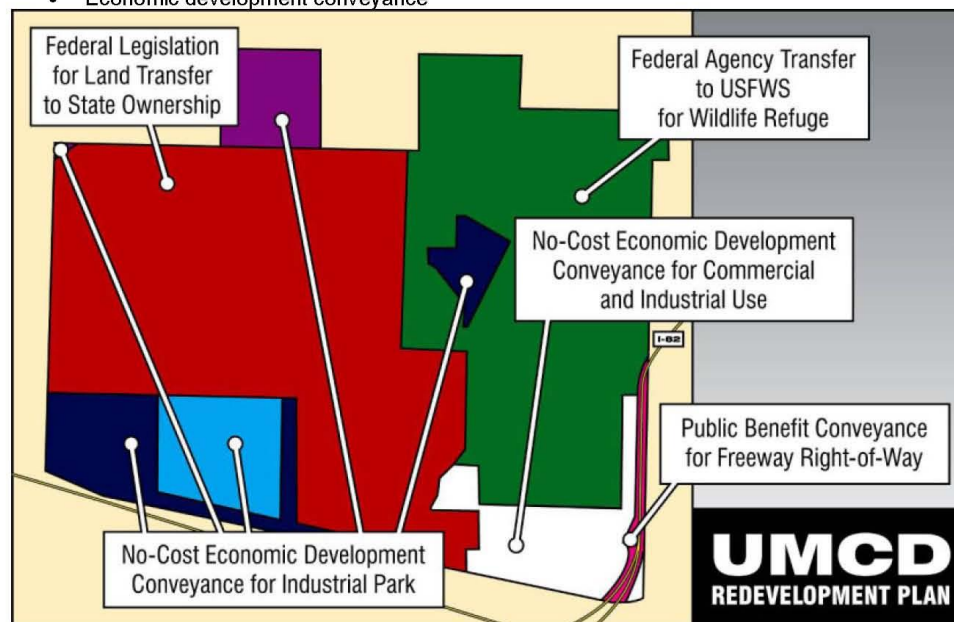


Figure 11: UMCD Implementation Strategy

**Federal Legislation for Land Transfer to State Ownership** - For the land that would be transferred to the ORNG, the LRA recommends federal legislation for land transfer to state ownership. In total, 7,421 acres would be transferred through this process. In the event that congressional legislation cannot be obtained, the back-up approach recommended by the LRA is for a Public Benefit Conveyance (PBC) through the Federal Emergency Management Agency.

**Federal Agency-to-Agency Transfer** - For the property to be owned and managed by the US Fish and Wildlife Service, the LRA recommends an agency-to-agency transfer from the Department of the Army to the US Fish and Wildlife Service.

**Economic Development Conveyance** - For the lands that would be zoned Industrial, Highway Commercial/Industrial, or Agricultural, the LRA recommends a no-cost economic development conveyance to an Implementation LRA.

**Public Benefit Conveyance for Freeway Right-of-Way** - For the land that would be transferred to the Oregon Department of Transportation, the LRA recommends a Public Benefit Conveyance

## SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



(PBC) in order that the State would own the Right-of-Way for Interstate 82.

### **CASE FOR A NO-COST ECONOMIC DEVELOPMENT CONVEYANCE**

The LRA understands that a strong case must be made for a no-cost economic development conveyance. Toward this end, the LRA offers the reasons why a no-cost economic development conveyance should be warranted.

**Reason #1: Immediate Job Loss** - The curtailment of chemical demilitarization activities at UMCD will cause a short-term loss of over 1,170 jobs.

**Reason #2: Residual Environmental Problems** - Because most of the structures at UMCD are of World War II-era construction, the buildings are covered with lead-based paint and asbestos materials. Reuse of many of the structures will require a significant expense by the Implementing LRA in order to make future use of such structures.

**Reason #3: Poor Physical Condition of Building and Infrastructure** - The buildings and infrastructure systems throughout UMCD have been in a state of deterioration for decades. While the Army has maintained certain structures and portions of the infrastructure in a satisfactory condition for a small segment of the overall property, huge expenses will be faced by the Implementing LRA for any buildings that are deemed reusable. In addition, upgrades to the sewer and water systems will be significant in order to utilize the property for future industrial and commercial use.

**Reason #4: Positive Solution on the ADA Area** - Because the LRA and the Oregon National Guard have agreed that the ORNG should reuse the ADA area located in the Northwestern quadrant of UMCD, the Army will not be required to remediate the land to dispose of unexploded ordnance to a higher land-use classification such as residential.

**Reason #5: Poor Market Conditions** - Not only is the national economy only beginning to recover from a deep recession, but the status of the State of Oregon economy is significantly worse than the national average. Compounding this matter is the fact that the unemployment rates for Morrow and Umatilla County have been at or above the state average. This results in an economic climate whereby industrial reuse in the short term is highly unlikely. Projections of an improving state and national economy coinciding with the likely timing of the property transfer improves the likelihood of successful economic development efforts in 2012 and beyond.

**Reason #6: Strained Local Budgets** - Not only has the economy had a challenging effect on the capacity to utilize the land, but it has also drained the budgets of the entities the land would be transferred to. This, coupled with diminishing economic development resources at the state level, limits the ability for public investment for redevelopment. Prospects for an improved state and national economy will generate a likely rebound in the financial ability to successfully implement economic development activities in 2012 and beyond.

**Reason #7: Competing Local Industrial Assets** - While the LRA recognizes many redevelopment opportunities for UMCD, the region has other industrial development assets and industrial parks that must also be developed, serviced, and maintained. In certain respects, industrial land reuse opportunities at UMCD represent a phase of development beyond the immediate opportunities at existing industrial parks. Balancing this, however, are certain unique development opportunities only afforded by the expanse of land and available infrastructure at UMCD. In short, the redevelopment of industrial land through economic development conveyances is a part of a broader portfolio of economic development opportunities being managed by local development authorities.

**Reason #8: Meeting the Army's Needs** - The LRA has understood that it is a priority of the Army

**SELECTED COMPONENTS OF THE UMCD REDEVELOPMENT PLAN**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## **PROGRAMMATIC AGREEMENT**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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## **APPENDIX B            PROGRAMMATIC AGREEMENT**

## **PROGRAMMATIC AGREEMENT**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**PROGRAMMATIC AGREEMENT AMONG**  
**THE DEPARTMENT OF THE ARMY,**  
**THE**  
**STATE HISTORIC PRESERVATION OFFICER, AND THE**  
**ADVISORY COUNCIL ON HISTORIC PRESERVATION**  
**REGARDING THE CLOSURE AND TRANSFER OF SELECT PARCELS OF**  
**UMATILLA CHEMICAL DEPOT, OREGON**

**WHEREAS**, the Department of the Army (Army) has closed Umatilla Chemical Depot (UMCD) as an active military installation and is proceeding with disposal of the property through, economic development conveyances, public benefit conveyances, competitive sales, negotiated sales, or a combination thereof in a manner consistent with the requirements of the 2005 Base Realignment and Closure Commission (BRAC) thereby making the undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. § 470f and its implementing regulations, 36 C.F.R. Part 800; and

**WHEREAS**, UMCD was slated for closure and transfer under the 2005 BRAC report and the Army began compliance with federal laws related to that action; UMCD was removed from the BRAC closure process in February of 2011 and all Section 106 and National Environmental Policy Act (NEPA) activities underway at that time were stopped; in early 2012, the Defense Authorization Bill put UMCD back under BRAC for closure and transfer and both Section 106 and NEPA compliance activities were resumed; and

**WHEREAS**, UMCD was closed on August 1, 2012; and

**WHEREAS**, the Army has defined the Area of Potential Effects (APE) of this undertaking to be the entire installation, encompassing approximately 17,070 acres of land in northeast Oregon near the border with the State of Washington (Attachment A); and

**WHEREAS**, the Army has determined that the undertaking has the potential to adversely affect historic properties, which are eligible for listing in the National Register of Historic Places (National Register), and has consulted with the Oregon State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. Part 800; and

**WHEREAS**, the Army, pursuant to 36 C.F.R. § 800.3(f)(2), consulted with the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Grand Ronde Community, the Confederated Tribes of the Umatilla Indian Reservation (CUTIR), Confederated Tribes of the Warm Springs Reservation, the Nez Perce Tribe, and the Spokane Tribes of Indians, federally-recognized Indian tribes (Tribes) who have been invited to sign this Programmatic Agreement (Agreement) as a concurring party; and

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**WHEREAS**, the public has been notified and provided an opportunity to comment on the undertaking through public meetings and comments sought under NEPA; and

**WHEREAS**, in accordance with 36 C.F.R. § 800.6(a)(1), the Army has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the ACHP has chosen to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and

**WHEREAS**, the Local Redevelopment Authority (LRA) has prepared a redevelopment plan for the Army to consider in the disposal of property not transferred to another federal or state agency, 9,474 acres, as shown in Attachment B. The Oregon Department of Transportation will receive 96 acres of land along Interstate Highway 82 on the eastern edge of the installation, as shown in Attachment B; and

**WHEREAS**, the National Guard Bureau (NGB) is designated to receive the remaining parcels of the installation, 7,500 acres, in a federal agency-to-federal agency transfer from the Army as shown in Attachment B, which is not deemed an undertaking under the NHPA and is not part of this Section 106 consultation or Agreement, and any NGB projects that constitute undertakings will be subject to separate Section 106 consultations with NGB as the agency official pursuant to 36 C.F.R. § 800.2(a), this includes the Headquarters Building (Building 1) and the Fire House (Building 2) which are eligible for the National Register; and

**NOW, THEREFORE**, the Army, the ACHP and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

### Stipulations

The Army will ensure the following stipulations are carried out concerning all historic properties within the designated APE at UMCD prior to transfer of lands out of federal ownership.

#### **(A) Archeological Resource Identification and Assessment:**

For archaeological activities resulting in a written report, forms or other documents, the SHPO and consulting parties will be afforded thirty (30) days after receipt of any document to comment on the documentation submitted by the Army. Documents may then be revised considering the comments received. The Army will respond to consulting parties' comments explaining how they will be addressed.

##### 1. General.

- a. Any archaeological investigations conducted by the Army shall utilize consultants meeting the Secretary of the Interior's "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



[As Amended and Annotated].” (Professional Qualifications) and follow the SHPO’s *Guidelines for Conducting Field Archaeology in Oregon*.

- b. The Army is responsible for conducting phased archaeological investigations for the parcels being transferred out of federal ownership. The sequential phases of investigations are comprised of: Phase 1a, reconnaissance survey and background research and Phase 1b, archaeological investigation. A work plan for each phase of investigation will be submitted to the SHPO and CTUIR for review and comment before work commences. The phases may be combined into fewer studies to reduce the numbers of work plans and reports produced and submitted for review. A State site form and Determinations of Eligibility (DOE) will be produced for each resource identified during the phased investigations.
- c. All resulting artifact collections, images, field notes, records, digital data, and geospatial data generated by the archaeological investigations pursuant to this PA will be curated by the Army in accordance with 36 C.F.R. Part 79.
- d. Future NHPA compliance for UMCD lands transferred to another federal agency will be the responsibility of the receiving agency.

### 2. Phase 1a

- a. Within one year of signing this Agreement, the Army will complete a reconnaissance survey of archaeological site identification to consist of detailed background research and a surface reconnaissance of the entire APE to determine levels of disturbance, soil accumulation, surface visibility, and other factors relevant to creating a strategy for subsurface investigations.
  - i. If human remains are encountered during any surveys conducted by the Army pursuant to this Agreement, treatment of those human remains, including prehistoric and historic burials, will be carried out in accordance with the Native American Graves and Repatriation Act (NAGPRA).
  - ii. A draft report, following SHPO’s *State of Oregon Archaeological Reporting Guidelines*, containing the findings and recommendations of the Phase 1a study shall be submitted to the SHPO and the CTUIR for a 30 calendar-day period of review and comment prior to completion of the document.

