Final Proposed Plan

USDA/CCC Former Grain Storage Facility at Sylvan Grove, Kansas

December 2024

1.0 Introduction

The U.S. Department of Agriculture (USDA) Commodity Credit Corporation (CCC), as the lead federal agency, in consultation with the supporting agency, the U.S. Army Corps of Engineers (USACE), and the lead regulatory agency, Kansas Department of Health and Environment (KDHE), is issuing this **Proposed Plan** for the former USDA/CCC grain storage facility located in Sylvan Grove, Kansas (**Figure 1**). This Proposed Plan has been developed for the former USDA/CCC grain storage facility to solicit public participation as required under U.S. Environmental Protection Agency (EPA) guidance entitled *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents* (OSWER 9200.1-23P/EPA 540-R-031; July 1999) and *KDHE BER POLICY #BER-RS-009*. The public participation process, as required by the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** and the **National Contingency Plan (NCP)**, provides the public an opportunity to review project documents, attend a public meeting, if there is enough interest, and submit written or oral comments on this Proposed Plan.

This Proposed Plan documents the preferred remedial action alternative for the former USDA/CCC grain storage facility in Sylvan Grove, Kansas. The purpose of the Proposed Plan is to briefly describe the site characteristics, summary of site risks, remedial action objectives, remedial alternatives, and the preferred alternative to facilitate public involvement in the remedy selection process (EPA, 1999). Although the former USDA/CCC grain storage facility is not on the National Priorities List, USDA follows a process consistent with CERCLA.

The preferred alternative for the former USDA/CCC grain storage facility, as described in this Proposed Plan, is for the abandonment and replacement of the existing livestock and lawn-and-garden irrigation well, land use reviews, groundwater monitoring, and associated reporting (**Figure 2**). This Proposed Plan summarizes information that can be found in greater detail in the 2021 **Corrective Action Study (CAS)** and other documents contained in the Administrative Record file for this site, located on KDHE's Bureau of Environmental Remediation Identified Sites List information webpage, located here: https://keap.kdhe.ks.gov/ber_isl/.

Although the final decision will not be made until after the close of the public comment period and documented in the **Record of Decision (ROD)**, the remedy described in this Proposed Plan is the preferred alternative at the former USDA/CCC grain storage facility. USDA, in consultation with USACE and KDHE, may modify the preferred alternative or select another listed in this Proposed Plan based on new information or public comments if such change will result in a more appropriate remedy. Therefore, the public is encouraged to review and comment on all alternatives presented in this Proposed Plan during the 30-day review period.

Note: A list of abbreviations and acronyms can be found on **Page 11**. All the terms appearing in bold print are defined in the glossary on **Page 12**.

Dates to Remember:

Public comment period:

12 December 2024 through 11 January 2025

USACE will accept written comments on this Proposed Plan during the public comment period. Comments should be in writing and submitted to Mr. Jacob Allen, at the following mailing or email address:

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Administrative Record:

The Proposed Plan and other documents are available electronically by contacting:

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2.0 Site Background

Site Location and History

Sylvan Grove, Kansas, is in western Lincoln County, in Section 11-14, Township 12 South, Range 10 West. The residents are served by a public water supply system that obtains its water from two groundwater supply wells (PWS5 and PWS6) located 2,800 feet southwest of the former USDA/CCC grain storage facility.

From 1954-1966, the USDA/CCC operated a grain storage facility at the northwestern edge of Sylvan Grove (Argonne, 2021). During this time, commercial grain fumigants containing **carbon tetrachloride**, a volatile organic compound (VOC), were in common use to preserve grain being stored. The former USDA/CCC grain storage facility had 30 circular bins on a 2-acre property, which is currently privately owned. No grain bins or other structures associated with the former USDA/CCC grain storage facility remain at the site.

Environmental History and Investigations

KDHE Investigations

In 1998 and 2006, as part of the statewide private well sampling program, KDHE sampled groundwater in several private wells surrounding the former USDA/CCC facility. During the 1998 investigation, six subsurface soil samples were also collected on the grounds of the facility. Carbon tetrachloride was detected above its **maximum contaminant level** (MCL) of 5 micrograms per liter (µg/L), set by the EPA, in groundwater from one private well, herein referred to as private well #1, used for livestock and lawn-and-garden watering, located near the western edge of the former USDA/CCC facility during both sampling events (1998 and 2006). This well was hand-dug and operated by a hand-pump or windmill. Low-level concentrations for carbon tetrachloride were detected during subsurface soil field screening activities; however, the soil samples analyzed by an offsite laboratory were unable to verify the field screening results (KDHE, 1998).

