LMS/LEH/42908

2022 Annual Land-Use Covenant Inspection Report for DOE Areas at the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site University of California, Davis

January 2023

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Report Distribution

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Abbreviations

DOE	U.S. Department of Energy
DSS	Domestic Septic System
DTSC	California Department of Toxic Substances Control
EDPs Area	Eastern Dog Pens Area
EH&S	Environmental Health and Safety
EPA	U.S. Environmental Protection Agency
LEHR	Laboratory for Energy-Related Health Research
Ra/Sr Treatment Systems Area	Radium/Strontium Treatment Systems Area
ROD	Record of Decision
SMP	Soil Management Plan
SWT Area	Southwest Trenches Area
UC Davis	University of California, Davis
Weiss	Weiss Associates

1.0 Introduction

This report documents inspections of land-use controls implemented by the U.S. Department of Energy (DOE) to control exposure to residual soil contaminants at DOE Areas of the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund site (also called the LEHR site) at the University of California, Davis (UC Davis) (Figure 1). Inspection activities documented herein apply to the reporting period from December 10, 2021 to December 9, 2022. A detailed annual inspection was conducted on October 5 and 6, 2022, with a confirmatory walkthrough on December 8, 2022. The annual inspection was conducted approximately 1 month earlier than in previous years to allow additional time for report preparation and quality review before submittal. The inspection and this report fulfill the requirements of the Covenant to Restrict Use of Property, Environmental Restriction (hereafter referred to as the Covenant) recorded by Solano County on July 11, 2014 (DTSC 2014).

The requirements for land-use controls at the site's DOE Areas are documented in the Record of Decision (ROD) (DOE 2009) and in the Covenant. The implementation procedures for land-use controls are documented in the Remedial Design/Remedial Action Work Plan (DOE 2010) and the Soil Management Plan (SMP) (DOE 2022a).

The DOE Areas subject to land-use controls (Figure 2) are the Radium/Strontium Treatment Systems Area (Ra/Sr Treatment Systems Area), Domestic Septic System (DSS) 3 and DSS 4 Areas, Dry Wells A–E Area, Eastern Dog Pens Area (EDPs Area), and Southwest Trenches Area (SWT Area). The DSS 2 Area is within the Ra/Sr Treatment Systems Area. The DSS 4 Area contains a portion that is subject to a prohibition on residential use.

The Western Remediation Support Area and Eastern Remediation Support Area shown in Figure 2 do not contain residual contamination but are required to be accessible for the staging of equipment and supplies if contingent remedial actions were to be implemented at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, or SWT Area.

The Covenant states that the following conditions must be maintained until the concentrations of contaminants in the soil are at or below cleanup levels specified in the ROD:

- Residential use, use for day care for children, and cultivation of crops for human consumption are prohibited in the DSS 4 Area (Figure 2)
- Soil-disturbing activities at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, and SWT Area must be implemented in accordance with the SMP
- Interference, tampering, or destruction of the groundwater monitoring system is prohibited
- The California Department of Toxic Substances Control (DTSC) and U.S. Environmental Protection Agency (EPA) Region 9 must have reasonable right-of-entry and access to the site for periodic inspections to ensure compliance with land-use controls
- Access must be granted to DOE to conduct operation and maintenance activities
- An inspection verifying compliance with the Covenant must be conducted annually and a report of the inspection provided to DTSC and EPA by January 15

