FOUR CORNERS POWER PLANT
Lined Ash Impoundment,
Lined Decant Water Pond,
Combined Waste Treatment Pond,
Dry Fly Ash Disposal Area,
and Return Water Pond

Annual
CCR Impoundment and
Landfill Inspection Report

2024

GENERATION ENGINEERING
Design Engineering
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TABLE OF CONTENTS

Section			Page
1.0	INTRODUCTION		1
2.0	SITE BACKGROUND AND INSPECTION CONDITIONS		2
3.0	UNIT DESCRIPTIONS		3
	3.1	LINED ASH IMPOUNDMENT (LAI)	3
	3.2	LINED DECANT WATER POND (LDWP)	3
	3.3	COMBINED WASTE TREATMENT POND (CWTP)	3
	3.4	DRY FLY ASH DISPOSAL AREA (DFADA)	4
	3.5	RETURN WATER POND (RWP)	4
4.0	FIELD INSPECTIONS		5
	4.1	APS FIELD INSPECTION – LINED ASH IMPOUNDMENT (LAI)	6
	4.2	APS FIELD INSPECTION – LINED DECANT WATER POND (LDWP)	13
	4.3	APS FIELD INSPECTION – COMBINED WASTE TREATMENT POND (CWTP)	17
	4.4	APS FIELD INSPECTION – DRY FLY ASH DISPOSAL AREA (DFADA)	22
	4.5	APS FIELD INSPECTION – RETURN WATER POND (RWP)	25
5.0	DATA REVIEW		29
	5.1	LINED ASH IMPOUNDMENT	29
		5.1.1 Geometry Changes Since Last Inspection	29
		5.1.2 Instrumentation	29
		5.1.3 CCR and Water Elevations	33
		5.1.4 Storage Capacity	33
		5.1.5 Approximate Impounded Volume at Time of Inspection	33
		5.1.6 Structural Weakness or Operational Change/Disruption	34
	5.2	LINED DECANT WATER POND	35
		5.2.1 Geometry Changes Since Last Inspection	35
		5.2.2 Instrumentation	35
		5.2.3 CCR and Water Elevations	36
		5.2.4 Storage Capacity	36
		5.2.5 Approximate Impounded Volume at Time of Inspection	36
		5.2.6 Structural Weakness or Operational Change/Disruption	37
	5.3	COMBINED WASTE TREATMENT POND	38
		5.3.1 Geometry Changes Since Last Inspection	38
		5.3.2 Instrumentation	38

5.3.3 CCR and Water Elevations 38
5.3.4 Storage Capacity 39
5.3.5 Approximate Impounded Volume at Time of Inspection 39
5.3.6 Structural Weakness or Operational Change/Disruption 39
5.4 DRY FLY ASH DISPOSAL AREA 40
5.4.1 Geometry Changes Since Last Inspection 40
5.4.2 Instrumentation 40
5.4.3 CCR Volume 40
5.4.4 Structural Weakness or Operational Change/Disruption 40
5.5 RETURN WATER POND 41
5.5.1 Geometry Changes Since Last Inspection 41
5.5.2 Instrumentation 41
5.5.3 CCR and Water Elevations 41
5.5.4 Storage Capacity 41
5.5.5 Approximate Impounded Volume at Time of Inspection 42
5.5.6 Structural Weakness or Operational Change/Disruption 42
6.0 OPERATION AND MAINTENANCE RECOMMENDATIONS 43
6.1 LINED ASH IMPOUNDMENT 43
6.1.1 Current Lined Ash Impoundment Action Items 43
6.1.2 Previous Lined Ash Impoundment Action Items 45
6.2 LINED DECANT WATER POND 47
6.2.1 Current Lined Decant Water Pond Action Items 47
6.2.2 Previous Lined Decant Water Pond Action Items 48
6.3 COMBINED WASTE TREATMENT POND 49
6.3.1 Current Combined Waste Treatment Pond Action Items 49
6.3.2 Previous Combined Waste Treatment Pond Action Items 50
6.4 DRY FLY ASH DISPOSAL AREA 51
6.4.1 Current Dry Fly Ash Disposal Area Action Items 51
6.4.1 Previous Dry Fly Ash Disposal Area Action Items 51
6.5 RETURN WATER POND 52
6.5.1 Current Return Water Pond Action Items 52
6.5.2 Previous Return Water Pond Action Items 53
7.0 REFERENCES 54

LIST OF FIGURES

Figure 1 – Lined Ash Impoundment (LAI)
Figure 2 – Lined Decant Water Pond (LDWP)
Figure 3 – Combined Waste Treatment Pond (CWTP)
Figure 4 – Dry Fly Ash Disposal Area (DFADA)
Figure 5 – Return Water Pond (RWP)
Figure 6 – Lined Ash Impoundment (LAI) Instrumentation Map
Figure 7 – Lined Decant Water Pond (LDWP) Instrumentation Map

LIST OF APPENDICES

Appendix A – Lined Ash Impoundment (LAI) Photo Log
Appendix B – Lined Decant Water Pond (LDWP) Photo Log
Appendix C – Combined Waste Treatment Pond (CWTP) Photo Log
Appendix D – Dry Fly Ash Disposal Area (DFADA) Photo Log
Appendix E – Return Water Pond (RWP) Photo Log

1.0 INTRODUCTION

Arizona Public Service Company (APS) prepared this report to comply with the Environmental Protection Agency's (EPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule (2015) requiring "*...inspections by a qualified professional engineer at intervals not exceeding one year to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards*" (40 CFR 257.83(b)(1) for CCR surface impoundments and 40 CFR 257.84(b)(1) for CCR landfills). AECOM staff participated in the CCR unit inspection and provided technical support in the preparation of this document.