USDA/CCC Investigations

From 2012-2013, Argonne National Laboratory, on behalf of the USDA/CCC, conducted an environmental site investigation. Field investigation activities consisting of groundwater and subsurface soil sampling occurred in 2012, and a sampling event for the assessment of indoor air and ambient air was conducted in 2013. Carbon tetrachloride was detected only in association with subsurface soil intervals at or near the perched groundwater zone. Subsurface soil analytical results confirmed the results of KDHE's 1998 investigation and indicated that contamination in the soil does not provide a source of contamination for groundwater via the soil-to-groundwater pathway. Carbon tetrachloride was detected above the MCL in the perched aquifer and shallow aquifer; however, it was not detected in the deep aquifer. Additionally, carbon tetrachloride was not detected in the indoor air samples collected from residents near the site.

Groundwater Monitoring

At the end of the 2012-2013 environmental site investigation, 13 monitoring wells were installed to facilitate the monitoring of groundwater flow patterns and contaminant levels. Three monitoring wells were screened in the perched aquifer, eight in the shallow aquifer, and two in the deep aquifer. Monitoring activities were conducted in 2015, 2016, and 2017 within all or a selected subset of the 13 newly installed monitoring wells and select private wells for analysis of VOCs and major cations and anions were sampled to better understand the existing groundwater geochemistry and water quality. Analytical results from the groundwater monitoring events displayed a decreasing trend for carbon tetrachloride within the perched aquifer, decreasing to stable trend within the central and downgradient portion of the shallow aquifer, and consistent presence within the upgradient portion of the shallow aquifer. While not associated to the operation of the former USDA/CCC facility, groundwater within the perched aquifer and upgradient portion of the shallow aquifer displayed poor water quality, with elevated total hardness, total dissolved solids, and nitrate concentrations. Based on the KDHE drinking water standards, the groundwater was determined to be unacceptable for use as a drinking water source (Argonne, 2021).

Potability Determination Report

In 2018, the USDA/CCC submitted a request for a potability determination. The potability determination focused on the perched aquifer and portion of the shallow aquifer affected by operations at the former USDA/CCC facility. Potability issues addressed in the report included: 1) water quality-related considerations, including elevated total dissolved solids, hardness, and nitrate concentrations, and 2) the sufficiency of groundwater quantity for potable use. KDHE determined, based on yield, that the perched aquifer is non-potable, and groundwater in the shallow aquifer is considered potable with treatment (Diediker, 2021).

Corrective Action Study

In 2021, the USDA/CCC completed a CAS in accordance with the KDHE 2001 guidance. The basis for the CAS was due to the potential exposure pathways to human or environmental receptors related to carbon tetrachloride concentrations in groundwater remaining above the MCL and Kansas Tier 2 risk-based screening level (RBSL) per the *KDHE Risk-Based Standards for Kansas (RSK) Manual – 6th Version* (KDHE, 2021). The study screened remedial technologies and evaluated remedial alternatives to address the carbon tetrachloride contamination in groundwater. The most feasible remedy based on cost, implementability, and effectiveness as they relate to the protectiveness of human health and the environment was selected as the preferred alternative and is the focus of this Proposed Plan. KDHE approved the CAS on December 23, 2021.

3.0 Site Characteristics

Sylvan Grove lies within the Smoky Hills Upland of the Great Plains physiographic province. The topographic features in this area typically include long gently sloping pediments of uplands; bold escarpments of deeply dissected uplands; deep narrow channels of tributary valleys; and broad, flat alluvial valleys along the major steams. These features reflect the different weathering characteristics of the Cretaceous clay, sandstone, shale, and limestone (Berry, 1952). Further discussion of the site-specific geology, hydrogeology, and nature and extent of contamination are discussed below.