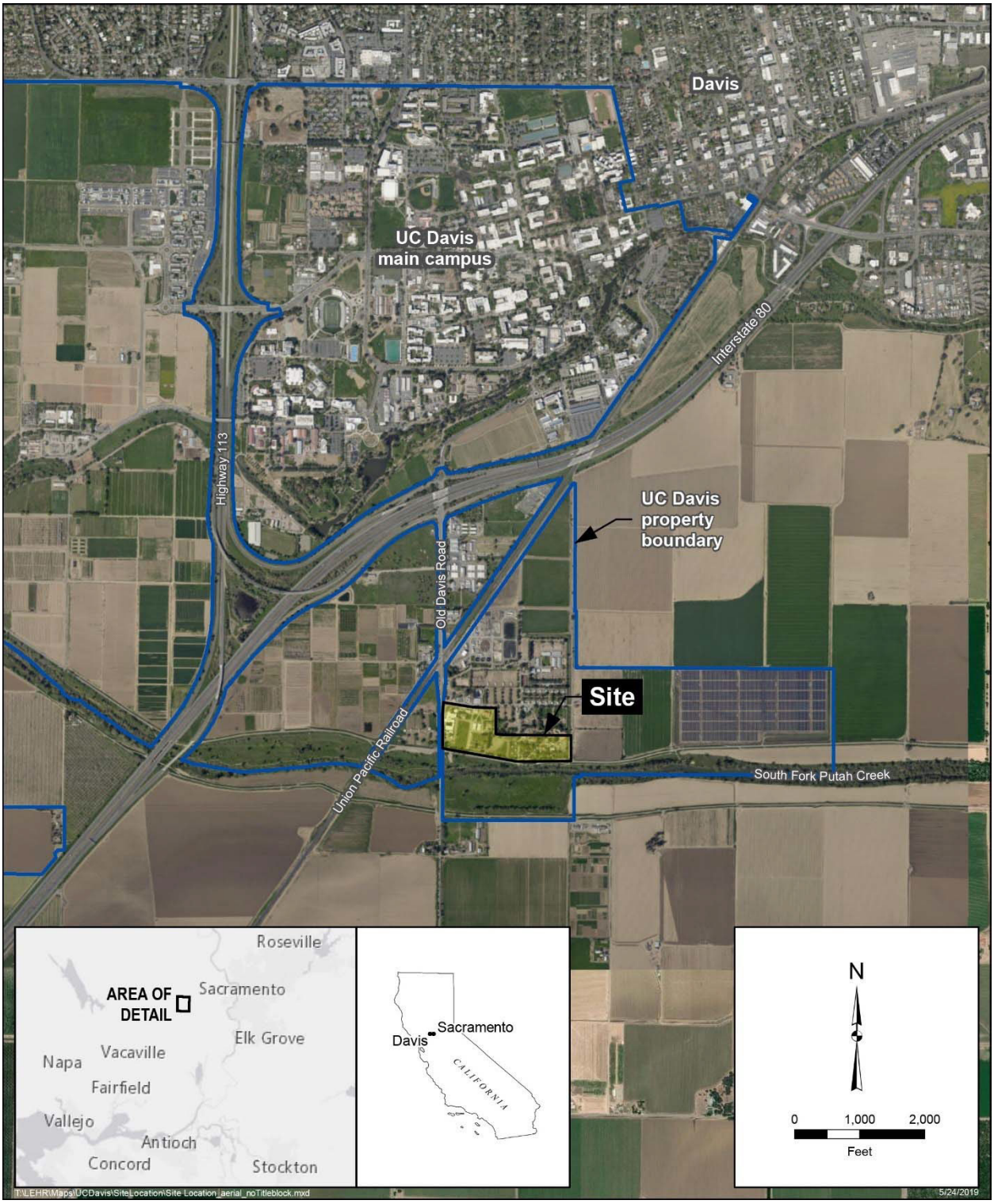


Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California

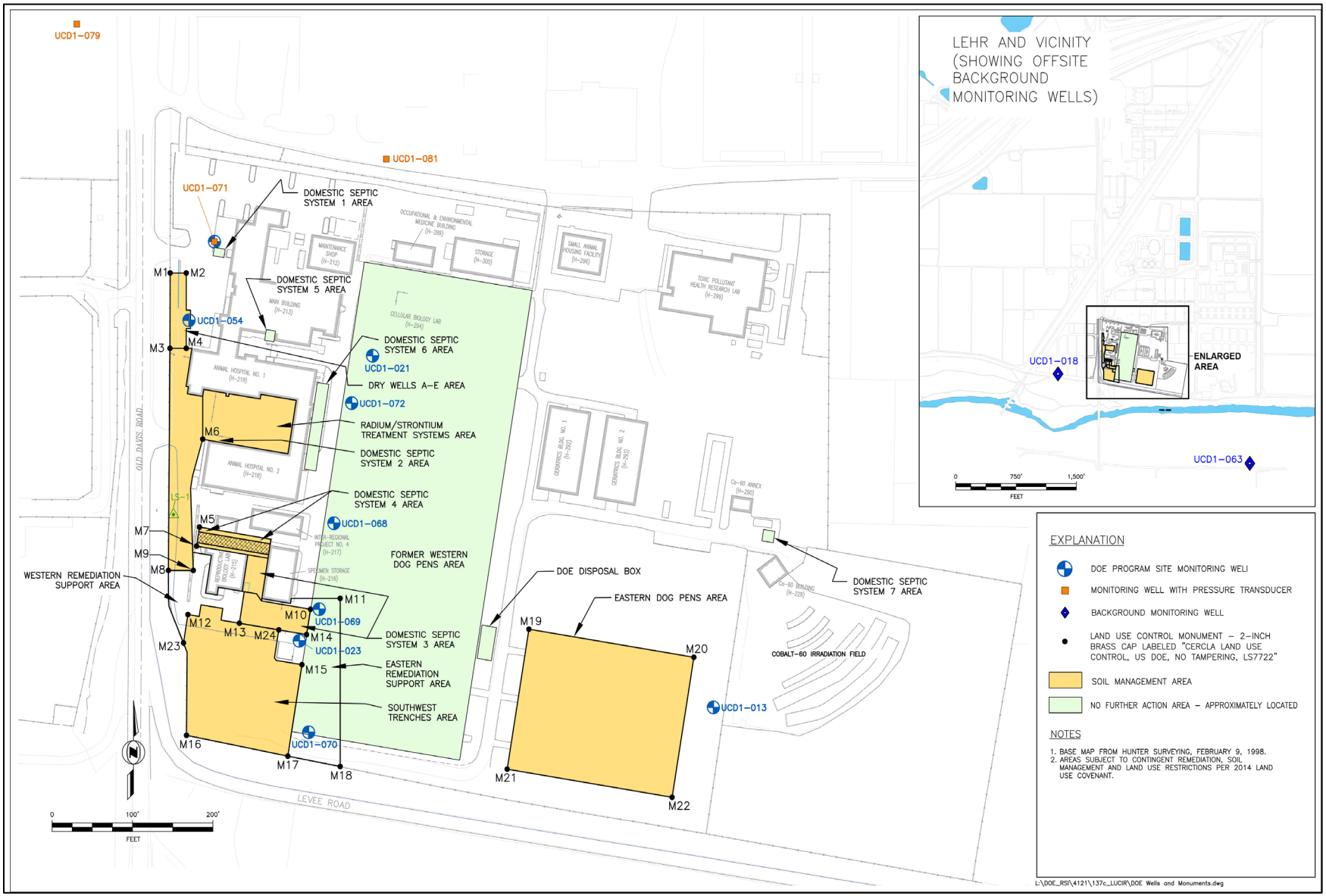


Figure 2. DOE Areas of the LEHR Federal Facility Subject to Land-Use Controls and Locations of DOE Groundwater Monitoring Wells and Survey Monuments

1.1 Inspection and Reporting Requirements

This section contains the inspection and reporting requirements specified in the Covenant, Section 4.06, which includes verification of permits obtained for soil-disturbing activities, a review of soil-disturbing activities for compliance with the SMP, a review of disposal practices for waste generated during soil-disturbing activities, and suggested changes to the SMP.

In accordance with the Covenant, Section 4.06, it is required that the inspection report contains:

- The dates and times of inspection, and the names of people who conducted the inspection and reviewed the report.
- An explanation of how the observations, which were the basis for the statements and conclusions, were performed (e.g., drive-by, flyover, walkthrough).
- The annual inspection results.
- A review of compliance with the requirements of the SMP.
- A certification of compliance with the Covenant.
- A description of any soil-disturbing activities and wastes generated.

If violations are noted, the annual inspection report must detail the steps taken to restore compliance. The inspection report is due to DTSC and EPA on or before January 15 each year.

1.2 Reporting Period

This report covers the period from December 10, 2021 to December 9, 2022.

1.3 Activities Conducted During the Reporting Period

1.3.1 Field Activities

DOE performed limited field activities during the reporting period including groundwater sample collection, water-level monitoring, and monitoring well maintenance. DOE performed no soil or vegetation sampling or other soil-disturbing activities during the reporting period, except for vegetation background samples collected from trees and shrubs located in UC Davis South Campus areas. The vegetation background samples were collected between November 29 and December 5, 2022, according to the specifications of the Vegetation Background Sampling and Analysis Plan (DOE 2022b). Results from the vegetation background sampling event will be reported in a forthcoming update to the SMP. Soil disturbance and tree or shrub removal permits were not required for these sample collection activities because they were conducted in areas that are not subject to land-use controls.

On October 5, 2022, DOE replaced the signage in the area surrounding the fallen limbs from two Aleppo pine trees in the SWT Area (specimens 16219 and 16220), one Aleppo pine tree in the EDPs Area (specimen 16236), and one Elderberry shrub in the EDPs Area (specimen 16233) (see Appendix E2 for locations). These limbs had fallen during a wind event on January 26 and 27, 2021 (UC Davis 2021). The area surrounding the fallen limbs has been posted as a radiologically

controlled area and the limbs are being stored onsite until a disposal or reuse plan is approved by DOE, EPA, DTSC, and the California Regional Water Quality Control Board.

On October 6, 2022, DOE performed wellhead maintenance on monitoring wells UCD1-013, UCD1-018, UCD1-023, UCD1-063, UCD1-070, and UCD1-072 as documented in Appendix F, Table F-1.

1.3.2 SMP Revision

In 2022, the SMP was updated to include changes to the tree and shrub inventory for the DOE Areas, the radiological analytical method specifications, and expanded analytical laboratory accreditation to include the DOE/U.S. Department of Defense Environmental Laboratory Accreditation Program for specific radiological analyses (DOE 2022a). Based on a comment by UC Davis on the Second Five-Year Review report, DOE is developing a new methodology in the SMP for the evaluation of potential residual contamination in vegetation removed from DOE Areas so that any waste or reused material is properly managed. The draft SMP update containing the new vegetation management methodology is scheduled to be issued for agency review in April 2023. In 2022, no cut or fallen vegetation was removed from DOE Areas subject to land-use controls or reused as mulch.

2.0 Inspections

Tim Utterback, a California Professional Engineer, of Weiss Associates (Weiss) performed walkthrough inspections of the DOE Areas from 8 a.m. to 4 p.m. on October 5, 2022, and from 8 a.m. to 2 p.m. on October 6, 2022, as discussed below. The inspection checklists are included in Appendix A, and photographs documenting the inspection are included in Appendixes B, C, and D.

2.1 Inspection of Survey Monuments

All 24 survey monuments (Figure 2) were found in good condition on October 5, 2022, as documented in the checklists and photographs in Appendixes A and B, respectively.

2.2 Inspection of DSS 4 Area for Prohibited Land Uses

No evidence of residential use, use for day care for children, cultivation of crops for human consumption, or indications of a change in land use were observed in the DSS 4 Area (Figure 2) during the inspection on October 5, 2022, as documented in the checklists and photographs in Appendixes A and C, respectively.

2.3 Inspection of DOE Areas for Evidence of Soil-Disturbing Activities and Tree or Shrub Removal

No evidence of soil-disturbing activities was observed in the DOE Areas during the site inspection on October 5 and 6, 2022. Walkthrough observations of the DOE Areas indicated no topographic changes such as excavations, areas of subsidence, soil piles, or deep vehicle tire ruts.

No equipment or materials that could cause soil disturbance or obscure the ability to identify soil disturbance was identified. As reported by Rachel Lauesen of the Environmental Health and Safety (EH&S) Unit at UC Davis, no permit-required soil-disturbing or tree or shrub removal activities were performed during the reporting period (see Section 3.2). No soil was disposed of offsite.

On October 5 and 6, 2022, Mr. Utterback performed a walkthrough inspection of trees and shrubs identified in the modified baseline vegetation inventory table and map from the SMP (DOE 2022a) included in Appendix E. Brass tags with embossed numbers are attached to each listed tree or shrub at a height of approximately 5 feet to facilitate inspections.

All trees and shrubs in the inventory table were found to be undisturbed since the 2021 inspection. The basis for this determination was that the trees and shrubs were still standing and there was no new evidence of saw cuts or torn branches or other serious physical trauma to the trees and shrubs since the 2021 inspection period. As presented in Section 1.3, the fallen limbs associated with trees 16219, 16220, 16236, and shrub 16233 initially identified on February 9, 2021, remain stored in the posted areas where they fell. An identification tag was applied to the SWT Area Aleppo pine sapling identified during the previous inspection period (Appendix F).

2.4 Inspections of Groundwater Monitoring Wells

On October 6, 2022, Mr. Utterback inspected monitoring wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, UCD1-054, UCD1-063, and UCD1-068 through UCD1-073 (Figure 2). Monitoring wells with standpipe completions (UCD1-013, UCD1-018, UCD1-063, UCD1-070, and UCD1-073) were observed to be in good condition and secured with functioning padlocks, and there was no evidence of tampering such as pry marks or indentations on the standpipes or locks. The concrete pads at the foot of the standpipe wells were observed to be undamaged and in sturdy condition. Monitoring wells UCD1-021, UCD1-023, UCD1-054, UCD1-069, UCD1-071, and UCD1-072 have surface completions, with lids secured by bolts or a screw-on lid (UCD1-023). The vaults, lids, and bolts on the surface completion wells were observed to be in good condition with no evidence of tampering such as pry marks or indentations, except the bolt holes in the well vault flange used to secure the lid to well UCD1-072 ruptured during a failed repair attempt. All components inside the wells, including well casings, pump ports, suspension hardware, port plugs, and caps, were found in good condition. DOE plans to replace the well vault flange ring that contains the bolt holes at well UCD1-072 by early 2023, before the annual groundwater monitoring event (see Appendix F). Identification plates were present and in acceptable condition on all wells. Appendix D includes photographs of the groundwater monitoring wells and well boxes.