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- iii. The final report shall be distributed to all concurring and signatory parties, except the ACHP, to this agreement within 42 calendar days of receiving comments from the SHPO and the CTUIR.

### 3. Phase 1b

- a. Within one year of completing Phase 1a and in the event that Phase 1a indicates that one or more of the areas evaluated have potential to possess intact archeological remains, the Army will conduct a Phase 1b archaeological investigation, employing shovel testing, of those areas to determine whether intact archaeological strata and remains are present. A shovel testing plan which complies with SHPO Guidelines for Conducting Field Archaeology in Oregon will be developed with consulting parties. Limited archaeological shovel testing will be conducted in the margins around igloos to determine if intact deposits remain that could bear cultural resources.
  - i. If human remains are encountered during any surveys conducted by the Army pursuant to this Agreement, treatment of those human remains, including prehistoric and historic burials, will be carried out in accordance with NAGPRA.
  - ii. A draft report, following SHPO's *State of Oregon Archaeological Reporting Guidelines*, containing the findings and recommendations of the Phase 1b investigation shall be submitted to the SHPO and the CTUIR for a 30 calendar-day period of review and comment prior to completion of the document.
  - iii. The final report shall be distributed to all concurring and signatory parties, *except* the ACHP, to this agreement within 42 calendar days of receiving comments from the SHPO and the CTUIR.

### 4. Determination of National Register Eligibility

- a. If any archaeological resources are identified during the Phase 1b survey, DOE for inclusion in the National Register shall be made by applying the criteria as set forth in 36 C.F.R. §60.(4) and the SHPO's *Cultural Property Inventory and Request for a Determination of Eligibility* form.
- b. The Army will make DOE in consultation with the CTUIR and seek concurrence on those determinations from the SHPO within 180 calendar days of completing Phase 1b.



## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- c. If a DOE cannot be made without further testing, the resource will be treated as eligible.
- d. Disputes regarding eligibility will be sent to the Keeper of the National Register in accordance with 36 C.F.R. Part 63.

### (B) Architectural Resource Identification and Assessment:

1. General.
  - a. Professional Qualifications. All architectural investigations conducted by the Army shall utilize consultants meeting the Secretary of the Interior's Professional Qualifications in one or more of the areas of history, architectural history, historic architecture, or historic preservation, as defined in Federal Register 33708 (Vol. 62, No. 119).
  - b. Identification and Assessment Standards. Identification and assessment shall meet all reconnaissance survey requirements as delineated in the SHPO's *Guidelines for Historic Resource Surveys in Oregon* and National Register Bulletin #15, *How to Apply the National Register Criteria for Evaluation*.
  - c. The Army will make every effort to complete all investigations pursuant to this Agreement prior to the transfer of any parcels to non-federal entities. However, should the Army transfer any parcel to a non-federal entity prior to completion of any investigation in this stipulation, the Army shall ensure that it will have unencumbered site access to complete historic property identification and any necessary mitigation efforts as a condition of the transfer.
  - d. Future NHPA compliance for UMCD lands transferred to another federal agency will be the responsibility of the receiving agency.
2. Inventory and Assessment. The Army shall inventory and assess the built infrastructure of UMCD, including portions scheduled to be transferred to another federal agency.
  - a. Historic Contexts. The Army shall use existing historic contexts (World War II and Cold War) for re-evaluation and develop concise local historic context in which to evaluate the buildings for National Register eligibility.
  - b. Inventory. The Army shall conduct a reconnaissance level survey of all non ammunition storage facilities using the Oregon Historic Sites Database and the Guidelines for Historic Resources Surveys in Oregon. A

*Draft Programmatic Agreement Regarding the Closure and Transfer of Umatilla Chemical Depot, Oregon*

Page 5 of 18



## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



representative sample of ammunition storage facilities, to be determined in consultation with the SHPO, shall be inventoried. The representative sample will be the basis for determination that applies to all ammunition storage facilities at UMCD.

- c. Assessment. The Army shall use the historic contexts to evaluate all properties

### 3. Coordination of National Register Determinations with SHPO.

- a. The Army shall complete the inventory in the Oregon Historic Sites Database and submit its determinations of eligibility, along with an evaluation of the properties within national and local contexts, within one year of signing this agreement.
- b. The SHPO shall respond to the Army's determination in writing within 30 calendar days of submission.
- c. Should the Army and the SHPO fail to concur on National Register Eligibility, the Keeper of the Register shall be the arbiter as per 36 C.F.R. Part 63.
- d. Any historic property transferred out of federal control shall be adversely affected and shall receive mitigation in Stipulation D (2).

### 4. Applicability of ACHP Program Comments.

The Advisory Council on Historic Preservation issued Program Comments (Program Comments) for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities on August 18, 2006. Ammunition storage facilities at UMCD consist of all earthen-covered ("igloos") and above-ground ammunition storage magazines as listed in Table 1 of the Program Comments. Ongoing operations, maintenance, repair, rehabilitation, renovation, mothballing, new construction, demolition, deconstruction and salvage, remediation activities, transfer, sale, lease, and closure shall proceed on any applicable property at UMCD without any further coordination.

- a. If a historic property is classified as an ammunition storage facility and is contributing to an eligible historic district where the context of the district is not exclusive to ammunition related storage facilities, the ACHP Program Comment for Ammunition Storage Facilities does not apply.
- b. If a historic property classified as an ammunition storage facility and is contributing to an eligible historic district where the context of the district is exclusively comprised of ammunition storage related facilities, the ACHP Program Comment for Ammunition Storage Facilities applies.

*Draft Programmatic Agreement Regarding the Closure and Transfer of Umatilla Chemical Depot, Oregon*

Page 6 of 18

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### **(C) Properties of Religious and Cultural Significance:**

For activities concerning properties of religious and cultural significance to the CTUIR resulting in a written report, forms or other documents, the Tribe will be afforded 30 calendar days after receipt of any document to comment on the documentation submitted by the Army. Documents may then be revised considering the comments received. The Army will respond to consulting parties' comments explaining how they will be addressed.

Within one year of the signing of this Agreement, the Army shall conduct an inventory of Properties of Religious and Cultural Significance (PRCS) to the CTUIR.

1. Identification of PRCS Prior to transfer, a survey to identify PRCS to the CTUIR will be conducted. The survey shall include extensive background research and interviews with appropriate tribal members to develop a cultural context and history for the resources at UMCD. On-site visits to the UMCD property will be conducted with tribal members to locate and identify PRCS.
2. Determination of National Register Eligibility. National Register eligibility determinations for each PRCS identified shall be made in consultation with the SHPO and the Tribe by applying the criteria as set forth in 36 CFR §60.(4). The Army will make determinations of eligibility in consultation with the SHPO and CTUIR.
3. Reporting. Upon completion of the PRCS survey, the Army shall submit draft reports (both hard copies and electronic copies on computer disk) to the CTUIR. Information shared with the SHPO will be at the tribe's discretion. Comments shall be provided to the Army within 30 calendar days of the receipt of the document. The final report will be distributed to the CTUIR. The tribe will determine what information is distributed to the SHPO.

### **(D) Treatment of Historic Properties:**

1. Archaeological Sites. If any National Register eligible historic properties are identified within the property to be transferred out of federal control, the Army shall consult with the SHPO and the CTUIR to determine appropriate measures to avoid, minimize, or mitigate adverse effects to those historic properties.
  - a. Consultation will begin within 30 calendar days of the DOE. Parties will make every effort to reach a consensus on treatment for adversely effected properties within 90 calendar days of the start of consultation.
  - b. The agreed upon treatment for historic properties will be implemented by the Army within 90 calendar day of agreement on treatment, pending availability of funding.

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



2. Above-Ground Historic Properties. Adverse effects on above ground properties transferring out of federal control shall be mitigated through the following actions:
  - a. Historic properties that shall be destroyed under international treaty shall be mitigated by completion of recordation to the standards of the Historic American Building/Engineering Survey Level II documentation.
  - b. Historic Ammunition Storage Facilities that meet the application of the ACHP Program Comments for Ammunition Storage Facilities have been previously mitigated and no further coordination is required.
  - c. All other historic properties at UMCD that are adversely affected shall be mitigated in the following manner:
    - i. The Army shall produce digital photographic documentation of the entire UMCD consisting of a minimum of 250 geo-tagged images with appropriate meta data within 180 calendar days of determination of adverse effect. The images shall be made available to all consulting parties – except the ACHP - and the public via the internet for a minimum of two years.
    - ii. The Army, in consultation with the SHPO, shall develop a portable interpretive exhibit and establish a program by which the display will be made available to institutions around the State of Oregon within one year of the determination of adverse effect
    - iii. The Army, in consultation with the SHPO, shall develop a brochure in an Adobe Acrobat pdf file format geared toward education and awareness of UMCD's history and historic properties within one year of the determination of adverse effect. The brochure will be made available on the SHPO, U.S. Army Corps of Engineers, UMCD and LRA websites.
3. Properties of Religious and Cultural Significance. If any National Register eligible PRCS are identified within the property to be transferred out of federal control, the Army shall consult with the SHPO and the affected tribe(s) to determine appropriate measures to avoid, minimize, or mitigate adverse effects to those properties.
  - a. Consultation will begin within 30 calendar days of the determination of eligibility. Parties will make every effort to reach a consensus on treatment for adversely effected properties within 90 calendar days of the start of consultation.

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



- b. The agreed upon treatment for historic properties will be implemented by the Army within 90 calendar days of agreement on treatment, pending availability of funding.

### **(E) Dispute Resolution:**

Should any signatory or concurring party to this Agreement object at any time to any actions proposed or the manner in which the terms of this Agreement are implemented, the Army shall consult with such party to resolve the objection. If the Army determines that such objection cannot be resolved, the Army will:

1. Forward all documentation relevant to the dispute, including the Army's proposed resolution, to the ACHP. The ACHP shall provide the Army with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the Army shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The Army will then proceed according to its final decision.
2. If the ACHP does not provide its advice regarding the dispute within the 30 calendar day time period, the Army may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Army shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the Agreement, and provide them and the ACHP with a copy of such written response.
3. Carry out all other actions subject to the terms of this PA that are not the subject of the dispute.

### **(F) Duration:**

This Agreement shall be null and void if its terms are not carried out within 10 years from the date of its execution. Prior to such time, the Army may consult with the other signatories to reconsider the terms of the Agreement and amend in accordance with this stipulation.

### **(G) Amendments:**

This Agreement may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

### **(H) Termination:**

If any signatory to this Agreement determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation G, above. If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the Agreement upon written notification to the other signatories.



## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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Once the Agreement is terminated, and prior to work continuing on the undertaking, the Army must either (a) execute a Memorandum of Agreement pursuant to 36 C.F.R. § 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 C.F.R. § 800.7. The Army shall notify the signatories as to the course of action it will pursue.

**(I) Reporting and Monitoring:**

Upon execution of this PA, the Army will submit, via email, a bi-annual update on the status of all activities covered by this PA to consulting parties other than the ACHP and other interested parties. Updates will be submitted until all activities covered by this PA have been completed.

**EXECUTION** of this Agreement by the Army, SHPO, and the ACHP and implementation of its terms evidence that the Army has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.



## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**PROGRAMMATIC AGREEMENT AMONG**  
**THE DEPARTMENT OF THE ARMY,**  
**THE**  
**STATE HISTORIC PRESERVATION OFFICER, AND THE**  
**ADVISORY COUNCIL ON HISTORIC PRESERVATION**  
**REGARDING THE CLOSURE AND TRANSFER OF SELECT PARCELS OF**  
**UMATILLA CHEMICAL DEPOT, OREGON**

SIGNATURE PAGE:

US ARMY

By: H. Charles Hodges Jr. Date 2 Dec 13  
H. CHARLES HODGES JR. COLONEL, IN Commanding

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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**UMATILLA CHEMICAL DEPOT, OREGON**

SIGNATURE PAGE:

OREGON STATE HISTORIC PRESERVATION OFFICER

By:  Date 12-12-13  
ROGER ROPER, Deputy State Historic Preservation Officer

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



PROGRAMMATIC AGREEMENT AMONG  
THE DEPARTMENT OF THE ARMY,  
THE  
STATE HISTORIC PRESERVATION OFFICER, AND THE  
ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE CLOSURE AND TRANSFER OF SELECT PARCELS OF  
UMATILLA CHEMICAL DEPOT, OREGON

SIGNATURE PAGE:

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: John M. Fowler Date 12/30/13  
JOHN FOWLER, Executive Director

## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**PROGRAMMATIC AGREEMENT AMONG**  
**THE DEPARTMENT OF THE ARMY,**  
**THE**  
**STATE HISTORIC PRESERVATION OFFICER, AND THE**  
**ADVISORY COUNCIL ON HISTORIC PRESERVATION**  
**REGARDING THE CLOSURE AND TRANSFER OF SELECT PARCELS OF**  
**UMATILLA CHEMICAL DEPOT, OREGON**

CONSULTING PARTIES:

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

By: \_\_\_\_\_ Date \_\_\_\_\_  
LES MINTHORN, Chairman, Board of Trustees

## **PROGRAMMATIC AGREEMENT**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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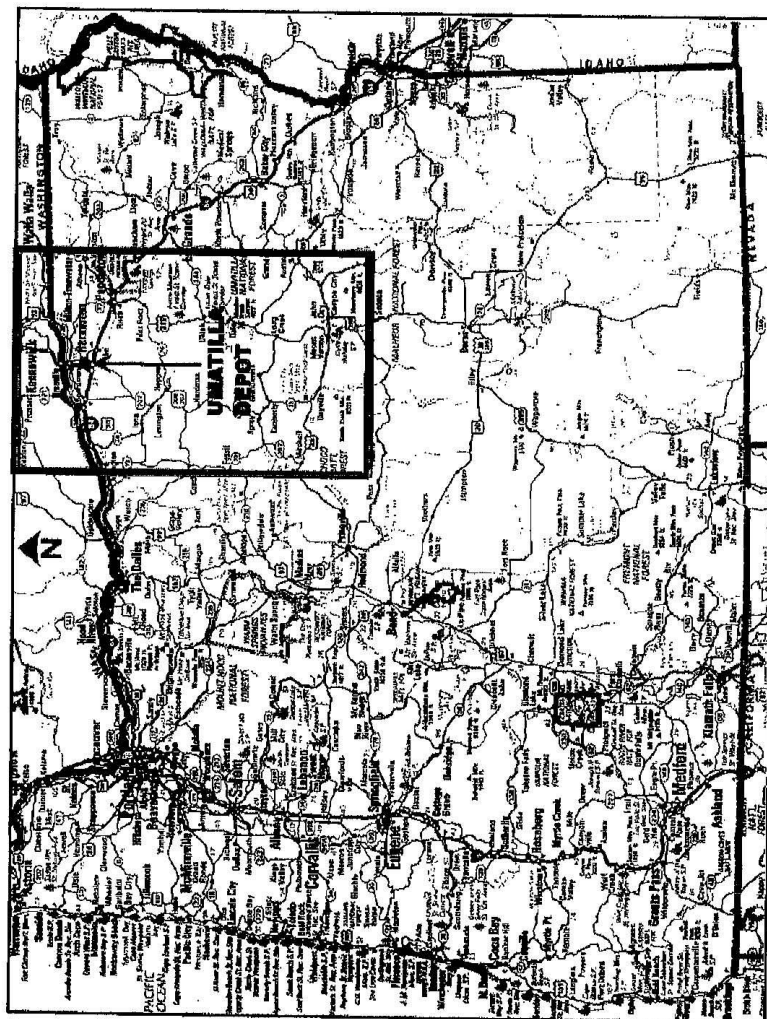


### **ATTACHMENT A Project Location Map**



## PROGRAMMATIC AGREEMENT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Attachment A: Location of Umatilla Army Depot

## **PROGRAMMATIC AGREEMENT**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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### **ATTACHMENT B** **Umatilla Chemical Depot Reuse Map**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Attachment B: Proposed Reuse of Umatilla Army Depot

Programmatic Agreement Regarding the Closure and Transfer of Umatilla Chemical Depot, Oregon

Page 18 of 18

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## **APPENDIX C**

## **AGENCY CONSULTATION**

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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NHPA Section 106 letters were sent to the State Historic Preservation Officer and stakeholder Native American tribes and nations to initiate consultation on this undertaking in 2009 and again in 2013. Letters were sent to the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Grand Ronde Community, the Spokane Tribe of Indians, the Nez Perce Tribe, the Confederated Tribes and Bands of the Yakima Nation, the Confederated Tribes of the Warm Springs, and The Confederated Tribes of the Colville Reservation. Only the Confederated Tribes of the Colville Reservation chose to participate in the consultation and development of the Programmatic Agreement, although they chose not to sign it.

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
US ARMY CHEMICAL MATERIALS AGENCY  
UMATILLA CHEMICAL DEPOT  
78798 ORDNANCE ROAD  
BUILDING 1  
HERMISTON, OREGON 97838-9108

03 MAR 2010

Risk Management Directorate

10-RDE-0015

SUBJECT: Areas with High Potential to Contain Archaeological Resources

State Historic Preservation Office (SHPO)  
Attn: Ms. Chrissy Curra, Associate Deputy SHPO  
725 Summer Street, Suite C  
Salem, OR 97301

Dear Ms. Curran,

On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended a set of domestic realignment and closure actions to meet the needs of a more efficient and effective fighting force. The BRAC Commission recommended closure of 15 Active-Duty installations, 17 leased facilities, 176 Army Reserve installations, and 211 Army National Guard facilities, while creating Training Centers of Excellence and Joint Technical and Research Facilities. The recommendations became law on November 9, 2005 and must now be implemented as provided for in the BRAC Act of 1990, Public Law (PL) 101-510. To implement one of the recommended actions, the Army is proposing the closure of Umatilla Chemical Depot (UMCD), Hermiston, Oregon and transfer of this property from Government ownership to a non-federal entity for local reuse and development after closure. If this action is of interest to you, we would like to begin consultation pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended at this time.

UMCD is situated in portions of Umatilla and Morrow Counties in northeastern Oregon and covers 17,054 acres. The Depot has a buffer area of 2,674 acres of private property and Bureau of Land Management lands north and east of the Depot boundaries. The land was historically occupied by the Sahaptin-speaking Umatilla Indians, and a piece of UMCD was once part of the Umatilla Indian Reservation. The Depot was established in 1941 to repackage and store conventional munitions and is comprised of three functional areas or units: 1) Ammunition Demolition Area; 2) Administration Area; and 3) Storage Area. Additional information about the facility is enclosed.

An Integrated Cultural Resources Management Plan was prepared for UMCD in 2002 by Earth Tech, Inc. and includes a discussion of previous cultural resources investigations conducted on UMCD. Additionally, a Cold War inventory and assessment was performed in 2002 for the installation, and several Program Comments have been adopted for specific types of WWII and Cold War resources. Using information from the ICRMP, the assessment, and



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



program comments, the Army has determined that additional work is required at UMCD to comply with Section 106 of the National Historic Preservation Act. The Army is proposing to conduct sub-surface shovel testing along Coyote Coulee, an area covering approximately 500 acres; document and evaluate the wagon ruts suspected to be the Oregon Trail; and conduct a visual survey of all unrestricted areas on UMCD to determine areas with high potential to contain archaeological resources. More detailed information is attached.

At this time the Army requests that you review the information provided and submit any comments or concerns you may have within 30 calendar days of receipt of this letter. Correspondence and other communication regarding this matter should be directed to Mr. Donald C. Gillis, UMCD Cultural Resources Manager, 78798 Ordnance Road, Building 55, Hermiston, Oregon 97838-9108. Mr. Gillis may be reached at (541) 564-5420. I would like to thank you in advance for your efforts.

Sincerely,



Kris A. Perkins  
Lieutenant Colonel, U.S. Army  
Commanding

Attachments

**Note: Attachments omitted from these appendices.**

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Oregon

Theodore R. Kulongoski, Governor

### Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

[www.oregonheritage.org](http://www.oregonheritage.org)

April 5, 2010



Donald C. Gillis  
UMCD Cultural Resources Manager  
78798 Ordnance Road, Building 55  
Hermiston, Oregon 97838-9108

RE: Section 106 compliance – UMCD closure  
SHPO Case No. 10-0946

Dear Mr. Gillis,

Thank you for your letter of March 3, 2010 formally initiating Section 106 compliance for the closure of the Umatilla Chemical Depot (UMCD) in Hermiston. The Oregon State Historic Preservation Office (SHPO) has had several conversations with Army representatives over the past two years regarding the proposed land transfer. During these discussions we have outlined the steps that need to be addressed in order to convey this property out of federal ownership to a non-federal entity for reuse and development after closure. Your recent letter does not appear to reflect these previous discussions.

To address your proposed closure and transfer of the federal facilities your letter outlines work that you are proposing to conduct in order to comply with Section 106 of the National Historic Preservation Act. These steps include limited survey and subsurface excavation in an area along Coyote Creek, an evaluation of wagon ruts suspected to be the Oregon Trail, and a visual survey of all unrestricted areas of the UMCD to determine high probability areas likely to contain archaeological properties. Our comments below address each of these proposed components along with other work we feel is necessary to move this consultation forward. Our comments include:

#### **Historic Buildings and Structures**

In 1988 the Oregon SHPO found the Headquarters Building (No. 1) and the Firehouse (No. 2) eligible for listing in the National Register of Historic Places. The UMCD agreed with the SHPO on the eligibility of the Headquarters Building in 1989 through a programmatic agreement. These determinations were reaffirmed through consultation on various Section 106 activities in 1990, 1995, and 1998. Despite the consistent opinion of the SHPO, the UMCD continues to insist that none of the buildings at the Depot are eligible for listing. Our office can find no record of consultation or concurrence on these findings, and in fact, the Oregon SHPO's determination in 1998 found the entire Depot site eligible as a historic district. Having said that, we realize some of the buildings fall under one or all of the Army's Program Comments adopted in 2007.





## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Page 2

We respectfully ask for clarification and demonstration that Buildings No. 1 and 2 contain the property category codes that would allow them to be covered under the Program Comments. If the UMCD cannot produce the clarification, we will expect to consult on the eligibility and effect for these two buildings.

### Archaeological Investigations

Archaeological Survey: Your proposed archaeological work does not address the known potential significance of cultural resources within your project area and appears to arbitrarily assigned. It is unclear whether a thorough background research of the area has been conducted to determine the likelihood of prehistoric and historic archaeological resources. This initial step needs to be completed before an assessment can be made of what lands need to be surveyed and tested. In previous discussions with your office (through David Pugh), we shared information about the existence of a known historic archaeological site (35UM401), numerous prehistoric isolates, an 1870 wagon road, and remnants of the 1861 emigrant trail (Oregon Trail). According to our records, however, very little archaeological survey has ever been conducted within your larger property. Approximately 12% was surveyed in 1995 by Eastern Washington University. How do the results of this survey reflect the likelihood of prehistoric and historic archaeological sites being found in the remaining 88% of the land? This needs to be addressed prior to any agreement on a strategy to move forward toward land assessment and conveyance.