Site Geology

The geology of Sylvan Grove includes surficial and near-surface Pleistocene eolian deposits and the underlying Cretaceous Dakota Formation, which consists of gray to dark gray shale, sandy shale, and varicolored clays, with irregular lenticular beds of sandstone (or sands derived from the weathered sandstone) that yield a moderate quantity of water (Argonne, 2014). The general local geologic sequence of the former USDA/CCC facility consists of six lithostratigraphic units to a depth of 90 feet below ground surface (bgs). The six units

include, in descending order, a Quaternary loess (silt and clay), upper shale, shallow sand, middle shale, deep sand, and lower shale (Argonne, 2021).

Site Hydrogeology

Three **groundwater-bearing zones** were identified in the local geologic sequence: 1) the perched aquifer hosted by a few layers of sandy shale and sand within the upper shale unit, 2) the shallow aquifer hosted by the shallow sand between the upper and middle shale units, and 3) the deep aquifer hosted by the deep sand between the middle shale and lower shale units, which is the thickest of the aquifers identified. The three identified groundwater-bearing zones reside within the Dakota Formation and are separated by various shale units. The perched aquifer exists in localized confined and unconfined conditions, depending on location and gradient at the site and occurs at a depth of approximately 20 feet bgs. Groundwater movement in the perched aquifer is driven by local rainfall infiltration indicating at least some interconnection with the upper ground surface and atmosphere. Groundwater flows from east to west within the perched aquifer. The shallow aquifer exists in unconfined conditions in the northern part of the former USDA/CCC facility and in confined conditions in the southern part of the former facility. The shallow aquifer occurs at a depth of 33-45 feet bgs. Groundwater flow in the shallow aquifer is to the south-southwest under ambient conditions and shifts toward the south during pumping episodes at or greater than 10 hours within the south private well #2. The deep aquifer exists in confined conditions and occurs at a depth of approximately 53 feet bgs. Groundwater flow in the deep aquifer is expected to flow to the south, mimicking the topographic change from the upland to the Saline River floodplain (south of the former USDA/CCC facility) (Argonne, 2021).

Nature and Extent of Contamination

Analytical results from the site investigation and follow-on groundwater monitoring activities have identified carbon tetrachloride concentrations greater than its MCL at the former USDA/CCC facility. Contaminant distribution data suggests the extent of carbon tetrachloride is limited to a small area associated with the perched and shallow aquifer of 290 feet by 160 feet. Lateral migration of contaminants in the shallow aquifer is north to the south-southwest under ambient conditions and to the south during active pumping of private well #2. No contamination was found in the deep aquifer suggesting an incomplete vertical migration pathway.

Carbon tetrachloride concentrations exceeded the MCL in the perched aquifer in Monitoring Wells MW02, MW06P, and MW01 which are confined laterally and vertically in the low permeable shale unit. Concentrations also exceeded the MCL in shallow aquifer Monitoring Well MW07S and private well #1 which may have resulted from vertical leakage through the lower section of the upper shale to the shallow aquifer. Carbon tetrachloride concentrations remained below the MCL in the upgradient shallow aquifer Monitoring Wells MW03 and MW04 and was not detected in the upgradient shallow aquifer private well #3 or downgradient shallow aquifer Monitoring Wells MW05, MW06S, MW11-MW13, and the private well #2. Chloroform, a breakdown product of carbon tetrachloride, was detected in the shallow aquifer below its respective MCL.

Findings of subsurface soil sampling activities indicated the absence of source contamination in soil to contribute to future contaminant migration through a soil-to-groundwater pathway. Carbon tetrachloride was detected at low concentrations only in association with soil intervals at or near the perched groundwater zone. Carbon tetrachloride was not identified in any indoor air samples from the local homes proximate to the groundwater contamination in the perched and shallow aquifers indicating an incomplete pathway for upward vapor migration of carbon tetrachloride.