This report includes a review of relevant data in the operating record as well as visual inspections of the Lined Ash Impoundment, the Lined Decant Water Pond, the Combined Waste Treatment Pond, the Dry Fly Ash Disposal Area, and the Return Water Pond. The Lined Ash Impoundment and Lined Decant Water Pond are instrumented with piezometers, inclinometers, settlement monuments, and settlement rods.

Inspection Conducted by

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2.0 SITE BACKGROUND AND INSPECTION CONDITIONS

The Four Corners Power Plant (FCPP, the Plant) is located in Fruitland, New Mexico, approximately 20 miles west of Farmington, New Mexico and 13 miles southeast of Shiprock, New Mexico. The Plant is immediately south of Morgan Lake and primarily in Section 36, Township 29 North, Range 16 West on the Navajo Indian Reservation in San Juan County. Units 1, 2, and 3 ceased generation in 2013 and were then decommissioned. Units 4 and 5 burn low sulfur coal and have a total net generating capacity of 1,540 megawatts. Units 4 and 5 were running at the time of the inspection.

The coal combustion process produces Coal Combustion Residuals (CCR) consisting of bottom ash (silty sand, Unified Soil Classification System SM), fly ash (low plasticity silt, Unified Soil Classification System ML), and flue gas desulfurization (FGD) sludge. The Plant is operated as a low volume water usage system. Five CCR units are the subjects of this report – the LAI, LDWP, CWTP, DFADA, and RWP. The Lined Ash Impoundment (LAI) was previously used for CCR disposal. The Lined Decant Water Pond (LDWP) is used to store water drained from the LAI. The Combined Waste Treatment Pond (CWTP) is a former settling pond for bottom ash sluice water and various storm water, process water, and Plant washdown streams. The Dry Fly Ash Disposal Area (DFADA) is a CCR landfill primarily used to dispose of dry CCR from Units 4 and 5. The Return Water Pond (RWP) is an impoundment facility for temporary storage of Pond 3 pump house discharges and outage storage for the Plant; it consists of two cells – the Return Water Pond (RWP) cell and the FGD cell, collectively designated as the "RWP."

The field inspection was conducted on Wednesday, October 16th, 2024, and Thursday, October 17th, 2024. Conditions were cool (52-69 degrees Fahrenheit) with mostly cloudy skies. Winds were light, averaging 8 miles per hour (mph) with gusts up to 13 mph. Approximately 5.7 inches of precipitation had fallen since the start of the year based on data recorded at the Four Corners Regional Airport in Farmington, New Mexico (NOAA 2024). Approximately 0.07 inches of precipitation fell in the late afternoon on October 16th.

Instrumentation at the LAI and LDWP consists of open standpipe PVC piezometers, vibrating wire piezometers, inclinometers, settlement monuments, and settlement rods. Water levels in the open standpipe piezometers are measured with an electronic water level indicator attached to a cable stamped with increments of 0.01 feet. Water level data for the vibrating wire piezometers are downloaded at a central readout box and processed by Plant personnel. Data for the inclinometers are manually gathered and processed by Plant personnel. The settlement monuments and settlement rods are measured using a Global Positioning System (GPS) survey. Data for the settlement monuments and settlement rods are gathered and processed by a third-party Professional Surveyor under contract with APS. APS personnel review the third-party survey data.

The benchmarks for the elevations reported for GPS surveys of the settlement monuments at the Four Corners Power Plant are based on three survey monuments: EMMA, an aluminum cap, and two Southern California Edison (SCE) brass caps – HV-53, and HV-61. The latitude and longitude of the monuments are based on the NAD83 datum. The elevations of EMMA, HV-53, and HV-61 are 5382.251, 5331.214, and 5085.898 feet, respectively.

3.0 UNIT DESCRIPTIONS

3.1 LINED ASH IMPOUNDMENT (LAI)

The LAI is represented on Figure 1 – Lined Ash Impoundment (LAI) (attached).

The LAI (listed by the New Mexico Office of the State Engineer (NMOSE) Dam Safety Bureau as dam number D-634) was constructed between 2003 and 2014, has a reservoir storage capacity of 5,346 acre-feet, and is approximately 107 feet high. The embankment is approximately 6,600 feet long and is classified under the New Mexico Administrative Code (NMAC) as "intermediate" size and "significant" hazard potential. The impoundment is lined with a single HDPE geomembrane. The nominal (lowest) design crest elevation (EL) is 5280.0 feet. The maximum operating water level is EL 5275.2 feet. APS stopped discharging to the LAI on April 2, 2021. The reservoir pool has since been drained, leaving only interstitial water within the impounded ash to drain into the LDWP via the Drop Inlet Structure and the Deadpool Sump.

3.2 LINED DECANT WATER POND (LDWP)

The LDWP is represented on Figure 2 – Lined Decant Water Pond (LDWP) (attached).

The LDWP (NMOSE dam number D-635) was constructed in 2003, has a maximum storage capacity of 435 acre-feet, and has a statutory height of approximately 16 feet (the LDWP was constructed on top of Ash Pond 3 and is 90 feet above the original ground surface along the South and West Embankments). The embankment is approximately 5,488 feet long and is classified under the NMAC as "intermediate" size and "significant" hazard. The impoundment is lined with two HDPE geomembranes and a leak detection layer. The maximum surcharge reservoir level is EL 5213.2 feet. The reservoir level was observed to be at approximate EL 5202.5 feet during the inspection as the decanted water in the southern end of the reservoir was observed to be no more than a few inches deep.

3.3 COMBINED WASTE TREATMENT POND (CWTP)

The CWTP is represented on Figure 3 – Combined Waste Treatment Pond (CWTP) (attached).

The CWTP is an approximately 13.4-acre unlined detention pond located adjacent to Morgan Lake. The CWTP is not regulated by NMOSE. It was constructed in 1978 and has a maximum storage capacity of 137 acre-feet. The embankment is approximately 32 feet high (maximum) and approximately 1,800 feet long. The embankment is classified under the NMAC as "small" size and "low" hazard. Until 2020, the CWTP was used as a settling basin for ash-transport wastewater prior to discharge to Morgan Lake through a monitored National Pollutant Discharge Elimination System (NPDES) permitted discharge point. Ash and other sediment settled in separate earthen settling basins within the CWTP footprint prior to the water overflowing into the main CWTP.