Survey and Testing of the Coyote Coulee Area - Coyote Coulee is indeed a high probability area for the discovery of prehistoric archaeological sites. Survey of this entire coulee area needs to be conducted. This includes lands within the Coulee and back from the edge of the raised landform. It is unclear how your arbitrary 200-meter area from the center line of the coulee would meet this need. Shovel testing is best designed after the completion of a pedestrian survey when archaeologists are able to examine area landforms to see how they may have been best utilized by earlier peoples. Such utilization would have included temporary camps, root gathering and hunting areas, spiritual uses (e.g. creation of rock cairns), and potential Traditional Cultural Properties. Arbitrary boundaries that are not directly related to previous land-use activities are difficult to support.

Wagon Trail Ruts - Your letter states that archaeologists will consult with both the Oregon Historic Trails Advisory Board and the Oregon SHPO regarding the remnant wagon trail ruts related to the Oregon Trail. Is your office aware of all trail remnants within your project area? Do all the ruts (a minimum of three sections) relate to the Oregon Trail? What is to be incorporated in the evaluation of these trails? What is the methodology for your investigation? No details are provided here and our office needs to have more information on the level of recordation that will be completed.

Visual Survey - This component of your proposed work plan lacks any information that would enable our office to concur. What is the proposed methodology that will be followed to complete the "visual" survey? What degree of background research will accompany the "visual" survey?

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Page 3

What are the proposed transect intervals? What type of field reconnaissance is proposed to verify site conditions and document areas needing further investigation?

### Traditional Cultural Properties

Have the appropriate tribes been consulted regarding the potential for the existence of a Traditional Cultural Property at the UMCD? We consider this aspect an integral part of the cultural resource assessment under Section 106, and the results of your consultation with the tribes should be addressed in your findings.

In addition to the questions raised above, we have concerns about the redevelopment plans being proposed by the Local Reuse Authority (LRA). Have these been finalized? Our expectation is that any redevelopment plans take into consideration the locations of the cultural resources identified through the surveys upon which we eventually agree.

Our office has been discussing this project with the Department of the Army over the past several years but there do not appear to be any details offered at this point that would assist in moving the evaluation of this project forward. The suggested work proposals remain vague and lack sufficient detail to achieve concurrence from our office. Please feel free to contact me at 503-986-0684 if you have questions about our concerns. We look forward to resolving these issues and continuing consultation on the closure of the UMCD.

Sincerely,

A handwritten signature in purple ink, appearing to read "Chrissy Curran".

Chrissy Curran  
Associate Deputy  
State Historic Preservation Officer

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



# Oregon

John A. Kitzhaber, MD, Governor

### Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

[www.oregonheritage.org](http://www.oregonheritage.org)

February 28, 2013

Ms. Michele Martin  
Umatilla Chemical Depot  
78798 Ordnance Rd Bldg 32  
Hermiston, OR 97838-9544

RE: SHPO Case No. 10-0946  
Umatilla Chemical Depot UMCD  
Closure and conveyance  
Army/COE  
78798 Ordnance Road, Hermiston, Umatilla County



Dear Ms. Martin:

We have received a letter from Colonel John Hodges, Jr. formally restarting the consultation process between our office and the Department of the Army regarding the transfer of Umatilla Chemical Depot (UMCD) out of federal ownership. We appreciate that the consultation process is again moving forward, and we look forward to working with you in the satisfaction of Section 106 of the National Historic Preservation Act. As you are undoubtedly aware, our office has concerns about the effect that transfer of the property may have on historic properties within UMCD, outlined in a letter from Dr. Dennis Griffin, Oregon State Archaeologist, regarding archaeological resources (addressed to Ms. Parrish, dated August 13, 2012), and in a separate letter from myself regarding the historic built environment (addressed to Ms. Nancy Parrish, dated Nov. 6, 2012).

Early this year we received a copy of a letter from John Fowler, Executive Director of the Advisory Council on Historic Preservation (ACHP) to John McHugh, Secretary of the Army, indicating that the ACHP will be participating in Section 106 consultation. Mr. Fowler identified Ms. Katharine Kerr as the ACHP representative for this project. Has the Department of the Army begun consultation with ACHP? To date, our office is not aware of any correspondence between the ACHP and the Department of the Army on this project. In light of the ACHP's involvement in the consultation process, we suggest that perhaps the formal consultation process should include a conference call with your office, the Oregon SHPO, and the ACHP, in order that all parties can be fully up-to-date on where the process is currently, and in what direction it should go.

Sincerely,

Jason Allen, M.A.  
Historic Preservation Specialist  
(503) 986-0579  
[jason.allen@state.or.us](mailto:jason.allen@state.or.us)

cc: Katharine Kerr, Advisory Council on Historic Preservation

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## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



REPLY TO  
ATTENTION OF:

AFZH-JAE

DEPARTMENT OF THE ARMY  
OFFICE OF THE STAFF JUDGE ADVOCATE  
1 CORPS AND JOINT BASE LEWIS-MCCHORD  
BOX 339500, MS 69  
JOINT BASE LEWIS-MCCHORD, WASHINGTON 98433-0500

21 November 2013

MEMORANDUM FOR The Joint Base Commander, Building 1010, Joint Base Lewis-McChord, WA 98433-9500

SUBJECT: Historic Preservation programmatic agreement for Umatilla Chemical Depot.

1. Relevant Facts: Umatilla Chemical Depot was closed on August 1, 2012. As part of the redevelopment plan, some or all of the 9,474 acres will be transferred out of federal control. This could lead to an adverse impact to historical properties. In such cases federal law requires consultation with the State Historic Preservation Officer pursuant to 36 C.F.R. Part 800, and other parties. An written agreement is typically used to memorialize agreements arising from the historic preservation consultation.
2. Legal Authority: The National Historic Preservation Act, 16 USC 470; DODI 4715.16; AR 200-1 and 36 C.F.R. § 800 authorize this agreement between the State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Department of Army. The Joint Base Commander has command authority for Umatilla and is the appropriate official to sign this agreement.
3. Analysis: The programmatic agreement memorializes agreements on how the Army will preserve historic properties and artifacts at UMCD as the property is transferred to other agencies and out of federal control. If signed by the parties, it will allow the BRAC closure process for UMCD to continue and the Army's obligation under the above-cited authorities to be met.
4. Legal Sufficiency: The programmatic agreement appears to be legally sufficient and sufficient for its purpose.
5. The point of contact for this memorandum is Lawson Dumbeck, Civil Law Attorney, OSJA, JBLM, 253-477-1842, lawson.j.dumbeck.civ@mail.mil.

LAWSON J. DUMBECK  
Attorney Advisor

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

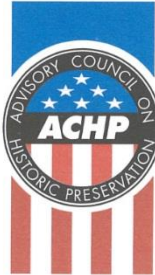
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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



*Preserving America's Heritage*

December 31, 2013

Colonel H. Charles Hodges, Jr.  
Commanding  
Department of the Army  
Headquarters, Joint Base Lewis-McChord  
1010 Liggett Avenue  
Box 339500, Mail Stop 1AA  
Joint Base Lewis-McChord, WA 98433-9500

***Ref: Closure and Disposal of Umatilla Chemical Depot  
Hermiston, Umatilla and Morrow Counties, Oregon***

Dear COL Hodges:

The Advisory Council on Historic Preservation (ACHP) has accepted and signed the Programmatic Agreement (PA) for the referenced project. By carrying out the terms of the agreement, you will fulfill your responsibilities under Section 106 of the National Historic Preservation Act and the regulations of the ACHP. The original signature pages will remain on file at our office. We recommend you provide a copy of the fully executed PA to the Oregon State Historic Preservation Office and any other concurring parties for their records.

If we may be of further assistance as the agreement is implemented, please contact Ms. Katharine R. Kerr at (202) 606-8534, or via e-mail at [kkerr@achp.gov](mailto:kkerr@achp.gov).

Sincerely,

Caroline D. Hall  
Assistant Director  
Federal Property Management Section  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



[www.marstel-day.com](http://www.marstel-day.com)

July 16, 2012

Mr. Gary Miller  
U.S. Fish & Wildlife Service  
La Grande Field Office  
3502 Hwy 30  
La Grande, OR 97850

Mr. Miller:

In compliance with the National Environmental Policy Act of 1969 (NEPA) and the Endangered Species Act of 1973 (ESA), the Department of the Army is preparing an Environmental Assessment (EA) for the disposal and subsequent reuse of the Umatilla Chemical Depot (UMCD), Oregon, which was identified for closure under the Base Realignment and Closure Act of 2005.

For approximately 70 years, the UMCD has been situated on a 17,054-acre enclosed campus (16,000 acres prior to late 1950's) located just north of Interstate 84 and three miles south of the Columbia River, along the Umatilla/Morrow County line. The site is bordered on the north, south, east and west by predominately privately-owned agricultural land. The Umatilla National Wildlife Refuge is located three miles northwest of the Depot and the nearby population centers include Umatilla, four miles to the northeast; Hermiston, four miles to the east; and Irrigon, two miles to the northwest. For reference, a location map is attached.

The Army proposes to dispose of approximately 17,054 acres of surplus property at UMCD. The Umatilla Army Depot Reuse Authority (UMADRA) has prepared a Redevelopment Plan that will be analyzed in accordance with NEPA and associated implementing regulations issued by the Council on Environmental Quality for potential environmental impacts that may result from transition from Army ownership, to include 40 CFR Parts 1500–1508 and the Army implementing regulation "Environmental Analysis of Army's Actions" (32 CFR Part 651). Consistent with the UMADRA Reuse Plan, approximately 7,500 acres of UMCD will be transferred to the National Guard Bureau for continued use as a Military Training Zone by the Oregon Army National Guard and will remain under Federal ownership and control. Any new reuse activities within Military Training Zone would be the subject of separate NEPA analyses.

Army regulations require consideration of federally-listed species in all Army actions. We are requesting a list of federally listed threatened, endangered, or candidate species, as well as sensitive species known to occur, or potentially occurring on or in the vicinity of UMCD. Also, we would appreciate information on any other sensitive natural resources that could be impacted by the proposed action. Furthermore, the Army invites comment from the Service on any pertinent conservation measures or concerns involving unique and rare areas/habitats and the species that may occur there. Please address any information you will be sending to:

Ms. Holly Bisbee  
Marstel-Day, LLC  
2217 Princess Anne Street, Suite 101-101A  
Fredericksburg, VA 22401

Thank you in advance for your assistance in this matter. If you have any questions, or require additional information, please contact me at (510) 663-0936, or by email to: [mgoehring@marstel-day.com](mailto:mgoehring@marstel-day.com).

Sincerely,

Matt Goehring

2217 Princess Anne Street, Suite 101-101A, Fredericksburg, VA 22401 540-371-3338  
218 North Lee Street, Suite 300, Alexandria, VA 22314 703-519-3777  
1736 Franklin Street, Suite 500, Oakland, CA 94612 510-663-0936



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



Location Map: Umatilla Chemical Depot.

2217 Princess Anne Street, Suite 101-101A, Fredericksburg, VA 22401 540-371-3338  
218 North Lee Street, Suite 300, Alexandria, VA 22314 703-519-3777  
1736 Franklin Street, Suite 500, Oakland, CA 94612 510-663-0936

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Holly Bisbee**

---

**From:** Gary\_Miller@fws.gov  
**Sent:** Thursday, August 02, 2012 6:10 PM  
**To:** Holly Bisbee  
**Cc:** Gary\_Miller@fws.gov  
**Subject:** Fw: Umatilla Chemical Depot

Hi Ms. Bisbee,

I received an out-of-office reply for Mr. Goehring so am forwarding the information to you as your name was also provided in the letter we received.