4.0 Scope and Role of the Response Action

The CAS identified six remedial technologies screened against their cost, implementability, and effectiveness. The most appropriate technologies were then evaluated as alternatives, with the preferred alternative serving as the recommended response action

for the former USDA/CCC facility. The goals of the response action are to eliminate the potential migration pathway from the shallow aquifer to the deep aquifer, prevent further degradation of the shallow aquifer, and restore the shallow aquifer to its most beneficial use (with consideration of the shallow aquifer only given to carbon tetrachloride and chloroform). The preferred alternative is protective of human health and the environment by eliminating the contaminant migration pathway between the shallow and deep aquifer through abandonment of the hand-dug well, followed by well replacement utilizing Kansas-approved well installation techniques. Additionally, the preferred alternative provides a monitoring program that would track the containment of carbon tetrachloride contamination and its daughter product – chloroform, which prevents further degradation of the shallow aquifer and mitigates risks associated with current and future land use.

5.0 Summary of Site Risks

As part of the CAS, current and future human and environmental exposure pathways via groundwater, soil, and air were evaluated. The CAS identified no unacceptable human health or environmental exposure risks associated with the former USDA/CCC facility.

The soil exposure pathway is considered incomplete. Analytical results for subsurface soil near the ground surface and within the vadose zone identified concentrations well below the KDHE Tier 2 RBSL value for the soil-to-groundwater pathway. As a result, no areas were identified as posing a risk via potential direct exposure to soil.

The groundwater exposure pathway is considered potentially complete. Although groundwater in the former USDA/CCC property exceeds the MCL/RBSL for carbon tetrachloride, no active city wells for public water supply or private wells for domestic use are known to be present within the area of contaminated groundwater. Private well #1 penetrates the contaminated portion of the shallow aquifer at the former USDA/CCC facility; however, this well is used for only livestock and lawn-and-garden purposes. Besides this potentially complete pathway, there are no known complete exposure pathways that exist between the contaminated groundwater and human or environmental receptors, given 1) the availability of the city public water supply; 2) inadequate production of the perched aquifer; 3) identified limited extent of the contaminated groundwater in the shallow aquifer; and 4) absence of water supply wells that intercept the contamination on the former USDA/CCC property. Residents have been serviced by the public water supply system since the 1950s, which draws water from the quaternary alluvial aquifer, which are separate from the perched, shallow, and deep aquifers beneath the former USDA/CCC facility and located 2,800 feet south.

The vapor intrusion exposure pathway is incomplete. The two residential properties are located within the KDHE vapor intrusion guideline of 100 feet laterally from the carbon tetrachloride contamination in the perched and shallow aquifers (KDHE, 2016). However, indoor air of both residences was sampled for VOCs and results indicated no VOC detections were present at any sampling point in the basement or living spaces in either home.

The surface water exposure pathway is incomplete. There are no spring or seepage locations proximate to the facility to suggest direct drainage from the perched or shallow aquifer to the surface.

It is USDA's current judgement that the preferred alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to continue to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

6.0 Remedial Action Objectives

The **Remedial Action Objectives (RAOs)** describe what the proposed remediation efforts are expected to accomplish. Based upon the exposure pathway evaluation for soil, groundwater, air, and surface water, the following three RAOs were developed for groundwater only, as they relate to the site-specific **contaminants of concern (COCs)**

(carbon tetrachloride and chloroform). The RAOs include:

- Eliminate the potential migration pathway from the shallow aquifer to the deep aquifer caused by private well #1 used for livestock and lawn-and-garden watering.
- Prevent further degradation of the shallow aquifer.
- Restore the shallow aquifer to its most beneficial use.

Preliminary remedial goals or cleanup levels are based upon existing federal and state action levels for groundwater. Although groundwater at the former USDA/CCC facility is not utilized as a drinking water source, there is the potential for future usage and a potential current exposure pathway for groundwater via the hand-dug well. The **applicable or relevant and appropriate requirements (ARARs)** for the COCs in groundwater are MCLs, which align with Kansas Tier 2 RBSL drinking water standards. Preliminary remedial goals for the groundwater COCs are:

- Carbon Tetrachloride – 5 µg/L
- Chloroform – 80 µg/L.