Tests of the pumps in the wells to determine whether they were functioning properly for groundwater sample collection were not conducted during the October 6, 2022, inspection due to low water levels. Measurable depths to water in wells UCD1-018, UCD1-021, UCD1-023, UCD1-054, and UCD1-063 ranged from 65 to 67 feet at the time of the inspection. Water level measurements were not possible in wells UCD1-068, UCD1-069, UCD1-070, UCD1-071, UCD1-072, and UCD1-073 because water levels were below the tops of the pumps, which blocked the water level probe. A water level measurement was attempted in well UCD1-013 but this well was dry.

2.5 Post-Inspection Walkthrough

A post-inspection walkthrough of the DOE Areas was performed by Tim Utterback on December 8, 2022 between 12 and 2 p.m. No evidence of soil disturbing or changed conditions over those observed during the October inspection were noted.

3.0 SMP Implementation

DOE is responsible for implementing the SMP. DOE has agreed with the Regents of the University of California that the EH&S Unit at UC Davis will implement selected requirements of the SMP. DOE retains ultimate accountability for compliance with the requirements of the ROD executed by this SMP.

3.1 Training

Personnel at the EH&S Unit at UC Davis conducted annual training to communicate soil management and tree or shrub removal requirements to applicable units that may perform, manage, or contract for work at and near the site. Additionally, personnel working in departments on or near the site also received annual training.

Information was provided on the following topics:

- Roles and responsibilities for soil management and tree or shrub removal in DOE Areas
- Areas and contaminants subject to soil management and tree or shrub removal requirements
- Soil management and tree or shrub removal during excavation or construction
- Permits for soil-disturbing and tree or shrub removal activities
- Plans and documentation for soil-disturbing and tree or shrub removal activities
- Soil management and tree or shrub removal during emergency work
- Waste management
- Waste characterization and disposal
- Inspections

3.2 Soil-Disturbing and Tree or Shrub Removal Activities

On the basis of site inspections and information provided by Rachel Lauesen of the EH&S Unit at UC Davis and relayed to Bob Devany of Weiss on December 12, 2022 (UC Davis 2022), no soil disturbance and tree or shrub removal permits were issued and no observations of soil-disturbing or tree or shrub removal activities were recorded by the EH&S Unit during the reporting period (Appendix A).

3.3 Waste Disposal

On the basis of site inspections and the interview documented in this report, no soil or tree or shrub waste from DOE Areas was disposed of or recycled during the 2022 reporting period.

4.0 Certification

DOE hereby certifies to the best of its knowledge that the information contained in this inspection report is true and accurate and no exceptions to the Covenant terms and conditions occurred during this reporting period.

Digitally signed by
Kathleen M Whysner
Date: 2023.01.04
08:49:47 -07'00'

Kathleen Whysner
U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

Date

The University of California hereby certifies to the best of its knowledge that the information contained in this inspection report is true and accurate and no exceptions to the Covenant terms and conditions occurred during this reporting period.

Chris Wright
cn=Chris Wright, o=University of California - Davis, ou=Environmental Health and Safety, email=cvwright@ucdavis.edu, c=US
2023.01.09 11:53:11 -08'00'

Christopher Wright
Environmental Manager
UC Davis Environmental Health and Safety
One Shields Avenue
Davis, CA 95616

Date

5.0 References

DOE (U.S. Department of Energy), 2009. *Record of Decision for DOE Areas at the Laboratory for Energy-Related Health Research, University of California, Davis*, LMS/LEH/S05069, Office of Legacy Management, September.

DOE (U.S. Department of Energy), 2010. *Remedial Design/Remedial Action Work Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S05822, Office of Legacy Management, November.

DOE (U.S. Department of Energy), 2022a. *Soil Management Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S35365, Office of Legacy Management, August 30.

DOE (U.S. Department of Energy), 2022b. *Vegetation Background Sampling and Analysis Plan, Laboratory for Energy-Related Health Research University of California, Davis*, LMS/LEH/40876, Office of Legacy Management, November.

DTSC (California Department of Toxic Substances Control), 2014. *Covenant to Restrict Use of Property, Environmental Restriction, (Re: Portions of County of Solano Assessor's Parcel No. 110-05-04 UC Davis Laboratory for Energy-Related Health Research/Old Campus Landfill [LEHR/OCL] Superfund Site*, Site Code 100424), Solano County Recorder's Office Document No. 201400051822, July 11.

UC Davis (University of California, Davis), 2021. Chris Wright, environmental manager, UC Davis Environmental Health and Safety Unit, email communication (about Downed Branches in DOE Areas) to Michael Butherus, U.S. Department of Energy, February 9.

UC Davis (University of California, Davis), 2022. Rachel Lauesen, UC Davis Environmental Health and Safety Unit, email communication (about DOE SMP Implementation in 2022) to Bob Devany, Weiss Associates, December 12.

Appendix A

Inspection Checklists

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback Inspection Date: October 5, 2022

Area Inspected: Monuments Reporting Period: December 10, 2021 – December 9, 2022

Monument No.	Close-up Photo [1]	Setting Photo [2]	Damaged or missing? (Y/N) If Y, explain	Comments
1	4696	4695	N	
2	4698	4697	N	
3	4701	4700	N	
4	4703	4702	N	
5	4721	4720	N	
6	4712	4711	N	
7	4723	4722	N	
8	4726	4725	N	
9	4729	4728	N	
10	4749	4748	N	
11	4751	4750	N	
12	4743	4742	N	
13	4746a	4745a	N	

Certification:

I certify that the inspection information presented above is true and accurate. By:

Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback Inspection Date: October 5, 2022

Area Inspected: Monuments Reporting Period: December 10, 2021 – December 9, 2022

Monument No.	Close-up Photo [1]	Setting Photo [2]	Damaged or missing? (Y/N) If Y, explain	Comments
14	4745b	4744	N	
15	4747b	4746b	N	
16	4773	4772	N	
17	4761	4760	N	
18	4759	4758	N	
19	4782	4781	N	
20	4786	4785	N	
21	4778	4777	N	
22	4789	4788	N	
23	4775	4774	N	
24	4752	4747a	N	

Notes:
[1] Take zoom photograph of monument. Record photograph number.
[2] Place orange ring marker around monument and step back to take photo of monument location with recognizable site features (ex. buildings, fence, road, etc.) in view. Record photograph number.

Certification:

I certify that the inspection information presented above is true and accurate. By:

Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2021, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2021 – December 9, 2022

<	Photograph Description	Photo No.	Comments
1	View southeast of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background	4753	
2	View south of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background	4754	
3	View southeast of Southwest Trenches Area: Former washdown pad in left	4756	
4	View west of Southwest Trenches Area: Shoulder of Old Davis Road in background	4757	
5	View northwest of Southwest Trenches Area	4762	
6	View north of Southwest Trenches Area: Buildings H-215 and H-216 in background	4763	
7	View north from center of Southwest Trenches Area: Buildings H-215 and H-216 in background	4764	
8	View west from center of Southwest Trenches Area	4765	Tree 16220 fallen limbs behind stanchion, posting, and rope in upper left of photo
9	View south from center of Southwest Trenches Area	4766	
10	View east from center of Southwest Trenches Area: Western Dog Pens Area and UC Davis Southern Trenches Area in background	4767	
11	View north of northwest corner of Southwest Trenches Area	4768	Tree 16219 fallen limb behind stanchions, posting, and rope on left side of photo
12	View east of Southwest Trenches Area: Western Dog Pens Area and UC Davis Southern Trenches Area in background	4769	

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2021, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2021 – December 9, 2022

<	Photograph Description	Photo No.	Comments
1	View east over former leach field part of Domestic Septic System 3 Area: Buildings H 215 and H 216 in upper left; Former washdown pad in upper right; Western Dog Pens Area in background.	4734	
2	View east of eastern half of Domestic Septic System 3 Area.	4735	
3	View west of former leach field part of Domestic Septic System 3: Buildings H-215 and H-216 to right; Former washdown pad to left; Old Davis Road obscured by trees in background.	4736	
4	View south of septic tank part of Domestic Septic System 3 Area: Building H-216 to left; Building H-215 to right.	4739	
5	View north of portions of Domestic Septic System 3 and 4 Areas: Building H-215 to left; Building H-216 to right; Domestic Septic System 4 Area in background.	4738	
6	View south of east end of Domestic Septic System 3 Area leach field: Building H-215 to right; Former washdown pad in background/center.	4737	
7	View east of Domestic Septic System 3 Area: Building H-216 in background, standing north/left of tree.	4740	UC Davis confirmed that filter cannisters in center of photo are not in service.
8	View east of Domestic Septic System 3 Area: Building H-216 in background, standing south/right of tree.	4741	

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Domestic Septic System 4

Reporting December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any indications of a residence, growing plants for human consumption, or a day care center for children observed during walkthrough inspection? If yes, explain.	☐	■	☐	
Did UC Davis Environmental Health and Safety (EH&S) Unit observe or receive report of any indications of a residence, growing plants for human consumption, or a day care center for children in this DOE Area since December 10, 2021.	☐	■	☐	See note 2
Were any indications of a change in land use observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. The DSS 4 area does not contain trees or shrubs. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Domestic Septic System 4

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See page A-7 note 2
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See page A-7 note 2
If waste was generated due to soil disturbing activities since December 10, 2021, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See page A-7 note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See page A-7 note 2