Thank you,  
Gary

Gary S. Miller, Field Supervisor  
USFWS - La Grande Field Office  
3502 Highway 30  
La Grande, OR 97850

Phone: 541-962-8509

Fax: 541-962-8581

Email: [gary\\_miller@fws.gov](mailto:gary_miller@fws.gov)

<http://www.fws.gov/oregonfwo/FieldOffices/LaGrande>

----- Forwarded by Gary Miller/MOBILE/R1/FWS/DOI on 08/02/2012 03:07 PM -----

**Gary Miller/MOBILE/R1/FWS/DOI**

To [mgoehring@marstel-day.com](mailto:mgoehring@marstel-day.com)

cc Marisa Meyer, "Suzanne Anderson" <[suzanne\\_anderson@fws.gov](mailto:suzanne_anderson@fws.gov)>, Gary Miller  
Subject Umatilla Chemical Depot

08/02/2012 03:01 PM

Dear Mr. Goehring,

I received your July 16th request for a species list for the Umatilla Chemical Depot/Base Realignment and Closure Act effort. Species lists are now provided electronically through our State Office website. I've attached that link (<http://www.fws.gov/oregonfwo/Species/Lists/RequestList.asp>).

I hope this meets your needs.

Sincerely,

Gary

Gary S. Miller, Field Supervisor  
USFWS - La Grande Field Office  
3502 Highway 30  
La Grande, OR 97850

Phone: 541-962-8509

Fax: 541-962-8581

Email: [gary\\_miller@fws.gov](mailto:gary_miller@fws.gov)

<http://www.fws.gov/oregonfwo/FieldOffices/LaGrande>

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Oregon Fish and Wildlife Office  
2600 SE 98<sup>th</sup> Avenue, Suite 100  
Portland, Oregon 97266  
Phone: (503) 231-6179 FAX: (503) 231-6195



August 4, 2012

Subject: Lists of threatened and endangered species that may occur in selected Oregon counties

To Whom It May Concern:

This letter accompanies a species list(s) downloaded from our website (<http://www.fws.gov/oregonfwo/Species/Lists/RequestList.asp>), which shows threatened and endangered species that may occur within the area of your proposed project. The species list(s) fulfills the requirement of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, Federal agencies are required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA) (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species or critical habitats. Recommended contents of a Biological Assessment are described in Enclosure A, as well as 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that threatened and endangered species and/or designated critical habitat may be affected by the project, the agency is required to consult with the Service following the requirements of the regulations that implement the Act (50 CFR 402).

The county species list(s) includes a list of candidate species under review for listing and those species that the Service considers "species of concern." Candidate species have no protection under the Act but are included for consideration as it is possible candidates could be listed prior to the completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



2

If a proposed project may affect only candidate species or species of concern, you are not required to perform a Biological Assessment or evaluation or consult with the Service. However, the Service recommends minimizing impacts to these species to the extent possible in order to prevent potential future conflicts. Therefore, if early evaluation of the project indicates that it is likely to adversely impact a candidate species or species of concern, your agency may wish to request technical assistance from this office.

If your project includes communications or cell towers, you should be aware that migratory birds, another of our Trust Resources, can suffer significant mortality from collisions with towers. Further information on this issue can be obtained from the following web sites: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> and <http://www.towerkill.com>. Please refer to the recently approved Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers (<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>). We recommend its application to relevant projects. We also recommend the tower site evaluation form (found on the guidance webpage), which you may find useful in helping to determine the effects of your proposed project to endangered species and migratory birds.

The bald eagle (*Haliaeetus leucocephalus*) has recovered and was removed from the Federal List of Endangered and Threatened Wildlife and Plants in 2007. The bald eagle occurs in all Oregon counties, and the species continues to be protected under the Bald and Golden Eagle Protection Act. For more information on bald eagles, and for the Service's "National Bald Eagle Management Guidelines," please visit the Service's regional webpage devoted to the bald eagle (<http://www.fws.gov/pacific/eagle/>).

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. Please include a copy of this letter and any species lists downloaded from our website with any request for consultation or correspondence about your project that you submit to our office. If you have questions regarding your responsibilities under the Act, please contact Cat Brown at (503) 231-6179. For questions regarding listed salmon and steelhead trout, please contact NOAA Fisheries Service, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232, (503) 230-5400.

Enclosure A



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



3

ENCLOSURE A

### RESPONSIBILITIES OF FEDERAL AGENCIES UNDER SECTION 7(a) and (c) OF THE ENDANGERED SPECIES ACT

#### SECTION 7(a) Consultation/Conference

Section 7(a) of the Act requires:

1. Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;
2. Consultation with the U.S. Fish and Wildlife Service (Service) when a Federal action may affect a listed endangered or threatened species or designated critical habitat to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. The process is initiated by the Federal agency after it has determined if its action may affect a listed species; and
3. Conference with the Service when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

#### SECTION 7(c) Preparation of a Biological Assessment

Section 7(c) of the Act requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects.<sup>1</sup> For actions that are not construction projects, we recommend that a biological evaluation similar to a BA be prepared to evaluate the effects of the proposed project on listed and proposed species and critical habitats. The purpose of the BA or biological evaluation is to identify listed and proposed species which are likely to be affected by a proposed project. The process is initiated by a Federal agency by requesting a list of threatened and endangered species and critical habitats. The BA or biological evaluation should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with the Service. No irreversible commitment of resources is to be made during the preparation of the BA which would foreclose reasonable and prudent alternatives to jeopardy to listed species. Planning, design, and administrative actions may be taken; however, no construction may begin.

A biological assessment or biological evaluation should include the following information:

##### 1. Description of proposed action (project).

Describe the following and attach any relevant maps, diagrams, or designs;

- **Who** is proposing the action?
- **Where** is the action? Be as specific as possible. Include maps, county, township, range, stream, and any other pertinent information.
- **What** is the proposed action? Describe what is planned, the objectives of the action, include designs, diagrams, and best management practices applied, etc.
- **How** is the action going to be implemented? Give specific details, such as what type

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<sup>1</sup>A construction project (or other undertaking having similar physical impacts) is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c).



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



4

of equipment is used, how the action area will be accessed, etc.

- **When** will the action be implemented?

### **2. Description of listed and proposed species and critical habitat, status, distribution and habitat use by the species in the project area.**

Identify which listed, proposed and candidate species and critical habitats may potentially be affected (beneficially or adversely) by the action. Describe how the species use the project area. Assistance with this information can be obtained from local offices of the Service.

### **3. Description of the action area.**

Describe all areas affected by the proposed project. The action area refers to the area directly or indirectly affected by the proposed action; this area will usually be larger than the project footprint. Include on-site inspection or survey data, views of recognized experts (e.g., ODFW), and literature reviews.

### **4. Effects of the proposed action on listed and proposed species and designated or proposed critical habitat.**

Describe in detail the effects of the action on the species and their habitats including direct and indirect effects, as well as effects that are interrelated and interdependent effects. Summarize your analysis of all project effects.

### **5. Description of measures to minimize effects to listed species, and proposed project monitoring.**

Describe methods to be used to avoid, minimize and correct adverse short and long-term effects. Describe what will be monitored, who will monitor and the frequency of monitoring.

### **6. Determination of effect.**

Clearly state your final effects determination for each listed and proposed species and designated and proposed critical habitat. Effects determinations may be:

- no effect
- may affect, not likely to adversely affect (appropriate for actions that have only beneficial, insignificant, or discountable effects)
- may affect, likely to adversely affect (appropriate for actions with effects to listed species or designated critical habitat that are not entirely insignificant, discountable or wholly beneficial)

### **7. Attachments.**

Attachments should include all relevant information supporting the above categories such as maps, project design, drawings, specifications, pollution control plan, photos of project site and adjacent area, site survey data, and literature cited.

For more information on consultation under section 7 of the Endangered Species Act, visit the Service's national consultation website at <http://www.fws.gov/endangered/what-we-do/consultations-overview.html>.

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN MORROW COUNTY, OREGON

#### PROPOSED SPECIES

##### **None**

No Proposed Endangered Species  
No Proposed Threatened Species

PE  
PT

#### CANDIDATE SPECIES

##### **Mammals**

###### ***Terrestrial:***

Washington ground squirrel

*Urocitellus washingtoni*

#### SPECIES OF CONCERN

##### **Mammals**

Silver-haired bat  
Small-footed myotis bat  
Long-eared myotis bat  
Yuma myotis bat

*Lasionycteris noctivagans*  
*Myotis ciliolabrum*  
*Myotis evotis*  
*Myotis yumanensis*

##### **Birds**

Northern goshawk  
Western burrowing owl  
Ferruginous hawk  
Olive-sided flycatcher  
Willow flycatcher  
Yellow-breasted chat  
Lewis' woodpecker  
Mountain quail  
White-headed woodpecker

*Accipiter gentilis*  
*Athene cunicularia hypugaea*  
*Buteo regalis*  
*Contopus cooperi*  
*Empidonax traillii adastus*  
*Icteria virens*  
*Melanerpes lewis*  
*Oreortyx pictus*  
*Picoides albolarvatus*

##### **Reptiles and Amphibians**

Northern sagebrush lizard

*Sceloporus graciosus graciosus*

##### **Fish**

Marginated sculpin  
Pacific lamprey

*Cottus marginatus*  
*Lampetra tridentata*

##### **Plants**

Robinson's onion  
Laurence's milk-vetch

*Allium robinsonii*  
*Astragalus collinus* var. *laurentii*

#### DELISTED SPECIES

##### **Birds**

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN MORROW COUNTY, OREGON

American Peregrine falcon  
Bald eagle

*Falco peregrinus anatum*  
*Haliaeetus leucocephalus*

#### Definitions:

Listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

Proposed Species: Taxa for which the Fish and Wildlife Service or National Marine Fisheries Service has published a proposal to list as endangered or threatened in the Federal Register.

Candidate Species: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

Species of Concern: Taxa whose conservation status is of concern to the U.S. Fish and Wildlife Service (many previously known as Category 2 candidates), but for which further information is still needed. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing.

Delisted Species: A species that has been removed from the Federal list of endangered and threatened wildlife and plants.

#### Key:

E Endangered  
T Threatened  
CH Critical Habitat has been designated for this species  
PE Proposed Endangered  
PT Proposed Threatened  
PCH Critical Habitat has been proposed for this species

#### Notes:

**Marine & Anadromous Species:** Please consult the National Marine Fisheries Service (NMFS) (<http://www.nmfs.noaa.gov/pr/species/>) for marine and anadromous species. The National Marine Fisheries Service (NMFS) manages mostly marine and anadromous species, while the U.S. Fish and Wildlife Service manages the remainder of the listed species, mostly terrestrial and freshwater species.

**Marine Turtle Conservation and Management:** All six species of sea turtles occurring in the U.S. are protected under the Endangered Species Act of 1973. In 1977, NOAA Fisheries and the U.S. Fish and Wildlife Service signed a Memorandum of Understanding to jointly administer the Endangered Species Act with respect to marine turtles. NOAA Fisheries has the lead responsibility for the conservation and recovery of sea turtles in the marine environment and the U.S. Fish and Wildlife Service has the lead for the conservation and recovery of sea turtles on nesting beaches. For more information, see the NOAA Fisheries webpage on sea turtles <http://www.nmfs.noaa.gov/pr/species/turtles/>.

**Gray Wolf:** In 2008, the Service published a final rule that established a distinct population segment of the gray wolf (*Canis lupis*) in the northern Rocky Mountains (which includes a portion of Eastern Oregon, east of the centerline of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon east of the centerline of Highway 95 south of Burns Junction). Any wolves found west of this line in Oregon belong to the

Last Updated August 4, 2012 (1:48:50 PM)  
U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office  
Page 2 of 3

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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### **FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN MORROW COUNTY, OREGON**

conterminous USA population [see 73 FR 10514]. On May 5, 2011, the Fish and Wildlife Service published a final rule – as directed by legislative language in the Fiscal Year 2011 appropriations bill – reinstating the Service's 2009 decision to delist biologically recovered gray wolf populations in the Northern Rocky Mountains. Gray wolves in Oregon are State-listed as endangered, regardless of location.