APS constructed the Bottom Ash Sluice Water Recycle (BASWR) Tank to replace the CWTP in 2020. The BASWR Tank is a concrete sedimentation tank constructed above grade that provides water quality treatment of bottom ash sluice water and low volume waste flows from the Plant before discharge through a dedicated NPDES outfall to the cooling water canal. The BASWR Tank is not a CCR unit under 40 CFR § 257.53 and is not a part of this inspection.

APS ceased discharging to the CWTP by November 23, 2020. To maintain the current phreatic regime in the embankment between the reservoir and the canal, and to continue providing water to the Navajo Mine, APS added a dual-walled 18-inch pressure pipe to pump water from the discharge canal into the CWTP reservoir. The pump system has level controls to keep the reservoir consistent. Based on the 2021 IDF update (AECOM 2021), the normal operating level is now at EL 5329.5 feet (NAVD88; EL 5326.488 feet NGVD29). The water in the CWTP was observed to be at EL 5328.99 feet (NAVD88) during the inspection.

3.4 DRY FLY ASH DISPOSAL AREA (DFADA)

The DFADA is represented on Figure 4 – Dry Fly Ash Disposal Area (DFADA) (attached).

The DFADA is a lined landfill and dry fly ash disposal facility. The DFADA currently consists of four conjoined cells: Cells 1, 2, 3, and 4. Construction at the four Cells has been ongoing since 2007. The four DFADA cells have a maximum capacity of 10,153 acre-feet and an ultimate maximum height of approximately 105 feet. Cell 1 is constructed with an HDPE geomembrane overlying a compacted clay subgrade. Cells 2 and 3 are constructed with a geosynthetic clay liner (GCL) overlain by an HDPE geomembrane selected for general compliance with the EPA's *Guide for Industrial Waste Management* (EPA 2003). A drainage layer was installed over the HDPE geomembrane in all three cells as recommended in the EPA guidance. Cell 4 is underlain with an alternative composite liner that meets the requirements of 40 CFR § 257.70(c) and a leachate collection and removal system that meets the requirements of 40 CFR § 257.70(d). Each cell is connected to a leachate collection system designed to remove water from the storage area. The leachate collection system generally consists of a drainage layer, collection piping, a removal system, and a protective filter layer. Cell 4 is currently the primary ash disposal location.

3.5 RETURN WATER POND (RWP)

The RWP is represented on Figure 5 – Return Water Pond (RWP) (attached).

The RWP is an approximately 5.13-acre lined impoundment facility for the temporary storage of LAI/LDWP and Pond 3 pump house discharges. The RWP was constructed in 2019 and was placed into service as a CCR unit on October 20, 2020. It has a maximum storage capacity of 38.6 acre-feet (at EL 5379 feet). The CCR unit consists of two cells – the RWP cell and the FGD cell. The RWP piping allows the function of the two cells to be reversed based on operational requirements. The two cells are connected by an overflow weir in the Internal Embankment.

The pond is incised on the southwest and part of the southeast sides, while the remaining portion consists of a dike. The maximum free-standing embankment height is approximately 12 feet (in the north corner). The crest width is 20 feet and the crest length is approximately 2,067 feet. The embankment does not meet the criteria of a "jurisdictional dam" under 19.25.12.7D.(1) of the NMAC and is not regulated by NMOSE, but is classified as a "Low Hazard Potential CCR Surface Impoundment" under 40 CFR § 257.53. Inflow to the RWP is managed by four distinct pumping stations, which are manually operated by Plant personnel. Outflow from the RWP is managed by a dedicated pumping station, which is manually operated by Plant personnel. Water in the RWP is pumped back to the Plant and used as process make up water.

4.0 FIELD INSPECTIONS

This section contains the 2024 annual field inspections conducted by APS and accompanied by a representative from AECOM at the LAI (Section 4.1), the LDWP (Section 4.2), the CWTP (Section 4.3), the DFADA (Section 4.4), and the RWP (Section 4.5).

4.1 APS FIELD INSPECTION – LINED ASH IMPOUNDMENT (LAI)

<table>
<tr><td colspan="2">Lined Ash Impoundment (LAI)</td><td colspan="3">State Identification Number (SID): D-634</td><td rowspan="16">Not Applicable</td><td rowspan="16">No</td><td rowspan="16">Yes</td><td rowspan="16">Monitor</td><td rowspan="16">Repair</td><td rowspan="16">Investigate</td></tr>
<tr><td>SID: D-634</td><td>Dam Name: Lined Ash Impoundment (LAI)</td><td>Type: Zoned earth and ash fill with geomembrane</td><td colspan="2">Purpose: Fly ash and FGD sludge disposal</td></tr>
<tr><td colspan="2">Contact(s): Ray Markley, P.E. (APS)</td><td colspan="3">Report Date: January 17, 2025</td></tr>
<tr><td colspan="2">Inspected by: Ray Markley, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: October 17, 2024</td></tr>
<tr><td colspan="2">Reviewed by: Ray Markley, P.E. (APS)</td><td colspan="3">Review Date: January 14, 2025</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,280 (West Embankment)</td><td colspan="3">Design Spillway Crest Elevation (ft): 5,277.84 (rim of 8-foot-diameter riser; no spillway)</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 4.8 (West Embankment)</td><td colspan="3">Measured Total Freeboard (ft, as of 8/15/2024):
20 (in the Southwest Corner)
0.5 (along part of the Northwest Embankment)
0 (parts of the East Embankment)</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 107 (South Embankment)</td><td colspan="3">Structural Height (ft): 107 (South Embankment)</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Length (ft): 6,600</td><td colspan="2">Upstream Slope:
3:1 (West Embankment)
2:1 (South Embankment)</td><td>Downstream Slope:
3:1 (West Embankment)
2:1 (South Embankment)</td></tr>
<tr><td colspan="2">Lat: 36° 41' 05" (per NMOSE permit)</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td colspan="2">Dam Crest Width (ft): 30 (West Embankment)
20 (South Embankment)</td><td colspan="2">Long: 108° 30' 26" (per NMOSE permit)</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 126.8 (high water line)</td><td colspan="3">Reservoir Storage (ac-ft): 5,346 (high water line)
5,986 (maximum)</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: PMF – fully contained</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft): No water impounded</td><td rowspan="2">Photos: Yes. See Appendix A.</td><td rowspan="2">Pages: 7</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): EL 5263.5 (Southwest Corner)
EL 5289.5 (north V-ditch)
EL 5299 (old V-ditch)</td></tr>
</table>

