



# ROAD REPAIR WORK PLAN

ALKALI LAKE SITE  
LAKE COUNTY, STATE OF OREGON  
PROJECT # 261M136620

Prepared for:

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**BAYER CROPSCIENCE INC.**

800 N. Lindbergh Blvd., St. Louis, Missouri 63167

**9/17/2024**



# ROAD REPAIR WORK PLAN

ALKALI LAKE SITE  
LAKE COUNTY, STATE OF OREGON  
PROJECT # US261M136620.3223

## Prepared for:

Bayer CropScience Inc.  
800 N. Lindbergh Blvd., St. Louis, Missouri 63167

## Prepared by:

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## LIST OF ACRONYMS AND ABBREVIATIONS

|      |                                                                    |
|------|--------------------------------------------------------------------|
| BLM  | United States Department of the Interior Bureau of Land Management |
| CFR  | Code of Federal Regulations                                        |
| CWDA | Chemical Waste Disposal Area                                       |
| DEQ  | Oregon Department of Environmental Quality                         |
| EPA  | United States Environmental Protection Agency                      |
| OSHA | Occupational Safety and Health Administration                      |
| WSP  | WSP USA Environment & Infrastructure Inc.                          |

# 1 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) has prepared this Work Plan for submittal to the United States Department of the Interior Bureau of Land Management (BLM) on behalf of Bayer CropScience Inc. (BCS). This work plan summarizes field work that assessed the conditions of the access roads leading from Halfway Buttes Road to the Chemical Waste Disposal Area (CWDA) of the Alkali Lake Superfund Site in Lake County, Oregon (Site). The roads are on BLM, private, and State of Oregon (State)-owned lands. This work plan details the proposed improvements to the access road and rationale for why this work is needed for the ongoing Remedial Investigation/Feasibility Study (RI/FS) at the Site.

## 1.1 SITE BACKGROUND

WSP, as the technical consultant for BCS, is performing an RI/FS for the Site under United States Environmental Protection Agency (EPA) oversight. The Site is located approximately 60 miles north of Lakeview, Oregon and 35 miles southeast of Christmas Valley, Oregon, and west of Highway 395 (Figure 1). The Site is accessed via the Halfway Buttes Road (a BLM road) from U.S. highway 395, approximately 60 miles north of Lakeview and 2 miles south of an Oregon Department of Transportation maintenance station (Figure 2). Figure 2 shows key Site features including the CWDA.

## 1.2 PURPOSE AND OBJECTIVES

The purpose and objectives of this work plan are to:

- Summarize existing road conditions.
- Describe proposed improvements to Alkali Lake Road designed to promote future Site access.

# 2 EXISTING ROAD CONDITIONS

Access to the Site from U.S. Highway 395 is depicted on Figure 2.

Halfway Buttes Road is a two-lane wide gravel road. It was observed to be in good condition during the inspection completed on August 27-28, 2024. This road will not inhibit Site access for large tractor trailer trucks and trailered drill rigs that will be used on-site in the future. Halfway Buttes Road is not being considered for repairs in this work plan.

The road leading to the CWDA from Halfway Buttes Road is a one lane unimproved road with one wider section that could be used as a turn out to allow for passing vehicles. Portions of this road are potholed and have tire rutting that would limit Site access in its current condition to high-clearance and four-wheel drive vehicles during and following wet weather events. The road is narrow in places with only a foot or two on either side of a pickup truck between the sagebrush growing adjacent to the road. Additionally, there is sage brush growing in the middle of the road. The road consists primarily of the natural clayey silt and gravel from past road maintenance activities. Appendix A has a photograph log showing pictures of the current road conditions during the most recent site visit on August 27-28, 2024.

# 3 PROPOSED ROAD REPAIRS

The goal of this road project and the proposed repairs is to improve the road so that tractor trailer trucks can safely access the CWDA area (located on State-owned land). The trucks will be hauling in a Conex Box and trailered drill rigs for the anticipated next phase of work for the RI/FS. Proposed repairs will include filling in existing potholes, tire ruts, and low areas with drainage issues with gravel, either to fill in low spots or to match the surrounding road grade. The proposed gravel to be used for the repairs will be a 1.5-inch to 2.5-inch clean crushed gravel. It will be placed in the degraded areas of the existing road bed shown in Figure 2. Assuming

a 6-inch thickness of gravel placement in these areas, the total the amount of gravel needed to perform the repairs is estimated to be approximately 900 tons. This includes creation of a truck turnaround area near the CWDA and placement of gravel under where the Conex box will be placed (both will be located on State-owned land). The access road spans BLM, private, and State property. Approximately 800 tons of gravel will be used on the portion of the road on BLM property. Approximately 100 tons of gravel will be placed similarly in degraded portions of the private-owned portion of the access road. An additional 100 tons will be stockpiled near the CWDA on State-owned land for future-use at the Site.