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN UMATILLA COUNTY, OREGON

#### LISTED SPECIES

##### **Fish**

###### ***Inland:***

Bull trout

*Salvelinus confluentus*

CH T

#### PROPOSED SPECIES

##### **None**

No Proposed Endangered Species

No Proposed Threatened Species

PE

PT

#### CANDIDATE SPECIES

##### **Mammals**

###### ***Terrestrial:***

Washington ground squirrel

North American wolverine

*Urocyon v. washingtoni*

*Gulo gulo luscus*

#### SPECIES OF CONCERN

##### **Mammals**

Pallid bat

Townsend's western big-eared bat

Silver-haired bat

Small-footed myotis bat

Long-eared myotis bat

Long-legged myotis bat

Yuma myotis bat

Preble's shrew

*Antrozous pallidus pacificus*

*Corynorhinus townsendii townsendii*

*Lasionycteris noctivagans*

*Myotis ciliolabrum*

*Myotis evotis*

*Myotis volans*

*Myotis yumanensis*

*Sorex preblei*

##### **Birds**

Northern goshawk

Tricolored blackbird

Western burrowing owl

Upland sandpiper

Ferruginous hawk

Olive-sided flycatcher

Willow flycatcher

Yellow-breasted chat

Lewis' woodpecker

Mountain quail

White-headed woodpecker

*Accipiter gentilis*

*Agelaius tricolor*

*Athene cunicularia hypugaea*

*Bartramia longicauda*

*Buteo regalis*

*Contopus cooperi*

*Empidonax traillii adastus*

*Icteria virens*

*Melanerpes lewis*

*Oreortyx pictus*

*Plcoides albolarvatus*

##### **Reptiles and Amphibians**

Northern sagebrush lizard

*Sceloporus graciosus graciosus*



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN UMATILLA COUNTY, OREGON

#### Fish

Marginated sculpin  
Pacific lamprey

*Cottus marginatus*  
*Lampetra tridentata*

#### Plants

Robinson's onion  
Laurence's milk-vetch  
Dwarf evening-primrose  
Sessile mouse-tail  
Douglas' clover

*Allium robinsonii*  
*Astragalus collinus* var. *laurentii*  
*Camissonia pygmaea*  
*Myosurus sessilis*  
*Trifolium douglasii*

### DELISTED SPECIES

#### Birds

American Peregrine falcon  
Bald eagle

*Falco peregrinus anatum*  
*Haliaeetus leucocephalus*

#### Definitions:

Listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

Proposed Species: Taxa for which the Fish and Wildlife Service or National Marine Fisheries Service has published a proposal to list as endangered or threatened in the Federal Register.

Candidate Species: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

Species of Concern: Taxa whose conservation status is of concern to the U.S. Fish and Wildlife Service (many previously known as Category 2 candidates), but for which further information is still needed. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing.

Delisted Species: A species that has been removed from the Federal list of endangered and threatened wildlife and plants.

#### Key:

E Endangered  
T Threatened  
CH Critical Habitat has been designated for this species  
PE Proposed Endangered  
PT Proposed Threatened  
PCH Critical Habitat has been proposed for this species

#### Notes:

Last Updated August 4, 2012 (1:50:01 PM)  
U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office  
Page 2 of 3

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN UNDER THE JURISDICTION OF THE FISH AND WILDLIFE SERVICE WHICH MAY OCCUR WITHIN UMATILLA COUNTY, OREGON

**Marine & Anadromous Species:** Please consult the National Marine Fisheries Service (NMFS) (<http://www.nmfs.noaa.gov/pr/species/>) for marine and anadromous species. The National Marine Fisheries Service (NMFS) manages mostly marine and anadromous species, while the U.S. Fish and Wildlife Service manages the remainder of the listed species, mostly terrestrial and freshwater species.

**Marine Turtle Conservation and Management:** All six species of sea turtles occurring in the U.S. are protected under the Endangered Species Act of 1973. In 1977, NOAA Fisheries and the U.S. Fish and Wildlife Service signed a Memorandum of Understanding to jointly administer the Endangered Species Act with respect to marine turtles. NOAA Fisheries has the lead responsibility for the conservation and recovery of sea turtles in the marine environment and the U.S. Fish and Wildlife Service has the lead for the conservation and recovery of sea turtles on nesting beaches. For more information, see the NOAA Fisheries webpage on sea turtles <http://www.nmfs.noaa.gov/pr/species/turtles/>.

**Gray Wolf:** In 2008, the Service published a final rule that established a distinct population segment of the gray wolf (*Canis lupis*) in the northern Rocky Mountains (which includes a portion of Eastern Oregon, east of the centerline of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon east of the centerline of Highway 95 south of Burns Junction). Any wolves found west of this line in Oregon belong to the conterminous USA population [see 73 FR 10514]. On May 5, 2011, the Fish and Wildlife Service published a final rule – as directed by legislative language in the Fiscal Year 2011 appropriations bill – reinstating the Service's 2009 decision to delist biologically recovered gray wolf populations in the Northern Rocky Mountains. Gray wolves in Oregon are State-listed as endangered, regardless of location.

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

**This resource list is to be used for planning purposes only — it is not an official species list.**

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

**Oregon Fish and Wildlife Office**  
2600 SOUTHEAST 98TH AVENUE, SUITE 100  
PORTLAND, OR 97266  
(503) 231-6179  
<http://www.fws.gov/oregonfwo/Species/Lists/RequestList.asp>

### ***Project Name:***

UMCD

### ***Project Counties:***

Umatilla, OR

### ***Project Type:***

Development

### ***Endangered Species Act Species List ([USFWS Endangered Species Program](#))***

There are a total of 5 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

**Species that should be considered in an effects analysis for your project:**

Birds	Status		Has Critical Habitat	Contact
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## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

Greater sage-grouse ( <i>Centrocercus urophastanus</i> ) Population: Columbia basin DPS	Candidate	<a href="#">species info</a>		Oregon Fish And Wildlife Office
Yellow-Billed Cuckoo ( <i>Coccyzus americanus</i> ) Population: Western U.S. DPS	Threatened	<a href="#">species info</a>	<a href="#">Proposed critical habitat</a>	Oregon Fish And Wildlife Office
Fishes				
Bull Trout ( <i>Salvelinus confluentus</i> ) Population: U.S.A., conterminous, lower 48 states	Threatened	<a href="#">species info</a>	<a href="#">Final designated critical habitat</a>	Oregon Fish And Wildlife Office
Mammals				
Gray wolf ( <i>Canis lupus</i> ) Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI and WV; those portions of AZ, NM, and TX not included in an experimental population; and portions of OR, UT, and WA. Mexico.	Endangered	<a href="#">species info</a>		Oregon Fish And Wildlife Office
Washington ground squirrel ( <i>Uroctellus washingtoni</i> )	Candidate	<a href="#">species info</a>		Oregon Fish And Wildlife Office

**Critical habitats within your project area:** [\(View all critical habitats within your project area on one map\)](#)

The following critical habitats lie fully or partially within your project area.

Fishes	Critical Habitat Type
Bull Trout ( <i>Salvelinus confluentus</i> ) Population: U.S.A., conterminous, lower 48 states	<a href="#">Final designated critical habitat</a>



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

steelhead ( <i>Oncorhynchus (=salmo) mykiss</i> ) Population: Middle Columbia River DPS	<a href="#">Final designated critical habitat</a>
steelhead ( <i>Oncorhynchus (=salmo) mykiss</i> ) Population: Snake River Basin DPS	<a href="#">Final designated critical habitat</a>

### ***FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#))***

There are 3 refuges in your refuge list

Cold Springs National Wildlife Refuge (541) 922-4661 C/O MID-COLUMBIA RIVER NWR COMPLEX 64 MAPLE STREET BURBANK, VA 99323	<a href="#">refuge profile</a>
Mckay Creek National Wildlife Refuge (541) 922-4661 C/O MID-COLUMBIA RIVER NWR COMPLEX 64 MAPLE STREET BURBANK, VA 99323	<a href="#">refuge profile</a>
Mcnary National Wildlife Refuge (509) 546-8300 C/O MID-COLUMBIA NWR COMPLEX 64 MAPLE STREET BURBANK, VA 99323	<a href="#">refuge profile</a>

### ***FWS Migratory Birds ([USFWS Migratory Bird Program](#))***

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationandPolicies.html>

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

(2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:  
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:  
<http://www.fws.gov/migratorybirds/CCMB2.htm>.

### Migratory birds of concern that may be affected by your project:

There are 21 birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Yes	<a href="#">species info</a>	Year-round
Brewer's Sparrow ( <i>Sptzella breweri</i> )	Yes	<a href="#">species info</a>	Breeding
Calliope Hummingbird ( <i>Stellula calliope</i> )	Yes	<a href="#">species info</a>	Breeding
Cassin's Finch ( <i>Carpodacus cassinii</i> )	Yes	<a href="#">species info</a>	Year-round
Eared Grebe ( <i>Podiceps nigricollis</i> )	Yes	<a href="#">species info</a>	Breeding
Ferruginous hawk ( <i>Buteo regalis</i> )	Yes	<a href="#">species info</a>	Breeding
Flammulated owl ( <i>Otus flammeolus</i> )	Yes	<a href="#">species info</a>	Breeding
Fox Sparrow ( <i>Passerella iliaca</i> )	Yes	<a href="#">species info</a>	Breeding

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

Green-tailed Towhee ( <i>Pipilo chlorurus</i> )	Yes	<a href="#">species info</a>	Breeding
Lewis's Woodpecker ( <i>Melanerpes lewis</i> )	Yes	<a href="#">species info</a>	Breeding
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	Yes	<a href="#">species info</a>	Breeding
Long-Billed curlew ( <i>Numenius americanus</i> )	Yes	<a href="#">species info</a>	Breeding
Olive-Sided flycatcher ( <i>Contopus cooperi</i> )	Yes	<a href="#">species info</a>	Breeding
Peregrine Falcon ( <i>Falco peregrinus</i> )	Yes	<a href="#">species info</a>	Breeding
Rufous hummingbird ( <i>Selasphorus rufus</i> )	Yes	<a href="#">species info</a>	Breeding
Sage Thrasher ( <i>Oreoscoptes montanus</i> )	Yes	<a href="#">species info</a>	Breeding
Short-eared Owl ( <i>Asto flammeus</i> )	Yes	<a href="#">species info</a>	Year-round
Swainson's hawk ( <i>Buteo swainsoni</i> )	Yes	<a href="#">species info</a>	Breeding
White-headed Woodpecker ( <i>Picoides albolarvatus</i> )	Yes	<a href="#">species info</a>	Year-round
Williamson's Sapsucker ( <i>Sphyrapicus thyroideus</i> )	Yes	<a href="#">species info</a>	Breeding
Willow Flycatcher ( <i>Empidonax traillii</i> )	Yes	<a href="#">species info</a>	Breeding

### **NWI Wetlands (USFWS National Wetlands Inventory).**

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

### Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

**Exclusions** - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Precautions** - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

**The following wetland types intersect your project area in one or more locations:**

Wetland Types	NWI Classification Code	Total Acres
Freshwater Emergent Wetland	<a href="#">PEM1/UBF</a>	11.9843