Lined Ash Impoundment (LAI)			SID: **D-634**	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard:	**Significant**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**		Is there a significant increase since the last inspection?		**X**				
c	Recorded size:	**Intermediate**	Should size be revised?		**X**				
d	Any safety deficiencies?	**No**	Describe:		**X**				
e	Any statute or rule violations?	**No**	Describe and list required action:		**X**				
f	Safe storage level on License:	**5,275.2 feet**	Should level be revised:		**X**				
g	Any License violations?	**No**	Describe and list required action:		**X**				
h	Date of current License:	**October 27, 2015**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **1/2020**		Should EAP be revised? **See comment ii.**			**X**			
j	Any Agency actions?	**No**	Describe and list required action:		**X**				
k	Normal inspection frequency:	**Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **October 2025**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe: **West Embankment** **1) Six clusters of three vibrating wire piezometers each (varying elevations),** **2) Four buried settlement rods to measure settlement at depth,** **3) Two inclinometers, and** **4) Two crest survey/settlement monuments.** **North Toe Buttress** **1) Eleven clusters of three vibrating wire piezometers and one cluster of two vibrating wire piezometers (varying elevations),** **2) Eight buried settlement rods to measure settlement at depth, and** **3) Three inclinometers.** **Other** **1) Permanent water elevation markers on the geomembrane liner at three locations within the impoundment.** **2) No inflow or outflow measurement devices.**								
b	Any repair or replacement required?	**Yes.**	Describe: **See comment iii.**			**X**		**X**	
c	Date of last monitoring report:	**January 2024 (for 2023)**	Should new readings be taken and new report provided? **Monthly measurement and annual reporting are required.**			**X**			

DAM EMBANKMENT CHECKLIST									
3	***DAM CREST***								
a	Settlements, slides, depressions?	**See comment iv.**				**X**	**X**		
b	Misalignment?				**X**				
c	Longitudinal/Transverse cracking?	**The shallow holes observed along the downstream shoulder and the anchor trench on the East Embankment crest during the 2023 inspection were not observed during this inspection.**			**X**				
d	Animal burrows?				**X**				
e	Adverse vegetation?				**X**				
f	Erosion?	**A shallow erosion rill was observed on the downstream shoulder at the Southwest Corner (IMG_7211)**				**X**	**X**		

Lined Ash Impoundment (LAI)	SID: **D-634**	N/A	No	Yes	Mon	Rep	Inv
4	***UPSTREAM SLOPE***						
a	Erosion?		**X**				
b	Inadequate ground cover?		**X**				
c	Adverse vegetation?		**X**				
d	Longitudinal/Transverse cracking? **Could not observe due to the presence of the geomembrane liner.**	**X**					
e	Inadequate riprap? **The upstream slope is covered with a geomembrane liner.**	**X**					
f	Liner damage? **See comment v.**			**X**		**X**	
g	Settlements, slides, depressions, bulges? **See comment xii.**			**X**		**X**	
h	Animal burrows?		**X**				
5	***DOWNSTREAM SLOPE***						
a	Erosion? **See comment vi.**			**X**		**X**	
b	Inadequate ground cover? **The LAI embankment slopes are faced with bottom ash that supports only sporadic and uneven vegetation. A lime-based, white- and turquoise-colored dust suppression agent is applied in accordance with the FCPP Dust Control Plan.**		**X**				
c	Adverse vegetation?		**X**				
d	Longitudinal/Transverse cracking?		**X**				
e	Inadequate riprap?	**X**					
f	Stone deterioration?	**X**					
g	Settlements, slides, depressions, bulges? **See comment xi.**			**X**		**X**	
h	Soft spots or boggy areas?		**X**				
i	Movement at or beyond toe?		**X**				
j	Animal burrows?		**X**				
6	***ABUTMENT CONTACTS***						
a	Erosion? **Erosion at the southern end of the East Embankment was observed to be limited to the overlying bottom ash (Photo IMG_7325). Continue to monitor.**			**X**	**X**		
b	Differential movement?		**X**				
c	Cracks?		**X**				
d	Settlements, slides, depressions, bulges?		**X**				
e	Seepage?		**X**				
f	Animal burrows?		**X**				

7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***						
a	Describe: **The South Embankment Toe Drain consists of two 10-inch ID perforated, double wall, corrugated drainpipes. The toe drain was constructed along the downstream toe of the 5270 Lift of the LAI under the area currently occupied by DFADA Cell 3.**						
b	Internal drains flowing? **See comment x.**			**X**		**X**	
c	Seepage at or beyond toe? **See comment vii.**			**X**			
d	If so, does seepage contain fines?		**X**				
e	Evidence of sand boils at or beyond toe?		**X**				