In the locations along the access road identified to be degraded as shown in Figure 2 (i.e., potholes, tire ruts, and other deformations) the proposed repairs are to re-grade the surficial fine-grained soils, flatten the existing surface, and place up to 6 inches of 3/4-inch to 2-1/2-inch clean crushed gravel to fill in these areas as needed to raise the low spots to match the surrounding grade. The gravel repairs will be compacted and verified in the field by the WSP engineer of record or engineer's representative. Compaction verification will be limited to visual inspection via proof-rolling with a fully loaded truck.

WSP will subcontract an Oregon-licensed environmental remediation contractor to perform the proposed road repairs. A total of approximately 900 tons of gravel will be placed for this road repair work. Another 100 tons of gravel will be delivered to the Site and stockpiled uncovered outside of the CWDA on State-owned land, where a truck turnaround and the Conex will be located as shown in Figure 2. Gravel will be sourced from a local contractor or vendor in the vicinity of the Site such as from Burns or Lakeview, Oregon. The gravel will be delivered to the Site and the environmental remediation contractor will spread the material by skid-steer or equivalent equipment. These road repairs will be completed on the existing roads on BLM and private property starting from the intersection at Halfway Buttes Road and continuing to the CWDA.

## 4 PERMITTING

It is our understanding that no formal permits are required for these road repairs. Approval is required from the BLM before this repair work may begin.

## 5 HEALTH AND SAFETY

The work at the Site will be controlled by a Site-Specific Health and Safety Plan (HASP, WSP, 2024). Each contractor must develop and implement a Site-specific HASP, designed to ensure compliance with all applicable worker protection regulatory requirements, including 29 CFR 1910.120, the Hazardous Waste Operations, and Emergency Response ("HAZWOPER") rule promulgated by the US Occupational Safety and Health Administration (OSHA). During construction activities, the construction contractor will bear full responsibility for the implementation of its own Site-specific HASP. Training certifications will be stored onsite, and an electronic copy will be submitted to the BCS Project Lead, as necessary.

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### 5.1 FIRE PREVENTION AND CONTROL

Appropriate measures will be taken to reduce the risk of fire during field activities. A supply of ABC-rated fire extinguishers will be maintained in each work site truck or vehicle. Spark- or flame-producing devices will be kept away from combustible liquids and vegetation. If a fire occurs, the site supervisor will assess the safety of the situation, alert and evacuate personnel, and notify the fire department and other emergency responders as directed in the HASP and the Emergency Response and Notification Plan (HASP Appendix L; WSP, 2024). Personnel trained in firefighting may elect to use fire extinguishers, shovels, or other tools to dampen or extinguish the fire, but only if their own safety can be assured. The default condition is that field personnel will evacuate and allow trained professional firefighters to attack the fire.

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## 5.2 DUST CONTROL

Dust generation due to the road improvements activity is possible. The contractor will incorporate dust control in their Site-specific health and safety plan. The effectiveness of the dust control methods will be visually monitored by WSP oversight personnel.

## 6 CONTRACTOR OVERSIGHT AND REPORTING

Oversight of the project will be conducted by WSP. WSP will be present on-site during the road repairs and throughout the duration of the project and will document Site conditions. EPA, BLM, Oregon Department of Environmental Quality (DEQ), and private landowner representatives may visit the Site during the road repair activities. A daily field report (DFR) will be completed for each field day to document Site activities.

## 7 REFERENCES

WSP, 2024. Site- Specific Health and Safety Plan, Alkali Lake Site, Lake County, Oregon. August.

Velasco, Jeanine. "H-9113-1\_RoadDesignHandbook." United States Department of the Interior Bureau of Land Management, 21 Oct. 2011.

# FIGURES





**NOTES:**  
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community  
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation