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

Freshwater Emergent Wetland	<a href="#">PEM/SS1C</a>	4.9327
Freshwater Emergent Wetland	<a href="#">PEMCh</a>	15.0085
Freshwater Emergent Wetland	<a href="#">PEMAx</a>	3.0747
Freshwater Emergent Wetland	<a href="#">PEM1AH</a>	1.291
Freshwater Emergent Wetland	<a href="#">PEM1UBFx</a>	1.2137
Freshwater Emergent Wetland	<a href="#">PEMFh</a>	2.6675
Freshwater Emergent Wetland	<a href="#">PEMF</a>	2.5824
Freshwater Emergent Wetland	<a href="#">PEMA</a>	232.5219
Freshwater Emergent Wetland	<a href="#">PEMC</a>	118.5733
Freshwater Emergent Wetland	<a href="#">PEMB</a>	4.0506
Freshwater Emergent Wetland	<a href="#">PEM1Fd</a>	38.1666
Freshwater Emergent Wetland	<a href="#">PEMAh</a>	1.3235
Freshwater Emergent Wetland	<a href="#">PEM1Fh</a>	0.2834
Freshwater Emergent Wetland	<a href="#">PEM1F</a>	58.6722
Freshwater Emergent Wetland	<a href="#">PEM/FO1C</a>	2.7467
Freshwater Emergent Wetland	<a href="#">PEM1C</a>	206.35
Freshwater Emergent Wetland	<a href="#">PEM1A</a>	35.4986
Freshwater Emergent Wetland	<a href="#">PEMKx</a>	2.0284
Freshwater Emergent Wetland	<a href="#">PEMCx</a>	13.4654
Freshwater Emergent Wetland	<a href="#">PEM1Ch</a>	6.3741
Freshwater Emergent Wetland	<a href="#">PEM1Cd</a>	37.7081
Freshwater Forested/Shrub Wetland	<a href="#">PSS1Ch</a>	5.2274
Freshwater Forested/Shrub Wetland	<a href="#">PFOA</a>	170.059
Freshwater Forested/Shrub Wetland	<a href="#">PFOC</a>	61.0056
Freshwater Forested/Shrub Wetland	<a href="#">PFOCh</a>	2.3683
Freshwater Forested/Shrub Wetland	<a href="#">PSSCh</a>	9.817



## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

## Trust Resources List

Freshwater Forested/Shrub Wetland	<a href="#">PFO1UBFH</a>	50.9917
Freshwater Forested/Shrub Wetland	<a href="#">PSSAx</a>	0.6702
Freshwater Forested/Shrub Wetland	<a href="#">PFO/EM1C</a>	28.0579
Freshwater Forested/Shrub Wetland	<a href="#">PSSA</a>	55.4244
Freshwater Forested/Shrub Wetland	<a href="#">PSS/EMA</a>	1.0787
Freshwater Forested/Shrub Wetland	<a href="#">PSSE</a>	3.5189
Freshwater Forested/Shrub Wetland	<a href="#">PSSC</a>	60.3533
Freshwater Forested/Shrub Wetland	<a href="#">PFO/SS1C</a>	22.7454
Freshwater Forested/Shrub Wetland	<a href="#">PFO/SS1A</a>	12.7752
Freshwater Forested/Shrub Wetland	<a href="#">PSS/EM1C</a>	16.4638
Freshwater Forested/Shrub Wetland	<a href="#">PSS1Ad</a>	1.2092
Freshwater Forested/Shrub Wetland	<a href="#">PFO1Cd</a>	2.546
Freshwater Forested/Shrub Wetland	<a href="#">PFO1Ch</a>	71.0094
Freshwater Forested/Shrub Wetland	<a href="#">PSSCx</a>	1.1184
Freshwater Forested/Shrub Wetland	<a href="#">PSS/FOC</a>	3.6975
Freshwater Forested/Shrub Wetland	<a href="#">PFOAx</a>	0.9151
Freshwater Forested/Shrub Wetland	<a href="#">PFOAh</a>	0.4949
Freshwater Forested/Shrub Wetland	<a href="#">PSS1A</a>	1.4651
Freshwater Forested/Shrub Wetland	<a href="#">PFO1C</a>	12.3031
Freshwater Forested/Shrub Wetland	<a href="#">PFO1A</a>	22.5205
Freshwater Forested/Shrub Wetland	<a href="#">PSS1C</a>	8.3158
Freshwater Pond	<a href="#">PUBEx</a>	8.8307
Freshwater Pond	<a href="#">PABFh</a>	2.2395
Freshwater Pond	<a href="#">PUSCx</a>	3.9387
Freshwater Pond	<a href="#">PABF</a>	0.2456
Freshwater Pond	<a href="#">PUBHh</a>	38.6458

## AGENCY CONSULTATION

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



U.S. Fish and Wildlife Service

### Trust Resources List

Freshwater Pond	<a href="#">PABFx</a>	0.8102
Freshwater Pond	<a href="#">PUBHx</a>	12.6146
Freshwater Pond	<a href="#">PAB4UBHx</a>	0.856
Freshwater Pond	<a href="#">PUB/EMIF</a>	4.7207
Freshwater Pond	<a href="#">PUB/EMIFD</a>	0.5584
Freshwater Pond	<a href="#">PUBC</a>	0.1684
Freshwater Pond	<a href="#">PUBH</a>	16.6389
Freshwater Pond	<a href="#">PUBF</a>	47.696
Freshwater Pond	<a href="#">PUBFb</a>	0.1552
Freshwater Pond	<a href="#">PABHx</a>	1.4364
Freshwater Pond	<a href="#">PUBFh</a>	24.0252
Lake	<a href="#">L1UBHh</a>	997.6574
Lake	<a href="#">L2USCh</a>	22.765
Other	<a href="#">PUSCh</a>	9.449
Other	<a href="#">PUSC</a>	0.9833
Other	<a href="#">PUSA</a>	0.3765
Other	<a href="#">PUSAh</a>	4.8738
Riverine	<a href="#">R4SBF</a>	3.4744
Riverine	<a href="#">R4SBC</a>	89.7955
Riverine	<a href="#">R4SBA</a>	72.1106
Riverine	<a href="#">R4SBCx</a>	1.4138
Riverine	<a href="#">R4USC</a>	7.4536
Riverine	<a href="#">R3UBH</a>	362.4187
Riverine	<a href="#">R3USC</a>	143.4327
Riverine	<a href="#">R3USA</a>	64.1805
Riverine	<a href="#">R4SBKCx</a>	7.9537

## **AGENCY CONSULTATION**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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**LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



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**APPENDIX D                      LEAD-BASED PAINT AND ASBESTOS  
PROVISIONS FOR BRAC LEASES AND  
DEEDS**

**LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



## Lead Based Paint and Asbestos Provisions for BRAC Leases and Deeds

### I. BRAC LEASE PROVISIONS

#### (1) WHERE LEASED PREMISES INCLUDE NO RESIDENTIAL HOUSING:

Lead-based Paint Warning and Covenant:

1. The Leased Premises do not contain residential dwellings and are not being leased for residential purposes. The Lessee is notified that the Leased Premises contains buildings built prior to 1978 that contain lead-based paint. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. Such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to lease.

2. Available information concerning known lead-based paint and/or lead-based paint hazards, the location of lead-based paint and/or lead-based paint hazards, and the condition of painted surfaces is contained in the Environmental Baseline Survey, which has been provided to the Lessee. Additionally, the following reports pertaining to lead-based paint and/or lead-based paint hazards have been provided to the Lessee:

Additionally, the Lessee has been provided with a copy of the federally-approved pamphlet on lead poisoning prevention. The Lessee hereby acknowledges receipt of all of the information described in this subparagraph.

3. The Lessee acknowledges that it has received the opportunity to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards prior to execution of this Lease.

4. The Lessee shall not permit use of any buildings or structures on the Leased Premises for residential habitation without first obtaining the written consent of the Army. As a condition of its consent, the Army may require the Lessee to: (i) inspect for the presence of lead-based paint and/or lead-based paint hazards; (ii) abate and eliminate lead-based paint hazards by treating any defective lead-based paint surface in accordance with all applicable laws and regulations; and (iii) comply with the notice and disclosure requirements under applicable federal and state law. The Lessee agrees to be responsible for any future remediation of lead-based paint found to be necessary on the Leased Premises.

5. The Army assumes no liability for remediation or damages for personal injury, illness, disability, or death, to the Lessee, its successors or assigns, sublessees or to any other person, including members of the general public, arising from or incident to possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. The Lessee further agrees to indemnify and hold harmless the Army, its officers, agents and

## LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicated upon, personal injury, death or property damage resulting from, related to, caused by or arising out of the possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. This section and the obligation of the Lessee hereunder shall survive the expiration or termination of this Lease and any conveyance of the Leased Premises to the Lessee. The Lessee's obligation hereunder shall apply whenever the United States of America incurs costs or liabilities for actions giving rise to liability under this section.

### (2) LEAD-BASED PAINT PROVISION WHERE LEASED PREMISES CONTAIN RESIDENTIAL HOUSING:

#### NOTICE OF THE PRESENCE OF LEAD-BASED PAINT AND COVENANT

a. The Lessee is hereby informed and does acknowledge that all buildings on the Leased Premises, which were constructed or rehabilitated prior to 1978, are presumed to contain lead-based paint. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. Lead exposure is especially harmful to young children and pregnant women. Before renting pre-1978 residential housing, lessors must disclose to lessees and sublessees the presence of lead-based paint and/or lead-based paint hazards therein. Residential housing refers to any housing constructed prior to 1978, excepting housing for the elderly (households reserved for and composed of one or more persons 62 years of age or more at the time of initial occupancy) or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing) or any 0-bedroom dwelling. A risk assessment or inspection for possible lead-based paint hazards by the Lessee is recommended prior to lease.

b. Available information concerning known lead-based paint and/or lead-based paint hazards, the location of lead-based paint and/or lead-based paint hazards, and the condition of painted surfaces is contained in the Environmental Baseline Survey, which has been provided to the Lessee. Additionally, the following reports pertaining to lead-based paint and/or lead-based paint hazards have been provided to the Lessee:

All lessees and sublessees must also receive the federally-approved pamphlet on lead poisoning prevention. The lessee hereby acknowledges receipt of all of the information described in this subparagraph.

c. The Lessee acknowledges that it has received the opportunity to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards prior to execution of this lease.

d. The Lessee shall not permit the occupancy or use of any buildings or structures as residential housing without complying with this section and all applicable federal, state, and local laws and regulations pertaining to lead-based paint and/or lead-based paint hazards. Prior to permitting the occupancy of residential housing, if required by law or regulation, the Lessee, at its sole expense, will abate and eliminate lead-based paint hazards by treating any defective lead-based paint surface in accordance with all applicable laws and regulations.

## LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



e. The Army assumes no liability for remediation or damages for personal injury, illness, disability, or death, to the Lessee, its successors or assigns, sublessees or to any other person, including members of the general public, arising from or incident to possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. The Lessee further agrees to indemnify and hold harmless the Army, its officers, agents and employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicated upon, personal injury, death or property damage resulting from, related to, caused by or arising out of the possession and/or use of any portion of the Leased Premises containing lead-based paint as residential housing. This section and the obligations of the Lessee hereunder shall survive the expiration or termination of this Lease and any conveyance of the Leased Premises to the Lessee. The Lessee's obligation hereunder shall apply whenever the United States of America incurs costs or liabilities for actions giving rise to liability under this section.