<	Photograph Description	Photo No.	Comments
1	View north of Domestic Septic System 4 Area septic tank location and east end of leach field: Building H-215 to left; Building H-216 to right; Building H-217 in background.	4733	
2	View west of east end of Domestic Septic System 4 Area leach field; Building H-215 in background.	4731	
3	View east of Domestic Septic System 4 Area septic tank location: Building H-216 in background.	4732	
4	View east of western portion of Domestic Septic System 4 Area: Building H-215 in background/center.	4719	

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Dawson Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Radium/Strontium Treatment Systems Area Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2021, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Radium/Strontium Treatment Systems Area Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2021 – December 9, 2022

<	Photograph Description	Photo No.	Comments
1	View north over southern portion of Radium/Strontium Treatment Systems Area (Ra/Sr Area). Building H-215 to right; Buildings H-218 and H-219 in background.	4718	
2	View north of middle portion of Radium/Strontium Treatment Systems Area: building cooling unit and Building H-218 northwest corner in upper right portion of photo; Building H-219 in background	4717	
3	View south over southern portion of Ra/Sr Area. Building H-215 to left.	4710	
4	View north over northern portion of Ra/Sr Area. Building H-219 in upper right portion of photo.	4704	
5	View south over middle-south portion of Ra/Sr Area. Building H-218 to left; west perimeter gate and fence to right.	4706	
6	View east over central portion of Ra/Sr Area. Building H-218 to right; Building H-219 to left.	4707	
7	View west over Domestic Septic System 2 area within middle-west portion of Ra/Sr Area.	4708	
8	Roof-level view west over middle portion of Ra/Sr Area. Building H-219 to right; Building H-218 to left.	4714	
9	Roof-level view southwest over central portion of Ra/Sr Area; Building H-218 in background/left.	4715	
10	Roof-level view northwest over central portion of Radium/ Strontium Treatment Systems Area; Building H-219 in background.	4716	
11	View south over northern portion of Ra/Sr Area: Building H-219 to left; west perimeter fence and Old Davis Road to right.	4709	

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2021, was the soil or vegetation managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2021 – December 9, 2022

<	Photograph Description	Photo No.	Comments
1	View north of Dry Wells A–E Area: Old Davis Road to left; corner of Building H-219 to right.	4694	
2	View south of Dry Wells A–E Area: Building H-219 in Background/left.	4691	
3	View west of Dry Wells A–E Area and main gate; Old Davis Road in background.	4692	
4	View southwest of Dry Wells A–E Area.	4693	

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2021 – December 9, 2022

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. [1]	☐	■	☐	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2021?	☐	■	☐	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2021?	☐	■	☐	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2021, were the activities in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2021, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	☐	☐	■	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	☐	■	☐	See note 2

Notes:

[1] Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

[2] Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated December 12, 2022 (UC Davis 2022).

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback Date: October 11, 2022

I certify that the interview information presented above is true and accurate. By: Robert D. Devany Date: December 12, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 5, 2022

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2021 – December 9, 2022

<	Photograph Description	Photo No.	Comments
1	View northeast over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek showing southwest corner monument location in lower left.	4790	
2	View east over central Eastern Dog Pens Area.	4779	Tree 16236 fallen limbs in center of photo, behind stanchions and rope
3	View southeast over Eastern Dog Pens Area from northwest corner showing northwest corner monument location.	4780	
4	View south over central Eastern Dog Pens Area.	4783	Shrub 16233 and fallen limbs in center/left of photo behind stanchions and rope
5	View southwest over Eastern Dog Pens Area from northeast corner showing location of northeast corner monument.	4784	
6	View west over central Eastern Dog Pens Area.	4787	
7	View northwest into Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek showing location of southeast corner monument.	4792	
8	View north over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek.	4791	

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback Inspection Dates: October 5 and 6, 2022

Area Inspected: Trees and Shrubs Reporting Period: December 10, 2021 – December 9, 2022

Tree ID	Tag number	Tag Photo [1]	Damaged or missing tag? If Y, explain	Tree/shrub changed since last inspection? If Y, explain	Comments
16196	096	4793	N	N	
16197	097	4794	N	N	
16198	098	4795	N	N	
16199	099	4796	N	N	
16200	100	4800	N	N	
16201	001	4801	N	N	
16202	002	4802	N	N	
16203	003	4803	N	N	
16204	004	4804	N	N	
16205	005	4805	N	N	
16206	006	4806	N	N	
16207	007	4807	N	N	
16208	008	4808	N	N	
16209	009	4810	N	N	
16210	010	4862	Y	N	
16211	011	4813	N	N	Tag becoming obscured by growth
16212	012	4812	N	N	
16213	013	4869	N	N	
16214	014	4871	N	N	
16215	015	4870	N	N	
16216	016	4866	N	N	
16217	017	4867	N	N	
16218	018	4868	N	N	
16219	019	4863	N	N	
16220	020	4864	N	N	
16221	021	4865	N	N	
16223	023	4888	N	N	
16224	024	4887	N	N	
16225	025	4886	N	N	
16226	026	4883	N	N	
16227	027	4884	N	N	
16228	028	4879	N	N	
16229	029	4885	N	N	

Certification:

I certify that the inspection information presented above is true and accurate. By:

Date: October 11, 2022

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback Inspection Dates: October 5 and 6, 2022

Area Inspected: Trees and Shrubs Reporting Period: December 10, 2021 – December 9, 2022

Tree ID	Tag number	Tag Photo[1]	Damaged or missing tag? If Y, explain	Tree/shrub changed since last inspection? If Y, explain	Comments
16230	030	4881	N	N	
16231	031	4882	N	N	
16232	032	4880	N	N	
16233	033	4878	N	N	
16234	034	4876	N	N	
16235	035	4873	N	N	
16236	036	4877	N	N	
16237	037	4872	N	N	
16238	038	4875	N	N	
16239	039	4874	N	N	
16240	040	4890	N	N	
16241	041	4891	N	N	
16242	042	4892	N	N	
16243	043	4893	N	N	
16244	044	4896	N	N	
16245	045	4894	N	N	
16246	046	4895	N	N	
16247	047	4897	N	N	
16248	048	4901	N	N	
16249	049	4898	N	N	
16250	050	4899	N	N	
16251	051	4900	N	N	
16252	052	4811	N	N	
16253	053	4799	N	N	
16254	054	4798	N	N	
16255	055	4797	N	N	
NA	056	4861	Y	N	

Notes:
[1] Take zoom photograph of tag. Record photograph number.

Certification:

I certify that the inspection information presented above is true and accurate. By: 

Date: October 11, 2022

LAND USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback
Area Inspected: Monitoring Wells

Inspection Date: October 6, 2022
Reporting Period: December 10, 2021 – December 9, 2022

Well ID and Completion Type	Photographs		Evidence of tampering? (Y/N) If Y, explain	Locks/Bolts Secure? [3] (Y/N) If N, explain	ID Plates OK? [4] (Y/N) If N, explain	Vault and Seal Sound? [5] (Y/N) If N, explain	Pump OK? [6] (Y/N) If N, explain	Maintenance Needed? (Y/N) If Y, explain	Comments
	Wellhead / tag [1]	Vault / tag [2]							
UCD1-013 standpipe	4842 4843	4844 4845	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-018 standpipe	4907 4908	4909 4910	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-021 flush	4815 4816	4817 4819	N	Y	Y	Y	not tested[7]	Y	Water level too low to test pump; Pump last used on 4/12/2022. Asphalt roadway receding around concrete well head. Asphalt patching needed
UCD1-023 flush	4824 4825	4826 4827	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-054 flush	4820 4821	4822 4823	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/13/2022.
UCD1-063 standpipe	4851 4852	4853 4854	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-068 flush	4833 4834	4837 4836	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/13/2022.
UCD1-069 flush	4838 4839	4840 4841	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/21/2022.

Monitoring well inspection footnotes provided on page A-18.

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback
Date: October 12, 2022

LAND USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback
Area Inspected: Monitoring Wells

Inspection Date: October 6, 2022
Reporting Period: December 10, 2021 – December 9, 2022

Well ID and Completion Type	Photographs		Evidence of tampering? (Y/N) If Y, explain	Locks/Bolts Secure? [3] (Y/N) If N, explain	ID Plates OK? [4] (Y/N) If N, explain	Vault and Seal Sound? [5] (Y/N) If N, explain	Pump OK? [6] (Y/N) If N, explain	Maintenance Needed? (Y/N) If Y, explain	Comments
	Wellhead / tag [1]	Vault / tag [2]							
UCD1-070 standpipe	4846 4847	4848 4849	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-071 flush	4855 4856	4857 4859	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/12/2022.
UCD1-072 flush	4828 4829	4832 4831	N	Y	Y	Y	not tested[7]	Y	Water level too low to test pump; Pump last used on 4/13/2022. Well vault bolt hole flanges ruptured but bolts do currently secure vault lid. Vault flange ring replacement needed.
UCD1-073 standpipe	4903 4904	4905 4906	N	Y	Y	Y	not tested[7]	N	Water level too low to test pump; Pump last used on 4/20/2022.