RESERVOIR CHECKLIST							
8	***RESERVOIR***						
a	High water marks?		**X**				
b	Erosion/slides into pool area?		**X**				
c	Sediment accumulation? **Suspended FGD solids and fly ash formerly settled in the impoundment.**			**X**			
d	Floating debris present? **There is some debris from previous geotechnical investigations in the reservoir (Photo IMG_7173). The debris should be removed.**			**X**		**X**	
e	Depressions, sinkholes, or vortices?		**X**				
f	Low ridges/saddles allowing overflow?		**X**				
g	Structures below dam crest elevation? **Yes. See comment x. There are also 73 pumping wells installed in the reservoir (comment ix).**			**X**			

Additional comments and recommendations for the LAI:

i. After survey data from 2021 indicated that the West Embankment crest settled and was approximately one foot lower than the design value of EL 5280 feet, APS reinstated the West Embankment crest to the nominal design crest elevation (EL 5280 feet) in 2022 using bottom ash to ensure the LAI has sufficient capacity to retain the 72-hour PMP with 2.8 feet of residual freeboard as designed. An interim survey conducted by APS's ash haul contractor in August 2024 indicated that the West Embankment crest remains at approximate EL 5280 feet. The lowest point along the crest in the August 2024 survey is EL 5279.4 feet on the western end of the South Embankment (as-built STA 37+69); the design elevation in this area is approximately EL 5280.68 feet. APS should confirm the crest elevation and restore areas that are low to the design elevations as well as continue to monitor the embankments for settlement.

   Although CCR remains impounded nearly up to the crest along most of the Northwest Embankment, the top of the CCR in the reservoir appeared to be slightly lower than previous years, likely due to settlement resulting from the ongoing dewatering efforts. The diversion channel along the northern half of the Northwest Embankment remains filled with sediment. The LAI is sloped from the northeast to the southwest such that surface water should flow to the Southwest Corner where there is available capacity. The diversion channel should be re-excavated or replaced with a permanent solution and the design surface flow regime should be maintained at all times.

ii. The EAP shall be reviewed annually as required under Section 19.25.12.18 of the New Mexico Administrative Code (NMAC). APS typically conducts a face-to-face EAP meeting with local emergency response agencies each year. The annual EAP meeting was held on December 2, 2024. The EAP must be amended whenever there is a change in conditions that would substantially affect the EAP as required by 40 CFR § 257.73(a)(3)(ii)(A). In addition, the EAP distribution list should be kept up to date with current personnel.

iii. On November 7, 2023, the vibrating wire piezometer system began recording erroneous data. APS replaced the MUX boards and data collection for most of the vibrating wire piezometers resumed on December 8, 2023. Data collection for the P-11, P-12, P-100, and P-101 piezometer clusters resumed on May 29, 2024.

   On September 5, 2024, the vibrating wire piezometer data collection system failed. APS is currently working to repair the system and replace the components necessary to resume data collection.

iv. The ruts and depression observed in the Southwest Corner and along the West Embankment during the 2023 inspection were not present during this inspection (Photo IMG_7224); however, a new 6-inch deep rut was observed along the center of the East Embankment crest (Photo IMG_7309). Continue to monitor the crest for ruts and depressions; repair ruts and depressions that are deeper than 1 foot.

v. There are several tears, cuts, and torn seams in the liner along the upstream slope (Photos IMG_7186, IMG_7192, IMG_7193) and previously patched locations along the liner seam were observed to be separating from the adjacent sheets (Photo IMG_7196). Two tears and all of the torn seams are on the South Embankment near the Southwest Corner. The liner damage appears to be due to tension in the liner (the liner along the South Embankment is

very taut) as it occurs along the horizontal seams associated with the final embankment raise. The tension could be released by excavating the anchor trench, pulling extra liner out to provide slack, and backfilling the trench. Repair the tears to prevent water from infiltrating underneath the liner. Repair documentation should be maintained with the operating record.

One tear in the liner has remained on the West Embankment since the 2022 inspection and tears were observed on the Northwest Embankment along the crest where temporary ash berms were placed to divert flow from the V-ditch. The areas should be monitored.

There are tears in the exposed liner at the former cenosphere mining area. The working area for the cenosphere mining operation is built into the reservoir area and the mechanical damage is not affecting the integrity of the embankment (Photo IMG_7204). The area should be monitored.

vi. Erosion was observed on the downstream slopes of the West Embankment (Photo IMG_7242), Northwest Embankment (Photo IMG_7246), and East Embankment (Photos IMG_7280, IMG_7281, IMG_7313, and IMG_7319). The 18-inch deep erosion on the downstream slope of the East Embankment shown in IMG_7313 is more advanced compared to the condition observed in 2023 (2023 Photo IMG_2492). The erosion at each location referenced in this paragraph should be repaired.

There has been erosion along the downstream toe and the lower portion of the downstream slope of the West Embankment (Photos IMG_7446, IMG_7465, IMG_7468, and IMG_7469). Some of the erosion is forming tunnels beneath the dust suppression agent applied on the slope. Repair all erosion that extends deeper than 1 foot.

A recent storm event resulted in erosion along the LAI access ramp (Photo IMG_7220) that deposited bottom ash at the confluence of the LAI/Ash Pond 3 toe. APS was in the process of removing the bottom ash spilled along the toe of the slope during the inspection (Photo IMG_7572).

vii. The seepage exiting the northern conduit in the South Embankment Toe Drain (Photos IMG_7574 and IMG_7579) (first observed in April 2023 after APS began constructing the bottom ash stockpile on top of DFADA Cell 3) was measured to be 0.68 gpm. No substantial flow was observed at the southern conduit. The flowrate during this inspection was less than the flowrate measured during the 2023 inspection (0.83 gpm in the northern conduit and 0.033 gpm in the southern conduit). APS should measure the flowrate on a weekly basis as part of the 7-day CCR inspections and provide the measurements to the APS geotechnical engineer.

viii. The North Toe Buttress (NTB) was constructed as part of the 5280 Lift of the LAI to provide additional stability in the northern portion of the West Embankment (Photos IMG_7232 and IMG_7432). The NTB did not have erosion rills deeper than 1 foot, a multitude of erosion rills or gullies, and no evidence of sloughs or slides were observed during the inspection. The NTB foundation instruments are discussed in Section 5.1.

ix. FGD, process water, and other CCR waste had been deposited into the LAI via a V-ditch on the north side of the CCR unit. APS ceased deposition to the LAI on April 12, 2021, and began draining water within the impounded ash by gravity via the Drop Inlet Structure and the Deadpool Sump. In July 2023, APS began installing extraction wells and observation wells in the LAI reservoir to accelerate drainage. APS began pumping from

the extraction wells in January 2024. Water from the wells is conveyed to the Drop Inlet Structure (Photo IMG_7228), which discharges the water into the LDWP. Fifteen extraction wells and the Deadpool Sump were operational at the time of the inspection.