7.0 Summary of Remedial Alternatives

As part of the CAS, six remedial technologies were screened based on site-specific conditions and the current understanding of the former USDA/CCC facility against cost, implementability, and effectiveness (Argonne, 2021). The six remedial technologies included no action, Environmental Use Controls (EUCs), a groundwater containment barrier, groundwater pump and treat, in-situ chemical reduction, and well abandonment. Four of the six technologies were eliminated from consideration as alternatives. EUCs were eliminated due to impediments to implementation. Engineered physical barriers were eliminated from further consideration as they could create uncontrolled vertical and horizontal groundwater flow components. Groundwater extraction and treatment was eliminated from further consideration due to also requiring treatment for nitrates to achieve MCLs prior to discharge. In-situ chemical reduction was eliminated from further consideration due to the limited radius of effectiveness compared to the large area of groundwater contamination which would lead to significant implementability and cost issues. The no action and well abandonment technologies were retained. Additional information on the analysis of remedial technologies can be found in the CAS (Argonne, 2021). Technologies to address site-specific contamination were assembled into the following two alternatives:

- Alternative 1 – No Action
- Alternative 2 (Preferred) – Well Replacement, Land Use Reviews, and Groundwater Monitoring and Reporting.

Alternative 1 – No Action

In compliance with the NCP and KDHE CAS guidance (2001), the no-action alternative is included to provide a baseline for comparison against the other alternatives. Under this alternative, no action would be taken to remediate, or otherwise prevent potential exposure to, the contaminated groundwater on the former USDA/CCC property.

The following costs are associated with the No Action Alternative:

Estimated capital cost: $0
Estimated annual operation and maintenance cost: $0
Estimated present worth cost: $0

Alternative 2 – Well Replacement, Land Use Reviews, and Groundwater Monitoring and Reporting

Alternative 2 consists of abandonment of the hand-dug well, establishment of land use reviews, and a groundwater monitoring and reporting program. The hand-dug well would be abandoned in accordance with KDHE regulations, followed by installation of a new well screened in the deep aquifer at a depth greater than 53 ft bgs. Installation would include a pump with appurtenances to provide water source replacement for the existing hand-dug well. Property reviews would be established on the two private properties adjacent to the former

USDA/CCC facility to mitigate risk that could be caused by future well installation activities. These land use reviews would be performed to determine whether or not exposure pathways have been created by the installation of new water supply wells. As part of the property reviews, a mechanism under the Kansas 811 would be established to notify USDA/CCC of potential well installation activities in the impacted areas. Lastly, a monitoring and reporting program would include three private wells (the replacement well [former hand-dug well], private well #2, and a newly installed private livestock well that was installed in 2022 upgradient of the former USDA/CCC property), and ten monitoring wells (MW01, MW02, MW03, MW04, MW05, MW06P, MW06S, MW07S, MW07M, MW07D). The reporting program would also include results of the USDA-led property reviews. Due to this proposed alternative involving groundwater monitoring and well abandonment, an Abbreviated Remedial Design / Remedial Action Plan would be prepared detailing activities to be completed (Argonne, 2021).

The following costs are associated with the Well Replacement, Land Use Reviews, and Groundwater Monitoring and Reporting Alternative for a period of 20 years:

Estimated capital cost: $256,419.90
Estimated annual operation and maintenance cost: $52,212.40
Estimated present worth cost: $296,818.10

8.0 Evaluation of Alternatives

The remedial alternatives were evaluated against each other using the nine NCP criteria established by the EPA. The nine criteria fall into three groups: threshold criteria, primary balancing criteria, and modifying criteria. Each alternative must meet the first two “threshold criteria” to be eligible for selection. Criteria 3-7 are the primary balancing criteria, used to weigh major trade-offs among alternatives. Criteria 8-9 are the modifying criteria, which can only be evaluated after the public comment period of the Proposed Plan is completed. The nine evaluation criteria are discussed below. The following section summarizes a comparison of the alternatives. A more detailed analysis of the alternatives can be found in the CAS.

1. Overall Protection of Human Health and the Environment: Determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
2. Compliance with ARARs: Evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
3. Long-term effectiveness and permanence: Considers the ability of an alternative to maintain protection of human health and the environment over time.
4. Reduction of contaminant toxicity, mobility, or volume through treatment: Evaluates an alternative’s use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
5. Short-term effectiveness: Considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
6. Implementability: Considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
7. Cost: Includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today’s dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
8. State Acceptance: Considers whether the State agrees with USACE’s analyses and recommendations, as described in the CAS and Proposed Plan.