Notes:
[1] Take photograph inclusive of wellhead features including concrete pad. Take zoom photograph of wellhead identification plaque (tag). Record photograph numbers. Photo date stamp shows specific date and time of inspection.
[2] Open well vault and take photograph inclusive of vault inner features. Take zoom photograph of identification plaque (tag) stored in vault. Record photograph numbers.
[3] Verify that standpipe well locks are present, in good condition, and secured with the lock at the time of inspection. Verify that flush mount well bolts are present, in good condition, and properly secured at the time of inspection. Document any issues.
[4] Verify that well identification plates are fixed to the outside of the well and stored inside the well are legible and in good condition (two plates per well). Document any issues.
[5] Verify that concrete pads are structurally sound. Document any issues.
[6] Connect pump to controller and discharge approximately 300 milliliters of water to bucket. Document any issues.
[7] Measurable depths to water ranged from 65 feet to 68 feet at the time of the inspection and were too low to test the pumps.

Certification:

I certify that the inspection information presented above is true and accurate. By: Tim Utterback
Date: October 12, 2022

Appendix B

Photographs of Survey Monuments at Permanent Reference Points for Areas Subject to Land-Use Controls

Survey Monument 1: Northwest Corner of Dry Wells A–E Area (Photo No. 4696)

View Northwest: Survey Monument 1 Within Orange Ring (outside diameter, 14 inches); West Perimeter Fence and Center for Health and the Environment Entrance Sign in Background (Photo No. 4695)

Survey Monument 2: Northeast Corner of Dry Wells A–E Area (Photo No. 4698)

View West: Survey Monument 2 Within Orange Ring; Retracted Entrance Gate in Background (Photo No. 4697)

Survey Monument 3: Southwest Corner of Dry Wells A–E Area (Photo No. 4701)

View Southwest: Survey Monument 3 Within Orange Ring; West Perimeter Fence Behind Survey Monument; Orange Delineator Right of Survey Monument (Photo No. 4700)

Survey Monument 4: Southeast Corner of Dry Wells A–E Area (Photo No. 4703)

View East: Survey Monument 4 Within Orange Ring; Building H-219 in Background (Photo No. 4702)

Survey Monument 5: Northwest Corner of DSS 4 Area (Photo No. 4721)

View East: Survey Monument 5 Within Orange Ring; Building H-215 in Background (Photo No. 4720)

Survey Monument 6: Adjacent to Northwest Corner of Building H-218; Ra/Sr Treatment Systems Area (Photo No. 4712)

View East: Survey Monument 6 Within Orange Ring; Corner of Building H-218 in Background (Photo No. 4711)

Survey Monument 7: Southwest Corner of DSS 4 Area (Photo No. 4723)

View East: Survey Monument 7 Within Orange Ring; Building H-215 in Background (Photo No. 4722)

Survey Monument 8: Southwest Corner of Radium-226 Leach Trench; Ra/Sr Treatment Systems Area (Photo No. 4726)

View Southwest: Survey Monument 8 Within Orange Ring; West Perimeter Fence Behind Survey Monument; Orange Delineator Left of Survey Monument (Photo No. 4725)

Survey Monument 9: Southeast Corner of Radium-226 Leach Trench; Ra/Sr Treatment Systems Area (Photo No. 4729)

View East: Survey Monument 9 Within Orange Ring; Building H-215 in Background (Photo No. 4728)

Survey Monument 10: Northeast Corner of Former Leach Field in DSS 3 Area (Photo No. 4749)

View East: Survey Monument 10 Within Orange Ring; Delineator Behind Survey Monument (Photo No. 4748)

Survey Monument 11: Northeast Corner of Eastern Remediation Support Area (Photo No. 4751)

View North: Survey Monument 11 Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4750)

Survey Monument 12: Northwest Corner of SWT Area (Photo No. 4743)

View South: Survey Monument 12 Within Orange Ring in Foreground; Water Hydrant in Background (Photo No. 4742)

Survey Monument 13: Southwest Corner of DSS 3 Area (Photo No. 4746a)

View South: Survey Monument 13 Within Orange Ring at Edge of Concrete Swale; Northern Perimeter of Southwest Trenches Area in Background (Photo No. 4745a)

Survey Monument 14: Southeast Corner of DSS 3 Area (Photo No. 4745b)

View Northeast: Survey Monument 14 Within Orange Ring; Delineator Behind Survey Monument (Photo No. 4744)

Survey Monument 15: Eastern Corner of SWT Area (Photo No. 4747b)

View Southeast: Survey Monument 15 Within Orange Ring; Delineator Left of Survey Monument (Photo No. 4746b)

Survey Monument 16: Southwest Corner of SWT Area (Photo No. 4773)

View Southwest: Survey Monument 16 Within Orange Ring; Delineator Left of Survey Monument; Southwest Corner Post of Perimeter Fence Behind Survey Monument (Photo No. 4772)

Survey Monument 17: Southeast Corner of SWT Area (Photo No. 4761)

View Southeast: Survey Monument 17 Within Orange Ring; Delineator Left of Survey Monument; South Perimeter Fence Behind Survey Monument; Foot of North Levee in Background (Photo No. 4760)

Survey Monument 18: Southeast Corner of Eastern Remediation Support Area (Photo No. 4759)

View South: Survey Monument 18 Within Orange Ring; Delineator Right of Survey Monument; South Perimeter Fence Behind Survey Monument; Foot of North Levee in Background (Photo No. 4758)

Survey Monument 19: Northwest Corner of EDPs Area (Photo No. 4782)

View Southeast: Survey Monument 19 Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4781)

Survey Monument 20: Northeast Corner of EDPs Area (Photo No. 4786)

View Southwest: Survey Monument 20 Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4785)

Survey Monument 21: Southwest Corner of EDPs Area (Photo No. 4778)

View Northeast: Survey Monument 21 Within Orange Ring; Delineator Left of Survey Monument (Photo No. 4777)

Survey Monument 22: Southeast Corner of EDPs Area (Photo No. 4789)

View Northwest: Survey Monument 22 Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4788)

Survey Monument 23: Western Perimeter Point of SWT Area (Photo No. 4775)

View Northwest: Survey Monument 23 Within Orange Ring; Delineator Right of Survey Monument; West Perimeter Fence Behind Survey Monument (Photo No. 4774)

Survey Monument 24: Northeast Corner of SWT Area at Southern Perimeter of DSS 3 Area (Photo No. 4752)

View South: Survey Monument 24 Within Orange Ring on Edge of Concrete Swale; Former Washdown Pad in Upper Left (Photo No. 4747a)

Appendix C

Photographs of DOE Areas Subject to Land-Use Controls

View Southeast of SWT Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 4753)

View South of SWT Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 4754)

View Southeast of SWT Area: Former Washdown Pad in Left (Photo No. 4756)

View West of SWT Area: Shoulder of Old Davis Road in Background (Photo No. 4757)

View Northwest of SWT Area (Photo No. 4762)

View North of SWT Area: Buildings H-215 and H-216 in Background (Photo No. 4763)

View North from Center of SWT Area: Buildings H-215 and H-216 in Background (Photo No. 4764)

View West from Center of SWT Area; Tree 16220 Fallen Limbs Behind Stanchion, Posting, and Rope in Upper Left of Photo (Photo No. 4765)

View South from Center of SWT Area (Photo No. 4766)

View East from Center of SWT Area: Western Dog Pens Area and UC Davis Southern Trenches Area in Background (Photo No. 4767)

View North of Northwest Corner of SWT Area; Tree 16219 Fallen Limb Behind Stanchions, Posting, and Rope in Upper Left of Photo (Photo No. 4768)

View East of SWT Area: Western Dog Pens Area and UC Davis Southern Trenches Area in Background (Photo No. 4769)

View East Over Former Leach Field Part of DSS 3 Area: Buildings H-215 and H-216 in Upper Left; Former Washdown Pad in Upper Right; Western Dog Pens Area in Background (Photo No. 4734)

View East of Eastern Half of DSS 3 Area (Photo No. 4735)

View West of Former Leach Field Part of DSS 3: Buildings H-215 and H-216 to Right; Former Washdown Pad to Left; Old Davis Road Obscured by Tree in Background (Photo No. 4736)

View South of Septic Tank Part of DSS 3 Area: Building H-216 to Left; Building H-215 to Right (Photo No. 4739)

View North of Portions of DSS 3 and 4 Areas: Building H-215 to Left; Building H-216 to Right; DSS 4 Area in Background (Photo No. 4738)

View South of East End of DSS 3 Area Leach Field: Building H-215 to Right; Former Washdown Pad in Background (Photo No. 4737)

View East of DSS 3 Area: Out-of-Service Filter Cannisters in Center; Building H-216 in Background, Standing North and Left of Tree (Photo No. 4911)

View East of DSS 3 Area: Building H-216 in Background, Standing South and Right of Tree (Photo No. 4741)

View North of DSS 4 Area Septic Tank Location and East End of Leach Field: Building H-215 to Left; Building H-216 to Right; Building H-217 in Background (Photo No. 4733)

View West of East End of DSS 4 Area Leach Field; Building H-215 in Background (Photo No. 4731)

View East of DSS 4 Area Septic Tank Location: Building H-216 in Background (Photo No. 4732)

View East of Western Portion of DSS 4 Area: Building H-215 in Background, Center (Photo No. 4719)

View North of Southern Portion of Ra/St Treatment Systems Area: Building H-215 to Right; Buildings H-218 and H-219 in Background (Photo No. 4718)