At the time of the inspection, APS had already installed 73 pumping wells and observation wellpoints throughout the reservoir to be used for pre-closure construction dewatering activities. The wells extend from the top of recently constructed bottom ash access roads to depths between 24.1 feet and 57.7 feet (no closer than 5 feet above the top of the liner). APS intends to continue installing wells to facilitate the planned closure activities.

During the final years of operation at the LAI, the properties of the FGD slurry being discharged caused the solids to drop out of suspension faster, creating a steeper beach slope than earlier fly ash/FGD mixtures. As a result, the northern portion of the reservoir filled faster than the southern portion. The ash level along the East Embankment near the old V-ditch is higher than the East Embankment and APS constructed a bottom ash containment berm to keep the CCR waste inside the impoundment (Photo IMG_7289). The ash level along the Northwest Embankment is within 6 inches of the crest elevation (Photos IMG_7244, IMG_7254, IMG_7257, IMG_7264, and IMG_7277).

x. The primary outlet from the LAI is an 8-foot diameter vertical, perforated HDPE riser, referred to as the Drop Inlet Structure (Photo IMG_7228), connected at the bottom to 16-inch and 8-inch diameter HDPE gravity pipe outlets that drain into the LDWP. The top of the Drop Inlet Structure is EL 5277.84 feet. The Deadpool Sump, an 8-inch diameter HDPE perforated drain pipe, penetrates the Southwest Corner of the LAI embankment and discharges into the southeast corner of the LDWP.

The inspectors observed water trickling out of the 8-inch pipe and water was flowing out of the 16-inch pipe at approximately 7.1 gpm at the time of the inspection (Appendix B – LDWP Photo IMG_7454). The invert elevation of the 16-inch pipe in the Drop Inlet Structure at the LAI is approximately EL 5220 feet. The invert elevation of the 8-inch pipe in the Drop Inlet Structure is approximately EL 5213.5 feet. The flowrate out of the 8-inch pipe was significantly less than the expected flowrate associated with discharge out of the higher 16-inch pipe. APS should clean out the 8-inch pipe to allow free flow from the LAI to the LDWP and inspect the 16-inch pipe for blockages (and remove any observed obstructions). This activity be overseen by a responsible engineer and acceptable jetting pressures should be calculated and monitored to avoid damaging the pipe if the jetting pressure is too high. The Deadpool Sump was discharging intermittently during the inspection.

xi. There are vertical scarps at the top of the downstream slope at the southern end of the East Embankment (Photo IMG_7318). Monitor the embankment and repair the slope if the scarps expand or cracks begin to form near the scarps.

xii. There are bulges and depressions along the upstream slope along the South Embankment and in the Southwest Corner of the LAI. Record the presence and identified causes of the bulges and depressions and consult the APS geotechnical engineer for repair recommendations.

xiii. During the 2023 inspection, the West Embankment crest south of the Drop Inlet Structure contained a higher proportion of finer ash particles compared to previous years. The West

Embankment crest appeared to be covered in coarser ash particles during this inspection (Photos IMG_7224 and IMG_7225).

xiv. Fugitive CCR remains on the northwest, north, and east sides of the LAI, including the crest, downstream slopes, and downstream toe (Photos IMG_7243, IMG_7251, IMG_7260, IMG_7279, IMG_7285, IMG_7303, IMG_7309, IMG_7313, and IMG_7319), although the aerial coverage appears to be less than it was during the 2023 inspection. The CCR ranges from sparse to more than 5 inches thick. The fugitive CCR should be removed and control measures described in the FCPP Dust Control Plan should be implemented to the extent necessary to prevent fugitive CCR from leaving the LAI.

xv. The weekly inspection reports for the period between October 1, 2023, and September 30, 2024, were reviewed and indicate the following:

a. The 7-day inspections between August 9, 2024, and September 24, 2024, indicated that there were signs of erosion on the downstream slope that required repair. APS initiated a corrective action request for the erosion.

b. The September 24, 2024, inspection indicated that there were signs of cracking on the downstream slope that required investigation. APS extended the corrective action request originally written for the downstream erosion to cover the signs of cracking as well. Subsequent inspections during October 2024 did not indicate signs of cracking on the downstream slope, nor were cracks observed during the annual inspection.