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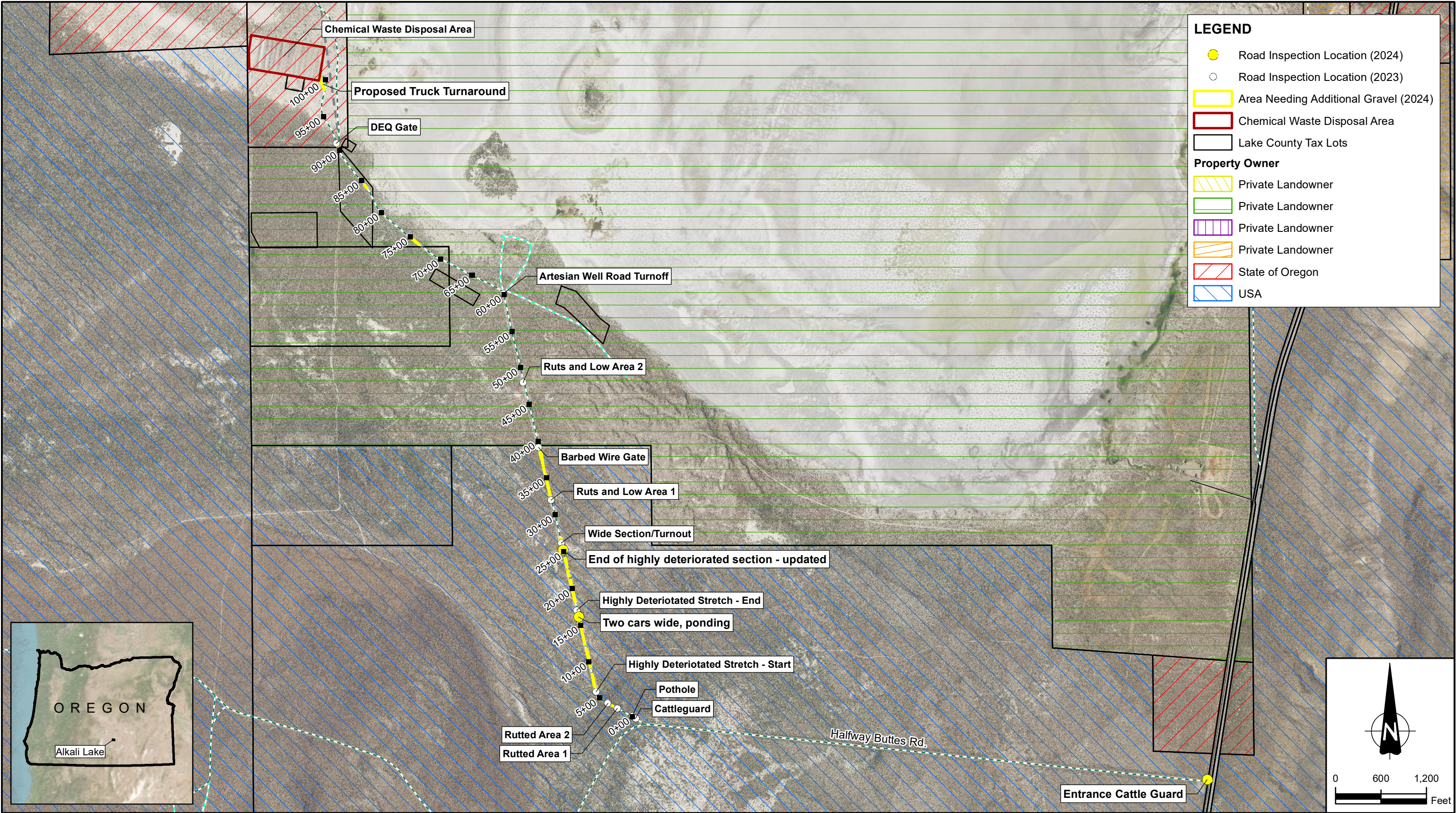
ALKALI LAKE

SITE VICINITY MAP

|             |                |
|-------------|----------------|
| DATE        | SEPTEMBER 2024 |
| SCALE       | 1" = 10 miles  |
| PROJECT NO. | 261M136620     |
| FIGURE      | 1              |

DRAWN BY: BRJ - CHECKED BY: -





**NOTES:**  
Service Layer Credits: Oregon Statewide Imagery Program (OSIP) - Oregon Imagery Framework Implementation Team  
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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ALKALI LAKE

ACCESS ROAD INSPECTION  
AUGUST 27, 2024

|             |                |
|-------------|----------------|
| DATE        | SEPTEMBER 2024 |
| SCALE       | 1" = 1,200'    |
| PROJECT NO. | 261M136620     |
| FIGURE      | 2              |

DRAWN BY: BRJ - CHECKED BY: -



# **APPENDIX A**

## **PHOTOGRAPH LOG**

**Photograph No. 1:****Comments:**

Cattleguard at start of single lane road after turning off two-lane Halfway Buttes BLM road. Station 0+00. Looking southeast.

**Photograph No. 2:****Comments:**

Typical road section with gravel from past roadwork that has been driven into to the native soils. Station 5+00 Looking south.



**Photograph No. 3:****Comments:**

Low area of the road with cracked dry soil evident of ponding water during wet weather. Station 15+00  
Looking northwest.

**Photograph No. 4:****Comments:**

Slightly wider section of the road with minor tire rutting. Looking north towards Alkali Lake and the CWDA. Station 30+00

**Photograph No. 5:**



**Comments:**

Low area with dry silty soils that were soft for 1-2" before hitting gravel. Station 35+00. Looking south.

**Photograph No. 6:**



**Comments:**

Typical shallow tire rutting of 1-2" in depth. Looking North. Station 70+00



**Photograph No. 7:****Comments:**

Road shown with surrounding grade 4-6" higher than the roadbed leading to drainage issues and ponding of water. Station 74+00 Looking north.

**Photograph No. 8:****Comments:**

Fence separating private property from DEQ property. Station 90+00. Looking southeast.



**Photograph No. 9:**



**Comments:**

Existing gravel shown with a 1/2" diameter T-Probe shown for scale.

**Photograph No. 10:**



**Comments:**

Typical roadway width in a narrow area with a vehicle shown for scale. Looking north.



**Photograph No. 11:**



**Comments:**

Road width of 20 feet in a wider area.