View North of Middle Portion of Ra/Sr Treatment Systems Area: Building Cooling Unit and Building H-218 Corner in Right Top Portion of Photo; Building H-219 in Background (Photo No. 4717)

View South of Southern Portion of Ra/Sr Treatment Systems Area: Building H-215 to Left (Photo No. 4710)

View North of Northern Portion of Ra/Sr Treatment Systems Area: Building H-219 to Right (Photo No. 4704)

View South of Middle-South Portion of Ra/Sr Treatment Systems Area: Building H-218 to Left; West Perimeter Gate and Fence to Right (Photo No. 4706)

View East of Central Portion of Ra/Sr Treatment Systems Area: Building H-218 to Right; Building H-219 to Left (Photo No. 4707)

View West of DSS 2 Area Within Middle-West Portion of Ra/Sr Treatment Systems Area (Photo No. 4708)

Roof-Level View West of Central Portion of Ra/Sr Treatment Systems Area: Building H-219 to Right; Building H-218 to Left (Photo No. 4714)

Roof-Level View Southwest of Central Portion of Ra/Sr Treatment Systems Area: Building H-218 in Background, Left (Photo No. 4715)

Roof-Level View Northwest of Central Portion of Ra/Sr Treatment Systems Area: Building H-219 in Background (Photo No. 4716)

View South over Northern Portion of Ra/Sr Treatment Systems Area: Building H-219 to Left; West Perimeter Fence and Old Davis Road to Right (Photo No. 4709)

View North of Dry Wells A–E Area: Old Davis Road to Left; Corner of Building H-219 to Right (Photo No. 4694)

View South of Dry Wells A–E Area: Building H-219 in Background, Left (Photo No. 4691)

View West of Dry Wells A–E Area and Main Gate; Old Davis Road in Background (Photo No. 4692)

View Southwest of Dry Wells A–E Area (Photo No. 4693)

View Northeast of EDPs Area from North Levee of South Fork Putah Creek with Orange Delineator Showing Southwest Corner Monument Location in Lower Left (Photo No. 4790)

View East of EDPs Area; Tree 16236 Fallen Limb in Center, Behind Stanchions and Rope (Photo No. 4779)

View Southeast of EDPs Area from Northwest Corner Showing Northwest Corner Monument Location (Photo No. 4780)

View South of EDPs Area; Shrub 16233 with Small Fallen Limbs in Center, Left of Photo Behind Stanchions and Rope (Photo No. 4783)

View Southwest of EDPs Area from Northeast Corner Showing Location of Northeast Corner Monument (Photo No. 4784)

View West of EDPs Area (Photo No. 4787)

View Northwest into EDPs Area from North Levee of the South Fork of Putah Creek Showing Location of Southeast Corner Monument (Photo No. 4792)

View North over EDPs Area from North Levee of the South Fork of Putah Creek (Photo No. 4791)

Appendix D

Photographs of Groundwater Monitoring Wells

UCD1-013 Wellhead (Photo No. 4842)

UCD1-013 Wellhead ID Plate (Photo No. 4843)

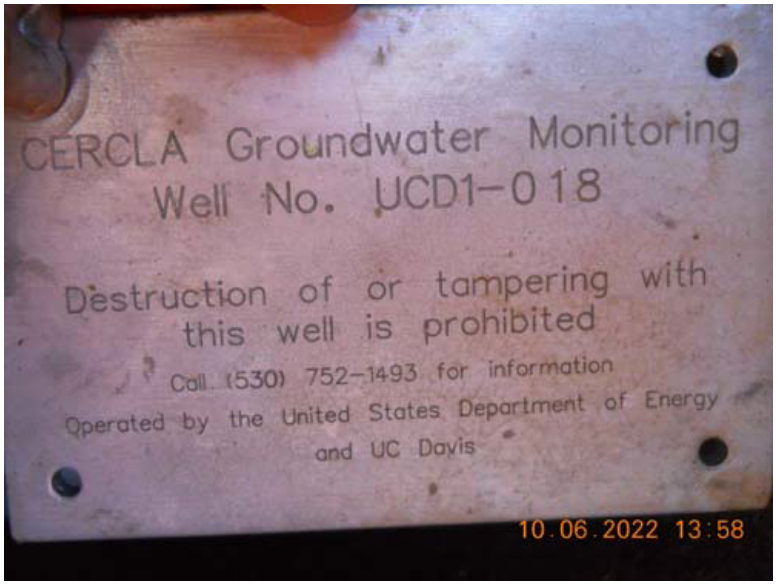
UCD1-013 Interior (Photo No. 4844)

UCD1-013 Interior ID Plate (Photo No. 4845)

UCD1-018 Wellhead (Photo No. 4907)

UCD1-018 Wellhead ID Plate (Photo No. 4908)

UCD1-018 Interior (Photo No. 4909)

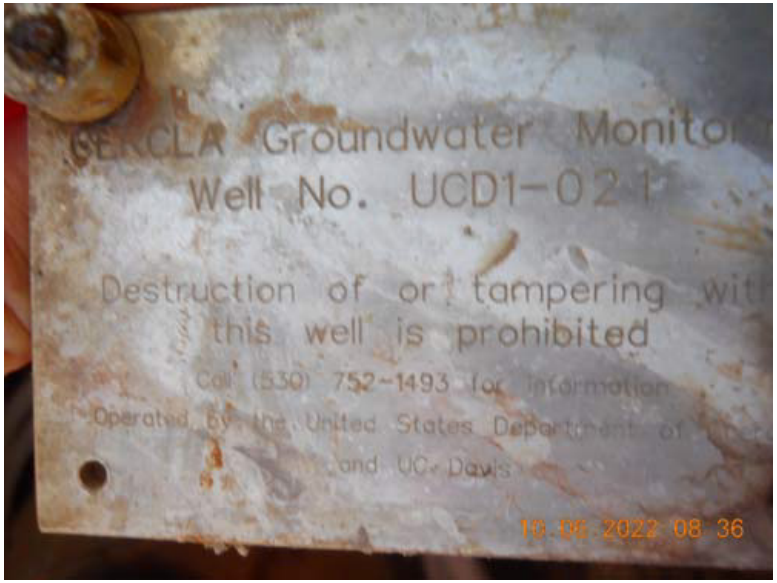


UCD1-018 Interior ID Plate (Photo No. 4910)

UCD1-021 Wellhead (Photo No. 4815)

UCD1-021 Wellhead ID Plate (Photo No. 4816)

UCD1-021 Interior (Photo No. 4817)



UCD1-021 Interior ID Plate (Photo No. 4819)

UCD1-023 Wellhead (Photo No. 4824)

UCD1-023 Wellhead ID Plate (Photo No. 4825)

UCD1-023 Interior (Photo No. 4826)

UCD1-023 Interior ID Plate (Photo No. 4827)

UCD1-054 Wellhead (Photo No. 4820)

UCD1-054 Wellhead ID Plate (Photo No. 4821)

UCD1-054 Interior (Photo No. 4822)

UCD1-054 Interior ID Plate (Photo No. 4823)

UCD1-063 Wellhead (Photo No. 4851)

UCD1-063 Wellhead ID Plate (Photo No. 4852)

UCD1-063 Interior (Photo No. 4853)

UCD1-063 Interior ID Plate (Photo No. 4854)

UCD1-068 Wellhead (Photo No. 4833)

UCD1-068 Wellhead ID Plate (Photo No. 4834)

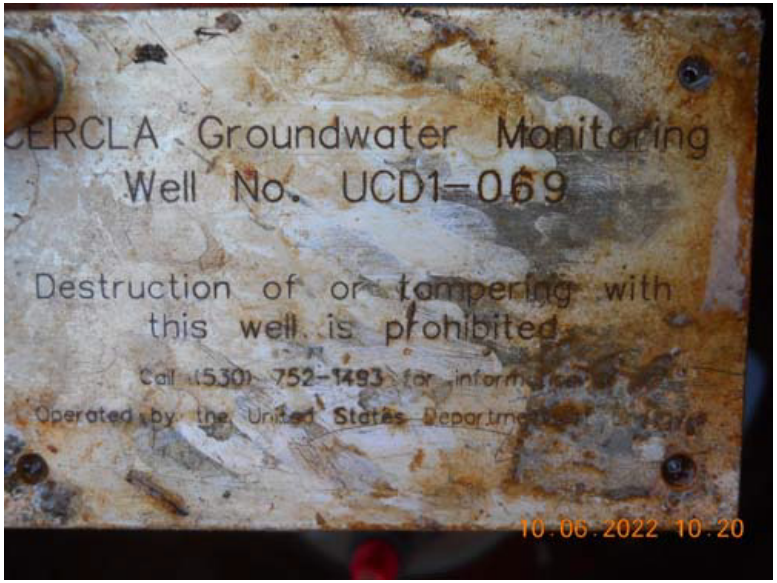
UCD1-068 Interior (Photo No. 4837)

UCD1-068 Interior ID Plate (Photo No. 4836)

UCD1-069 Wellhead (Photo No. 4838)

UCD1-069 Wellhead ID Plate (Photo No. 4839)

UCD1-069 Interior (Photo No. 4840)



UCD1-069 Interior ID Plate (Photo No. 4841)

UCD1-070 Wellhead (Photo No. 4846)

UCD1-070 Wellhead ID Plate (Photo No. 4847)