9. Community Acceptance: Considers whether the local community agrees with USACE's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

1. Overall Protection of Human Health and the Environment

Alternative 1 and 2 are considered protective of human health and the environment. The City of Sylvan Grove has utilized public water supply through the city well field since the 1950s. Under current use conditions, residents will not be exposed to groundwater containing carbon tetrachloride or chloroform above regulatory thresholds. However, Alternative 2, mitigates risk from future use conditions by the combination of land use reviews and notifications.

2. Compliance with ARARs

Alternative 1 would not address chemical-specific ARARs. Under Alternative 2, the chemical-specific MCL and RBSL values of 5 µg/L for carbon tetrachloride and 80 µg/L for chloroform are ARARs. Because the Alternative 1 is not protective of human health and the environment, it has been eliminated from consideration under the remaining eight criteria.

3. Long-Term Effectiveness and Permanence

Alternative 1 takes no action and therefore does not address the risk of exposure from contaminants to human health and the environment. As a result, Alternative 1 rates low in long-term effectiveness and permanence. Alternative 2 would provide long-term effectiveness for the protection of human health and the environment through well abandonment, frequent monitoring and reporting, and land use reviews.

4. Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment

Alternative 2 would contribute to a long-term decrease in the toxicity and volume of contaminants present through **monitored natural attenuation** via processes such as dispersion, dilution, volatilization, sorption, and biodegradation**.** The mobility of contaminants would be tracked through the monitoring and reporting aspects of Alternative 2.

5. Short-Term Effectiveness

Alternative 1 consists of no short-term mitigation measures. Alternative 2 rates high in short-term effectiveness and would mitigate the exposure risks associated with the hand-dug well through abandonment followed by reinstallation of a new well screened in the unimpacted deep aquifer.

6. Implementability

Implementation of Alternative 2 is feasible. However, Alternative 2 implementation is contingent on permission from two landowners regarding access to their private property and an agreement to abandon the existing hand-dug well.

7. Cost

The estimated capital cost for Alternative 2 is $256,000. The cost for Alternative 1 is $0, thus rating it higher than Alternative 2. Although Alternative 1 is the least costly of the remedial alternatives, it is not protective of human health and the environment.

8. State Acceptance

KDHE's approval of the CAS was received on December 23, 2021, in concurrence with the preferred alternative (KDHE, 2021).

9. Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the ROD.

9.0 Summary of the Preferred Alternative

The preferred alternative for the former USDA/CCC facility in Sylvan Grove, Kansas, is Alternative 2, which includes well abandonment/replacement, land use reviews, and groundwater monitoring and reporting.

Alternative 2 is implementable, provides long-term effectiveness and permanence for the protection of human health and the environment, and contributes to the assessment of contaminant toxicity and mobility. This is demonstrated by providing a monitoring program that can monitor the containment of carbon tetrachloride contamination, which prevents further degradation of the shallow aquifer and mitigates risks associated with current and future land use.

Although the preferred alternative can change in response to public comment or new information, based on information currently available, USDA/CCC, as the lead agency, believes the preferred alternative meets the threshold criteria. USDA/CCC expects the preferred alternative to satisfy the following statutory requirements of CERCLA Section 121(b):

1) Be protective of human health and the environment;
2) Comply with ARARs;
3) Be cost effective;
4) Utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and
5) Satisfy the preference for treatment as a principal element.

10.0 Community Participation

A public comment period has been established for this Proposed Plan from 12 December 2024 – 11 January 2025 to fulfill the public participation requirements under NCP Section 300.439(f)(3).

The purpose of the Proposed Plan comment period is to offer the public and other stakeholders the opportunity to review and comment on the Proposed Plan and evaluate alternatives. A final decision will not be made until all comments received during the public comment period have been reviewed. Comments received will be included in the administrative record file and summarized in the Responsiveness Summary of the ROD. If sufficient public interest is shown, a public meeting might be organized in or near Sylvan Grove, Kansas. The date, time, and location of the public meeting will be communicated to residents via newspaper advertisement prior to the meeting.