### (3) ASBESTOS PROVISION

#### Notice of the Presence of Asbestos and Covenant:

a. The Transferee/Lessee is hereby informed and does acknowledge that friable and non-friable asbestos or asbestos-containing materials (ACM) has been found on the Premises, as described in the final base-wide EBS. Except as provided for in c. Below, the ACM on the Premises does not currently pose a threat to human health or the environment. All friable asbestos that posed a risk to human health has either been removed or encapsulated.

b. The Transferee/Lessee covenants agrees that its use and occupancy of the Premises will be in compliance with all applicable laws relating to asbestos and that the Transferor/Lessor assumes no liability for future remediation of asbestos or damages for personal injury, illness, disability, or death, to the Transferee/Lessee, its successors or assigns, sublessees, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with asbestos on the Premises described in this Transfer/Lease, whether the Transferee/Lessee, its successors or assigns have properly warned or failed to properly warn the individual(s) injured. The Transferee/Lessee agrees to be responsible for any future remediation of asbestos found to be necessary on the Premises.

c. The buildings listed in Exhibit \_\_\_\_ to this Deed/Lease contain asbestos which may pose an unacceptable risk to human health. The Transferee/Lessee agrees not to use or occupy said buildings without identifying and remediating any asbestos hazards therein in accordance with all applicable legal requirements, at Transferee/Lessee's sole expense. This deed is granted based upon the Transferee/Lessee's representation that it will comply with this subparagraph c.

d. The Transferee/Lessee further agrees to indemnify and hold harmless the Army, its officers, agents and employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicted upon, personal injury, death or property damage resulting from, related to, caused by or arising out of the possession and/or use of any portion of the Premises containing asbestos.

**LEAD-BASED PAINT AND ASBESTOS PROVISIONS FOR BRAC LEASES AND DEEDS**

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## **APPENDIX E            ECONOMIC IMPACT FORECAST SYSTEM REPORT**



**ECONOMIC IMPACT FORECAST SYSTEM REPORT**  
Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon

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## **Economic Impact Forecast System (EIFS) – Modeling Results**

### **The EIFS Model**

The primary metric used to determine significance of changes in socioeconomic activity under the two reuse intensity scenarios at UMCD is the Army's Economic Impact Forecast System (EIFS) model. The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic economic activity, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to base income is measurable and sufficiently stable so that future changes in economic activity can be forecasted. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the estimation and analysis of sustainability thresholds.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for instance, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements that describe the Army action: the change in expenditures; change in civilian or military employment; average annual income of affected citizens or military employees; the percent of civilians expected to relocate due to the Army's action; and the percent of the military living on-post. From these inputs, the EIFS model provides projected changes in sales volume, income, employment, and population in the local economy. These variables are then used to measure and evaluate projected socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the proposed action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries due to the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

### **Evaluation of Socioeconomic Impacts**

The basis of EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. Once EIFS model projections are obtained, the Rational Threshold Values (RTV) profile allows

## ECONOMIC IMPACT FORECAST SYSTEM REPORT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



evaluation of the context and intensity of the impacts. The RTV profile reviews the historical trends for the defined region, based on US Census data, and develops measures of local historical fluctuations in sales volumes, employment, income, and population. These evaluations indicate the intensity of the positive and negative changes of a project.

The RTV provides boundaries (threshold values) to assess the magnitude of an action's impacts. The largest historical change (both increases and decreases) define the boundaries. These values thus provide a basis for comparing an action's impact to the historical fluctuations in a particular area. As such, the assignment of thresholds is made on a region-specific basis. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

	<u>Increase</u>	<u>Decrease</u>
Sales Volume	100%	75%
Income	100%	67%
Employment	100%	67%
Population	100%	50%

The percentage allowances are arbitrary but sensible. The maximum positive historical fluctuation is allowed with expansion because of the positive connotations of economic growth. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, the effects of reductions and closures are generally more controversial than expansions.

The major strengths of the RTV criteria are its specificity to the region under analysis and its basis on actual historical time-series data for the defined region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring significance are theoretically sound and have been reviewed on numerous occasions.

The severity of conceivable impacts accelerates in the following order: total sales volume, total personal income, total employment, and total population. Sales volume impacts may be alleviated by manipulation of variables such as inventory and new equipment. Impacts on workers or proprietors are not easily or immediately assessed. Changes in employment and income are of primary interest. Employment and income impacts are followed by changes in personal income, directly affecting individuals within the region. Population threshold indicators are extremely important because they reflect the effects on local government revenues, housing, education, infrastructure, and other social services. They should be weighted accordingly.

## ECONOMIC IMPACT FORECAST SYSTEM REPORT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



### Calculation of Model Input Parameters

The following presents the calculations and assumptions made in determining input parameters for the EIFS analysis for the closure of UMCD. These statistics were derived to reflect a reasonable maximum year change in economic activity over the 20 year build-out period. Thus, these estimates are considered to exceed the “average” annual change in economic activity, but are well below the cumulative 20-year effect, as EIFS is based on an assessment of annual changes in economic activity.

**Change in Local Expenditures:** Data on UMCD 2005 total non-payroll expenditures (provided through installation data), conservative assumptions, and estimates from the UMADRA-LRA Redevelopment Plan (2010) were used to estimate the potential change in local expenditures in the ROI for each of the two reuse scenarios for a maximum annual change in expenditures (e.g., initiation of a multi-year construction project averaged over a three year period, along with the simultaneous initiation of industrial/manufacturing facility operations in buildings already on the site).

The reuse scenarios reasonably and conservatively estimate an upper-bound projection. The reuse scenario proposed by the UMADRA has been determined to represent the LIR scenario at UMCD, which is also assumed to be commensurate with the current land use intensity at the site. The MLIR scenario was approximated to be over three times the current intensity level of development and jobs currently at UMCD. The estimated local expenditures and construction projects were expected to be phased over the first three years, and the year of maximum growth was determined with this time frame in mind.

**Change in Civilian Employment:** Civilian employment was determined by the data cited in the BRAC Commission Report (U.S. Department of Defense, 2005), and includes 348 civilian jobs on UMCD.

Total job losses from the UMCD closure reflect the change in civilian employment under Caretaker Status. Reuse scenario employment projections were used to arrive at changes in civilian employment over the 20-year phased build-out period. Conservative assumptions were used to estimate the maximum annual change in employment, in consideration of both short-term construction activities and redevelopment intensity. These figures represent the net increase in a maximum year in consideration. The employment projections are commensurate with the assumptions previously discussed for the MLIR and LIR scenarios. Construction employment for the solar energy generating facility is estimated to be up to 50 construction workers per day during peak construction. A solar facility of the size that could be supported by UMCD would not likely result in any permanent full-time jobs. It is anticipated that a part-time inspection and maintenance job would be created. Given these assumptions, construction and operation of the solar energy facility is well covered within the scope of our EIFS analysis.

Additional EIFS analyses were run to estimate change in civilian employment to include the contractors working at UMCD, a total of 1,100, as cited in the UMADRA Redevelopment Plan (2010).

## ECONOMIC IMPACT FORECAST SYSTEM REPORT

Environmental Assessment for Disposal and Reuse of  
Umatilla Chemical Depot, Oregon



**Average Income of Affected Civilians:** Average wage for lost jobs (as seen under Caretaker Status) was estimated according to the lost jobs at UMCD. For the 20-year phased build-out reuse scenarios and the year(s) of maximum economic change, model input of \$24,923 was used as the broadly representative average wage, as determined for the U.S. average, weighted wages for warehousing and fueling station jobs.

**Percent Expected to Relocate:** The percent expected to relocate is uncertain. For the model runs for the 20-year phased build-out, 50 percent were conservatively assumed to relocate, given the expected reuse, the level of unemployment, and workforce in the ROI.

**Change in Military Employment:** According to the BRAC Commission Report (U.S. Department of Defense, 2005), UMCD will lose one military job with the base closure.

**Average Income of Affected Military:** There is no income data available for the one military employee, but it can be assumed that the average income is commensurate to the income of UMCD civilian employees: estimated to be \$64,677.

**Percent of Military Living on Post:** There are no housing facilities currently being used on UMCD.





## EIFS REPORT

### PROJECT NAME

**Umatilla Caretaker Status**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	(\$13,700,390)
Change In Civilian Employment	-348
Average Income of Affected Civilian	\$64,677
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	(\$26,677,610)
Sales Volume - Induced	(\$44,284,820)
Sales Volume - Total	(\$70,962,430) -1.09%
Income - Direct	(\$24,420,780)
Income - Induced)	(\$9,574,502)
Income - Total(place of work)	(\$33,995,280) -0.74%
Employment - Direct	-492
Employment - Induced	-237
Employment - Total	-728 -0.63%
Local Population	-436
Local Off-base Population	-436 -0.2%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*



## EIFS REPORT

### PROJECT NAME

**Umatilla LIR**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	\$35,543,870
Change In Civilian Employment	219
Average Income of Affected Civilian	\$24,923
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	\$26,538,230
Sales Volume - Induced	\$44,053,460
Sales Volume - Total	\$70,591,690 1.08%
Income - Direct	\$10,189,170
Income - Induced)	\$9,524,480
Income - Total(place of work)	\$19,713,640 0.43%
Employment - Direct	360
Employment - Induced	235
Employment - Total	595 0.52%
Local Population	270
Local Off-base Population	270 0.13%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*



## EIFS REPORT

### PROJECT NAME

**Umatilla MLIR**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	\$178,084,700
Change In Civilian Employment	1885
Average Income of Affected Civilian	\$24,923
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	\$148,875,700
Sales Volume - Induced	\$247,133,700
Sales Volume - Total	\$396,009,500 6.06%
Income - Direct	\$70,942,990
Income - Induced)	\$53,431,000
Income - Total(place of work)	\$124,374,000 2.7%
Employment - Direct	2680
Employment - Induced	1321
Employment - Total	4000 3.47%
Local Population	2344
Local Off-base Population	2344 1.1%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*



## EIFS REPORT

### PROJECT NAME

**Umatilla Caretaker Status with Contractor Job Loss**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	(\$13,700,390)
Change In Civilian Employment	-1100
Average Income of Affected Civilian	\$64,677
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	(\$65,781,840)
Sales Volume - Induced	(\$109,197,800)
Sales Volume - Total	(\$174,979,700) -2.68%
Income - Direct	(\$73,057,880)
Income - Induced)	(\$23,608,880)
Income - Total(place of work)	(\$96,666,770) -2.1%
Employment - Direct	-1453
Employment - Induced	-584
Employment - Total	-2036 -1.76%
Local Population	-1372
Local Off-base Population	-1372 -0.64%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*



## EIFS REPORT

### PROJECT NAME

**Umatilla LIR with Contractor Job Loss**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	\$35,543,870
Change In Civilian Employment	-533
Average Income of Affected Civilian	\$64,677
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	(\$5,566,279)
Sales Volume - Induced	(\$9,240,023)
Sales Volume - Total	(\$14,806,300) -0.23%
Income - Direct	(\$29,741,810)
Income - Induced)	(\$1,997,719)
Income - Total(place of work)	(\$31,739,530) -0.69%
Employment - Direct	-564
Employment - Induced	-49
Employment - Total	-613 -0.53%
Local Population	-666
Local Off-base Population	-666 -0.31%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*





## EIFS REPORT

### PROJECT NAME

**Umatilla MLIR with Contractor Job Loss**

### STUDY AREA

41049 Morrow, OR  
41059 Umatilla, OR  
53005 Benton, WA

### FORECAST INPUT

Change In Local Expenditures	\$178,084,700
Change In Civilian Employment	1133
Average Income of Affected Civilian	\$24,923
Percent Expected to Relocate	50
Change In Military Employment	-1
Average Income of Affected Military	\$64,677
Percent of Military Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	2.66
Income Multiplier	2.66
Sales Volume - Direct	\$133,807,100
Sales Volume - Induced	\$222,119,800
Sales Volume - Total	\$355,926,900 5.44%
Income - Direct	\$52,200,900
Income - Induced)	\$48,022,920
Income - Total(place of work)	\$100,223,800 2.18%
Employment - Direct	1847
Employment - Induced	1187
Employment - Total	3034 2.63%
Local Population	1408
Local Off-base Population	1408 0.66%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.85 %	10.32 %	5.82 %	4.29 %
<b>Negative RTV</b>	-11.71 %	-9.43 %	-6.4 %	-1.83 %

\*\*\*\*\* End of Report \*\*\*\*\*