UCD1-070 Interior (Photo No. 4848)

UCD1-070 Interior ID Plate (Photo No. 4849)

UCD1-071 Wellhead (Photo No. 4855)

UCD1-071 Wellhead ID Plate (Photo No. 4856)

UCD1-071 Interior (Photo No. 4857)

UCD1-071 Interior ID Plate (Photo No. 4859)

UCD1-072 Wellhead (Photo No. 4828)

UCD1-072 Wellhead ID Plate (Photo No. 4829)

UCD1-072 Interior (Photo No. 4832)

UCD1-072 Interior ID Plate (Photo No. 4831)

UCD1-073 Wellhead (Photo No. 4903)

UCD1-073 Wellhead ID Plate (Photo No. 4904)

UCD1-073 Interior (Photo No. 4905)

UCD1-073 Interior ID Plate (Photo No. 4906)

Appendix E

Vegetation Management Documentation

Appendix E1

Table Showing DOE Areas Trees and Shrubs
December 2022

Table E1. Catalog of Trees and Shrubs In or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site

Tag No.	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	No. of Stems	Condition (Notes)
NA	~~16192~~	~~11/4/2016~~ [a]	~~*Juglans*~~	~~*bindsil*~~	~~California Black Walnut~~	~~67~~	~~5-10~~	~~1~~	~~Poor (dead tree).~~ Removed in 2017
NA	~~16193~~	~~11/4/2016~~ [a]	~~*Juglans*~~	~~*bindsil*~~	~~California Black Walnut~~	~~64~~	~~5-10~~	~~1~~	~~Poor (tree canopy is 95% dead with severe mistletoe).~~ Removed in 2017
NA	~~16194~~	~~11/4/2016~~ [a]	~~*Juglans*~~	~~*ninosii*~~	~~California Black Walnut~~	~~57~~	~~5-10~~	~~1~~	~~Poor (dead tree).~~ Removed in 2017
NA	~~16195~~	~~11/4/2016~~ [a]	~~*Morus*~~	~~*alba*~~	~~White Mulberry~~	~~126~~	~~16-20~~	~~1~~	~~Fair (vigorous growth; history of branch failure; moderate branch decay; excessive canopy weight).~~ Not adjacent to DOE Area
096	16196	11/4/2016	*Olea*	*europaea*	Olive	13	5–10	2	Good (minor dead branches; structurally sound, but needs corrective pruning to improve branching structure)
097	16197	11/4/2016	*Olea*	*europaea*	Olive	13	5–10	2	Good (structurally sound, but needs corrective pruning to improve branching structure)
098	16198	11/4/2016	*Celtis*	*sinensis*	Chinese Hackberry	22	11–15	1	Good (vigorous growth; structurally sound; infested with Hackberry Woolly Aphid)
099	16199	11/4/2016	*Olea*	*europaea*	Olive	9	<5	4	Good (structurally sound, but needs corrective pruning to improve branching structure)
100	16200	11/4/2016	*Celtis*	*sinensis*	Chinese Hackberry	30	11–15	1	Good (vigorous growth; 5-degree lean toward street; infested with Hackberry Woolly Aphid)
001	16201	11/4/2016	*Celtis*	*sinensis*	Chinese Hackberry	24	11–15	2	Fair (vigorous growth; multitrunked with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
002	16202	11/4/2016	*Nerium*	*oleander*	Oleander	4	<5	11	Good (vigorous growth)
003	16203	11/4/2016	*Nerium*	*oleander*	Oleander	2	<5	11	Good (vigorous growth)
004	16204	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	70	16–20	1	Fair (vigorous growth; 15-degree lean toward building; history of large branch failure)
005	16205	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	79	16–20	1	Fair (vigorous growth; 15-degree lean toward street; excessive canopy weight)
006	16206	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	48	11–15	1	Fair (vigorous growth; 30-degree lean toward street; minor decay at root crown)
007	16207	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	66	16–20	1	Fair (vigorous growth; 10-degree lean southward; excessive canopy weight)
008	16208	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	68	16–20	1	Fair (vigorous growth; 10-degree lean toward street; excessive canopy weight; conflict with fence and light post)
009	16209	11/4/2016	*Nerium*	*oleander*	Oleander	2	<5	11	Good (vigorous growth)
010	16210	11/4/2016	*Pinus*	*halepensis*	Aleppo Pine	7	<5	1	Good (vigorous growth)
011	16211	11/4/2016	*Morus*	*alba*	White Mulberry	107	16–20	1	Fair (vigorous growth; risk of branch failure due to excessive canopy weight)
012	16212	11/4/2016	*Nerium*	*oleander*	Oleander	2	<5	11	Good (vigorous growth)
013	16213	11/4/2016	*Prunus*	*dulcis*	Almond	30	5–10	1	Fair (minor dead branches; poor branching structure)
014	16214	11/4/2016	*Sambucus*	*nigra*	Elderberry	20	<5	11	Poor (tree 75% dead; severe trunk decay; major dead branches)
015	16215	11/4/2016	*Sambucus*	*nigra*	Elderberry	22	<5	11	Poor (tree 60% dead; major branch failure)
016	16216	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	55	5–10	1	Fair (vigorous growth; 45-degree lean east; excessive canopy weight)
017	16217	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	96	16–20	1	Good (vigorous growth; excessive canopy weight)
018	16218	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	92	16–20	1	Good (vigorous growth)
019	16219	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	68	16–20	1	Good (vigorous growth)
020	16220	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	61	16–20	1	Fair (vigorous growth; 10-degree lean; history of branch failure; excessive canopy weight)
021	16221	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	89	16–20	1	Fair (vigorous growth; codominant trunks with included bark; excessive branch weight)
NA	~~16222~~	~~11/5/2016~~ [b]	~~*Sambucus*~~	~~*nigra*~~	~~Elderberry~~	~~3~~	~~<5~~	~~11~~	~~Poor (dead tree).~~ Tree dead and fallen as of November 2019
023	16223	11/5/2016	*Fraxinus*	*sp.*	Ash species	7	<5	3	Good (vigorous growth)
024	16224	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	60	11–15	1	Good (vigorous growth; codominant leaders; excessive branch weight)
025	16225	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	47	11–15	2	Fair (vigorous growth; 5-degree lean; excessive branch weight; 2 trunks girdling each other; fluxing on trunk)
026	16226	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	28	11–15	1	Good (vigorous growth; codominant leaders)
027	16227	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	21	5–10	1	Fair (vigorous growth; poor branching structure; excessive branch weight)
028	16228	11/4/2016	*Prunus*	*dulcis*	Almond	25	<5	11	Poor (tree has toppled due to severe trunk rot; mix of dead branches and new growth)

Table E1. Catalogue of Trees and Shrubs In or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site (continued)

Tag No.	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	No. of Stems	Condition (Notes)
029	16229	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	28	<5	1	Fair (vigorous growth; 30-degree; excessive branch weight; fluxing from trunk)
030	16230	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	20	5–10	1	Good (vigorous growth)
031	16231	11/5/2016	*Celtis*	*sinensis*	Chinese Hackberry	44	5–10	2	Fair (vigorous growth; codominant trunks with included bark; minor dead branches)
032	16232	11/4/2016	*Prunus*	*dulcis*	Almond	9	<5	2	Fair (codominant trunks with included bark)
033	16233	11/5/2016	*Sambucus*	*nigra*	Elderberry	10	<5	11	Poor (severe trunk decay; major dead branches)
034	16234	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	2	<5	1	Good (vigorous growth; codominant leaders)
035	16235	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	53	11–15	1	Good (vigorous growth; 5-degree lean)
036	16236	11/5/2016	*Pinus*	*halepensis*	Aleppo Pine	52	11–15	1	Fair (vigorous growth; codominant trunks)
037	16237	11/5/2016	*Sambucus*	*nigra*	Elderberry	4	<5	5	Good (growing vigorously; minor dead branches)
038	16238	11/5/2016	*Sambucus*	*nigra*	Elderberry	10	<5	11	Fair (vigorous growth; 15-degree lean; minor dead branches)
039	16239	11/5/2016	*Sambucus*	*nigra*	Elderberry	20	<5	11	Fair (severe trunk decay; major dead branches; new growth at branch tips)
040	16240	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	51	16–20	1	Good (vigorous growth; 5-degree lean)
041	16241	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	64	16–20	1	Fair (vigorous growth; codominant trunks with included bark)
042	16242	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	14	5–10	1	Good (vigorous growth)
043	16243	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	51	16–20	1	Good (vigorous growth; excessive branch weight)
044	16244	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	57	16–20	1	Good (vigorous growth; excessive branch weight)
045	16245	11/5/2016	*Prunus*	*dulcis*	Almond	10	<5	2	Fair (codominant trunks; 10-degree lean; minor dead branches)
046	16246	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	19	5–10	1	Good (vigorous growth; scaffold branch with included bark)
047	16247	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	35	11–15	1	Good (vigorous growth)
048	16248	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	46	16–20	1	Good (vigorous growth; codominant leaders)
049	16249	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	18	<5	1	Fair (vigorous growth; leader has 90-degree bend)
050	16250	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	42	11–15	1	Good (vigorous growth)
051	16251	11/5/2016	*Pinus*	*canariensis*	Canary Island Pine	53	16–20	1	Good (vigorous growth; 5-degree lean)
052	16252	11/5/2016	*Nerium*	*oleander*	Oleander	2	<5	11	Good (vigorous growth)
053	16253	11/4/2016	*Celtis*	*sinensis*	Chinese Hackberry	12	5–10	1	Fair (codominant trunks with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
054	16254	11/4/2016	*Celtis*	*sinensis*	Chinese Hackberry	45	11–15	1	Good (vigorous growth; minor dead branches; infested with Hackberry Woolly Aphid)
055	16255	11/4/2016	*Nerium*	*oleander*	Oleander	3	<5	11	Good (vigorous growth)
056	NA[c]	5/6/2021	*Pinus*	*halepensis*	Aleppo pine	20	<5	1	Good (vigorous growth)