4.2 APS FIELD INSPECTION – LINED DECANT WATER POND (LDWP)

<table>
<tr><td colspan="4">Lined Decant Water Pond (LDWP)</td><td colspan="2">State Identification Number (SID): D-635</td><td rowspan="16">Not Applicable</td><td rowspan="16">No</td><td rowspan="16">Yes</td><td rowspan="16">Monitor</td><td rowspan="16">Repair</td><td rowspan="16">Investigate</td></tr>
<tr><td colspan="2">SID: D-635</td><td>Dam Name: Lined Decant Water Pond (LDWP)</td><td>Type: Zoned earth and ash fill with double-liner geomembrane and leak detection</td><td>Purpose: Store recycled LAI decant water and collected groundwater</td></tr>
<tr><td colspan="3">Contact(s): Ray Markley, P.E. (APS)</td><td colspan="2">Report Date: January 19, 2025</td></tr>
<tr><td colspan="3">Inspected by: Ray Markley, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="2">Inspection Date: October 17, 2024</td></tr>
<tr><td colspan="3">Reviewed by: Ray Markley, P.E. (APS)</td><td colspan="2">Review Date: January 14, 2025</td></tr>
<tr><td colspan="3">Design Dam Crest Elevation (ft): 5,216</td><td colspan="2">Design Spillway Crest Elevation: No spillway</td></tr>
<tr><td colspan="3">Design Total Freeboard (ft): 2.8 (above the maximum surcharge level, EL 5213.2)</td><td colspan="2">Measured Total Freeboard (ft): 11.6</td></tr>
<tr><td colspan="3">Statutory Dam Height (ft): 16</td><td colspan="2">Structural Height (ft): 16</td></tr>
<tr><td colspan="3">Dam Crest Length (ft): 5,488</td><td>Upstream Slope: 3:1</td><td>Downstream Slope: 2:1</td></tr>
<tr><td colspan="3" rowspan="2">Dam Crest Width (ft): 30 feet (North, East Embankments)
20 feet (West, South Embankments)</td><td>Lat: 36° 41’ 00” (per NMOSE permit)</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108° 30’ 45” (per NMOSE permit)</td></tr>
<tr><td colspan="3">Reservoir Area (acres): 45.4 (at EL 5213.2 ft) per APS drawing 150793.2.1</td><td colspan="2">Reservoir Storage (ac-ft): 435 (normal operating capacity)</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: PMF – fully contained</td></tr>
<tr><td colspan="3">Reservoir Level During Inspection (ft): EL 5202.5</td><td rowspan="2">Photos: Yes. See Appendix B.</td><td rowspan="2">Pages: 4</td></tr>
<tr><td colspan="3">Estimated Solids Level (ft): EL 5203.0</td></tr>
</table>

Lined Decant Water Pond (LDWP)		SID: **D-635**	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST								
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***							
a	Recorded downstream hazard: **Significant**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**	Is there a significant increase since the last inspection?		**X**				
c	Recorded size: **Intermediate**	Should size be revised?		**X**				
d	Any safety deficiencies? **No**	Describe:		**X**				
e	Any statute or rule violations? **No**	Describe and list required action:		**X**				
f	Safe storage level on License: **5,213.2 feet**	Should level be revised:		**X**				
g	Any License violations? **No.**	Describe and list required action:		**X**				
h	Date of current License: **February 7, 2008**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **1/2020**	Should EAP be revised? **See comment i.**			**X**			
j	Any Agency actions? **No**	Describe and list required action:		**X**				
k	Normal inspection frequency: **Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **October 2025**							

MONITORING CHECKLIST								
2	***INSTRUMENTATION AND MONITORING***							
a	Describe: **Instrumentation:** **1) Eight standpipe piezometers.** **2) Two crest survey/settlement monuments.** **Other** **1) Interstitial geomembrane leak detection and evacuation pump.** **2) Surveyed level markings on geomembrane liner.** **3) No inflow measurement devices.** **4) Outflow estimation by LDWP pump rating/hours of operation, if needed.**							
b	Any repair or replacement required? **No.**	Describe:		**X**				
c	Date of last monitoring report: **January 2024 (for 2023)**	Should new readings be taken and new report provided? **Monthly measurement and annual reporting are required.**			**X**			

DAM EMBANKMENT CHECKLIST							
3	***DAM CREST***						
a	Settlements, slides, depressions? **See comment ii.**			**X**		**X**	
b	Misalignment?		**X**				
c	Longitudinal/Transverse cracking?		**X**				
d	Animal burrows? **Ant hills were observed on the South and West Embankments (example Photo IMG_7345).**			**X**		**X**	
e	Adverse vegetation?		**X**				
f	Erosion? **The erosion hole on the downstream shoulder of the West Embankment crest observed during the 2023 inspection was not present during this inspection.**		**X**				
4	***UPSTREAM SLOPE***						
a	Erosion? **The upstream slope is covered with geomembrane.**		**X**				
b	Inadequate ground cover?		**X**				
c	Adverse vegetation?		**X**				
d	Longitudinal/Transverse cracking? **Could not observe due to the presence of the geomembrane liner.**	**X**					
e	Inadequate riprap?	**X**					
f	Liner damage? **See comment iii.**			**X**		**X**	
g	Settlements, slides, depressions, bulges?		**X**				
h	Animal burrows?		**X**				

Lined Decant Water Pond (LDWP)		SID: **D-635**	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***							
a	Erosion?	**Erosion up to 2.5 feet deep was observed on the downstream slopes of the LDWP embankments (Photos IMG_7349, IMG_7353, IMG_7364, IMG_7366, IMG_7371, IMG_7400, IMG_7404, IMG_7411, and IMG_7412). The CCR at the toe of the slope shown in IMG_7341 where the Deadpool Pump pipe runs along the South Embankment slope and the associated erosion should be repaired to prevent damage to the pipe. Erosion rills deeper than 1 foot should be repaired.**			**X**		**X**	
b	Inadequate ground cover?	**The downstream embankment slopes are faced with bottom ash that supports only sporadic and uneven vegetation. A lime-based, white- and turquoise-colored dust suppression agent is applied in accordance with the FCPP Dust Control Plan.**		**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap?		**X**					
f	Stone deterioration?		**X**					
g	Settlements, slides, depressions, bulges?			**X**				
h	Soft spots or boggy areas?			**X**				
i	Movement at or beyond toe?			**X**				
j	Animal burrows?			**X**				
6	***ABUTMENT CONTACTS***							
a	Erosion?	**Several feet of erosion was observed at the South Embankment/LAI abutment contact (Photo IMG_7330).**			**X**		**X**	
b	Differential movement?			**X**				
c	Cracks?			**X**				
d	Settlements, slides, depressions, bulges?			**X**				
e	Seepage?			**X**				
f	Animal burrows?			**X**				
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***							
a	Describe:	**The 8-inch and 16-inch inflow pipes through the East Embankment were conveying water from the LAI to the LDWP at the time of the inspection, although the 8-inch pipe is clogged (the 16-inch pipe may also be clogged). The Deadpool Sump was flowing intermittently at the time of the inspection.**			**X**		**X**	
b	Internal drains flowing?	**The leakage collection and evacuation system Interstitial Evacuation Pump was not plugged in during the inspection and does not appear to be in regular use (Photo IMG_7361).**		**X**				
c	Seepage at or beyond toe?			**X**				
d	If so, does seepage contain fines?		**X**					
e	Evidence of sand boils at or beyond toe?			**X**				