If you have any questions regarding this Proposed Plan, or wish to submit comments, please contact the following USACE personnel:

U.S. Army Corps of Engineers
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CENWK-PME-S
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Jacob.T.Allen@usace.army.mil

References

Argonne, 2014. *Final Report: Results of the Environmental Site Investigation at Sylvan Grove, Kansas*. Prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Lemont, Illinois, September.

Argonne, 2021. *Corrective Action Study for the Former CCC/USDA Facility at Sylvan Grove, Kansas*. Prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Lemont, Illinois, September.

Berry, D.W., 1952. *Geology and Groundwater Resources of Lincoln County, Kansas*, State Geological Survey of Kansas Bulletin 95, State Geological Survey of Kansas, Topeka, Kansas.

Diediker, 2021, letter from K. Diediker (Bureau of Environmental Remediation, Kansas Department of Health and the Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.), regarding the Corrective Action Study, Sylvan Grove USDA Site, February 22.

EPA, 1999. *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Document*. July.

KDHE, 1998. *Pre-CERCLIS Investigation, Former CCC/USDA Bin Storage Site*, Sylvan Grove, Kansas.

KDHE, 2001. *Scope of Work for a Corrective Action Study*, Policy BER-RS-019, Bureau of Environmental Remediation/Remedial Section, Topeka, Kansas. March 29.

KDHE, 2010. *State Cooperative Program Decision Document Development*, Policy BER-RS-009, Bureau of Environmental Remediation/Remedial Section, Topeka, Kansas. July 2.

KDHE, 2016. *Kansas Vapor Intrusion Guidance*. Bureau of Environmental Remediation, Topeka, Kansas. August 8.

KDHE, 2021. *KDHE Risk-Based Standards for Kansas (RSK) Manual – 6th Version,* July.

KDHE, 2021. USDA's Response to KDHE's Comments, Corrective Action Study, Sylvan Grove USDA Site, Sylvan Grove, Kansas. December 23.

List of Abbreviations and Acronyms

ARAR	applicable or relevant and appropriate requirements
bgs	below ground surface
CAS	Corrective Action Study
CCC	Commodity Credit Corporation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
EPA	U.S. Environmental Protection Agency
EUC	Environmental Use Controls
KDHE	Kansas Department of Health and Environment
MCL	maximum contaminant level
NCP	National Contingency Plan
RAO	remedial action objective
RBSL	risk-based screening level
ROD	Record of Decision
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
VOC	volatile organic compound
µg/L	micrograms per liter

Glossary of Terms

Applicable or Relevant and Appropriate Requirements (ARARs) – Federal or state standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate to a CERCLA site or action.

Carbon tetrachloride – a volatile organic compound, commonly used as a grain fumigant and classified as a probable human carcinogen.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – Also known as "superfund," a federal law passed in 1980 which provides a process to studying the contamination and risk posed to human health and the environment, assessing remedial alternatives, and documenting and implementing a selected remedy.

Contaminant of Concern (COC) – Identified contaminants at a site that pose a risk to human health and environment and traditionally require remedial efforts to mitigate the unacceptable risk.

Corrective Action Study – A document similar to a Feasibility Study that evaluates potential remedial alternatives for remediation of a contaminated site that poses a threat to human health or the environment.

Groundwater-bearing Zone – An area below ground surface that is saturated, meaning all spaces within soil and rock are filled with water, and capable of transmitting water in sufficient quantity to be either of use or concern.

National Contingency Plan (NCP) – Federal regulations specifying the methods and criteria for cleaning up sites under CERCLA, codified at 40 Code of Federal Regulations Part 300.

Maximum Contaminant Level (MCL) – Federally enforceable threshold limit for a substance, established by the EPA, allowed in public drinking water under the Safe Drinking Water Act.

Monitored Natural Attenuation – Monitoring contaminant and geochemical parameters to evaluate if natural attenuation processes are present that will reduce the concentration of contaminants over time through dispersion, dilution, volatilization, sorption, and degradation.

Proposed Plan – A document within CERCLA summarizing the key information about a site (i.e., site background, historical investigations, and site risks), site remedial alternatives, and the preferred remedial alternative. The intent of the Proposed Plan is to solicit public review and comment on the referred remedial alternative.

Remedial Action Objectives (RAOs) – Objectives describing the goals to be achieved by the selected remedy for the protection of human health and the environment.