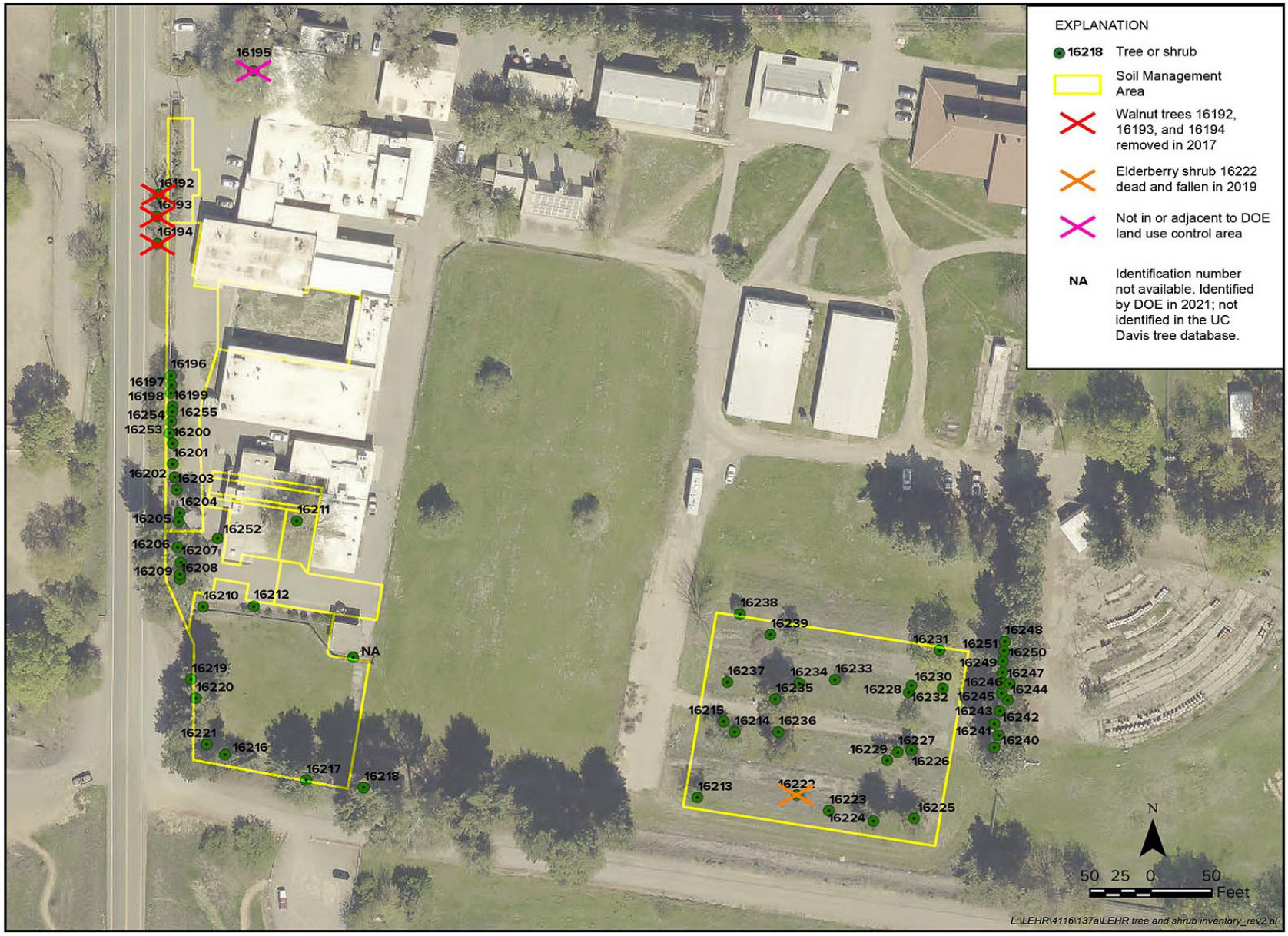
Notes:
Strikeouts represent changes from University of California, Davis baseline survey of trees and shrubs (UC Davis 2016).
[a] Trees documented as removed (DOE 2022).
[b] Tree documented as dead and fallen (DOE 2020).
[c] Not identified in UC Davis Campus Tree Database (see https://www.arcgis.com/apps/webappviewer/index.html?id=4bbcb1fb3b7f43fd830d3d2894612eca); tagged by DOE in 2021.

Sources:
UC Davis (University of California, Davis), 2016. *Survey of Trees and Shrubs with Canopies within DOE Areas at LEHR, Facilities Management, Buildings and Grounds, University of California, Davis*, November 7.
DOE (U.S. Department of Energy), 2020. *2019 Annual Land-Use Covenant Inspection Report for DOE Areas at the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site, University of California, Davis*, LMS/LEH/S28507, Office of Legacy Management, January.
DOE (U.S. Department of Energy), 2022. *Soil Management Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S35365, Office of Legacy Management, August.

Abbreviations:
DBH = diameter of the trunk at breast height
cm = centimeters
m = meters
NA = not applicable

Appendix E2

Map Showing DOE Areas Trees and Shrubs
December 2022



Trees and Shrubs with Canopies Within DOE Areas
(Modified from Version Provided by UC Davis Facilities Management to Focus on DOE Areas and to Show the Current Trees and Shrubs)

Appendix F

Maintenance Issue Documentation

Land Use Covenant (Covenant) maintenance items identified in 2021 and 2022 are documented in Table F1, followed by photographs of repairs completed during the 2022 reporting period. The outstanding maintenance items are planned for completion by early 2023, before the annual water monitoring event. Covenant maintenance items identified before 2021 were completed before this reporting period.

Table F1. Maintenance Log (2021–2022)

Maintenance Item	Date Identified	Description of Completed or Planned Repair	Date Completed	Completion Photo No.
Sapling in SWT Area: No tag	11/4/2021	Repair completed: New tag installed	2/10/2022	4686
Tree 16210: Missing tag	11/4/2021	Repair completed: New tag installed	2/10/2022	4685
Well UCD1-072: Vault lid bolt hole threads worn off; well vault bolt hole flanges ruptured on 10/6/2022	11/3/2021, 10/6/2022	Initial repair failed: Well vault bolt hole flanges ruptured upon attempt to install new bolts Revised repair planned: Install new well vault flange ring	TBD	NA
Well UCD1-013: Water level port plug missing	11/3/2021	Repair completed: Installed new plug	10/6/2022	4844
Well UCD1-018: Water level and pump port plugs missing	11/4/2021	Repair completed: Installed pump manufacturer's waterproof cap	10/6/2022	4909
Well UCD1-023: Pump port plugs missing	11/3/2021	Repair completed: Installed pump manufacturer's waterproof cap	10/6/2022	4826
Well UCD1-063: Water level and pump port plugs missing	11/4/2021	Repair completed: Installed pump manufacturer's waterproof cap	10/6/2022	4853
Well UCD1-070: Water level and pump port plugs missing	11/3/2021	Repair completed: Installed pump manufacturer's waterproof cap	10/6/2022	4848
Well UCD1-072: Water level and pump port plugs missing	11/3/2021	Repair completed: Installed pump manufacturer's waterproof cap	10/6/2022	4832
Well UCD1-021: Asphalt roadway receding around concrete apron at well head	10/6/2022	Repair planned: Patch asphalt surrounding concrete apron	TBD	NA
Well UCD1-068: Crack in concrete apron at well head	10/6/2022	Repair planned: Patch crack in concrete apron	TBD	NA
Wells UCD1-021, -054, -068, -069, -071, -072: Well vault maintenance to prevent storm water entry	10/6/2022	Repair planned: Clean seal surfaces, replace seals, and install washers and seals on bolts	TBD	NA

Abbreviations:
NA = not applicable
TBD = repair completion date to be determined

Sapling in SWT Area: New Tag Installed (Photo No. 4686)

Tree 16210: New Tag Installed (Photo No. 4685)

Well UCD1-013: New Water Level Port Plug Installed (Photo No. 4844)

Well UCD1-018: Pump Manufacturer's Waterproof Cap Installed (Photo No. 4909)

Well UCD1-023: Pump Manufacturer's Waterproof Cap Installed (Photo No. 4826)

Well UCD1-063: Pump Manufacturer's Waterproof Cap Installed (Photo No. 4853)

Well UCD1-070: Pump Manufacturer's Waterproof Cap Installed (Photo No. 4848)

Well UCD1-072: Pump Manufacturer's Waterproof Cap Installed (Photo No. 4832)