Record of Decision – A legally binding public document within CERCLA that explains the cleanup alternative decided after the Proposed Plan public comment period that will be used at a site.

Figures

Figure 1: Site Location

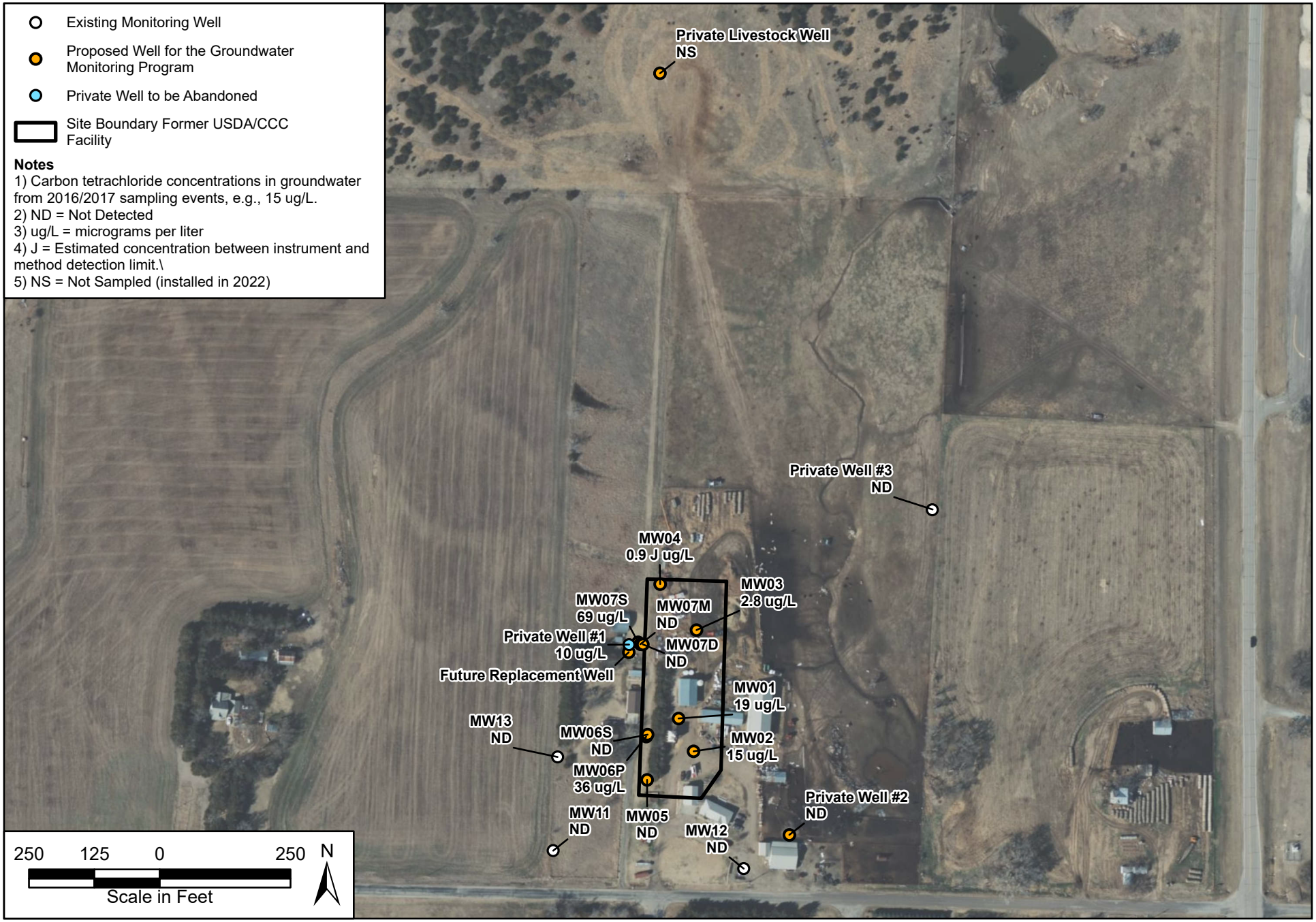

Figure 2: Alternative 2 - Well Replacement, Land Use Reviews and Groundwater Monitoring and Reporting