RESERVOIR CHECKLIST								
8	***RESERVOIR***							
a	High water marks?			**X**				
b	Erosion/slides into pool area?			**X**				
c	Sediment accumulation?	**Minor amounts of suspended FGD solids and fly ash settle in the impoundment. These have become more prominent as the reservoir level has declined.**			**X**			
d	Floating debris present?			**X**				
e	Depressions, sinkholes, or vortices?			**X**				
f	Low ridges/saddles allowing overflow?			**X**				
g	Structures below dam crest elevation?	**The leakage collection and evacuation system includes a pump situated between the two geomembrane liners.**			**X**			

Additional comments and recommendations for the LDWP:

i. The EAP shall be reviewed annually as required under Section 19.25.12.18 of the New Mexico Administrative Code (NMAC). APS typically conducts a face-to-face EAP meeting with local emergency response agencies each year. The annual EAP meeting was held on December 2, 2024. The EAP must be amended whenever there is a change in conditions that would substantially affect the EAP as required by 40 CFR § 257.73(a)(3)(ii)(A). In addition, the EAP distribution list should be kept up to date with current personnel.

ii. The ruts on the upstream half of the South Embankment crest (Photo IMG_7342) were less apparent during this inspection compared to previous inspections. The area should be repaired before the liner is damaged or the rut extends further. The ruts near MW-54 on the East Embankment crest during the 2023 inspection (2023 Photo IMG_2694) were not present during this inspection.

iii. The two sheets of liner observed to be separated along the North Embankment since the 2020 inspection (2020 Photo IMG_3619) were present during this inspection. In addition, holes in the liner observed during previous inspections are still present (Photo IMG_7423).

iv. The liner was observed to be pulling out of the anchor trench in isolated areas along the West and East Embankments (Photo IMG_7390). The magnitude of pullout does not appear to have changed compared to previous inspections. Continue to monitor.

v. Portions of the outer pipes for the siphon lines are exposed along the East Embankment crest (Photo IMG_7460). Additional fill should be placed and compacted in these areas to prevent damage to the pipes.

   The exposed liner at the edge of the anchor trench near the midpoint of the East Embankment observed during the 2021 inspection was not observed during this inspection (2021 Photo IMG_2694).

vi. Since the RWP was completed, APS has only used the LDWP to store and evaporate water decanted from the LAI. As the LAI no longer receives inflow from the Plant and only drains interstitial water by gravity, the flow into the LDWP is less than the potential evaporation losses and the reservoir is nearly empty.

vii. The sign identifying the CCR unit has been re-erected (Photo IMG_7411).

xvi. The weekly inspection reports for the period between October 1, 2023, and September 30, 2024, were reviewed and indicate the following:

   a. The 7-day inspections between August 9, 2024, and September 24, 2024, indicated that there were signs of erosion on the downstream slope that required repair. APS initiated a corrective action request for the erosion.

   b. The September 24, 2024, inspection indicated that there were signs of cracking on the downstream slope that required repair. APS extended the corrective action request originally written for the downstream erosion to cover the signs of cracking as well. Subsequent inspections during October 2024 did not indicate signs of cracking on the downstream slope, nor were cracks observed during the annual inspection.

4.3 APS FIELD INSPECTION – COMBINED WASTE TREATMENT POND (CWTP)

<table>
<tr><td colspan="3">Combined Waste Treatment Pond (CWTP)</td><td colspan="3">State Identification Number (SID): N/A</td></tr>
<tr><td>SID: N/A</td><td>Dam Name: Combined Waste Treatment Pond (CWTP)</td><td colspan="2">Type: Earth</td><td>Purpose: CCR-transport surface water collection</td></tr>
<tr><td colspan="2">Contact(s): Ray Markley, P.E. (APS)</td><td colspan="3">Report Date: January 19, 2025</td></tr>
<tr><td colspan="2">Inspected by: Ray Markley, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: October 16, 2024</td></tr>
<tr><td colspan="2">Reviewed by: Ray Markley, P.E. (APS)</td><td colspan="3">Review Date: January 14, 2025</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,335</td><td colspan="3">Design Spillway Crest Elevation (ft): 5,328.77</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 7</td><td colspan="3">Measured Total Freeboard (ft): 11.37</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 32 (max), 22.81 (avg)</td><td colspan="3">Structural Height (ft): 32 (max), 22.81 (avg)</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): 1,800</td><td>Upstream Slope: 2:1</td><td>Downstream Slope: 1.5:1</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): 24-30</td><td>Lat: 34° 41′ 29.19″N</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td>Long: 108° 28′ 28.73″W</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 13.4</td><td colspan="3">Reservoir Storage (ac-ft): 137 (27 additional ac-ft for stormwater storage)</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: Not calculated</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft): EL 5328.99 (NAVD88) (currently level-controlled)</td><td rowspan="2">Photos: Yes. See Appendix C.</td><td rowspan="2">Pages: 5</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): Variable (below EL 5325)</td></tr>
</table>

Not Applicable | No | Yes | Monitor | Repair | Investigate

Combined Waste Treatment Pond (CWTP)		SID: N/A		N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard: **Low**	Should hazard be revised?			**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**	Is there a significant increase since the last inspection?			**X**				
c	Recorded size: **Small**	Should size be revised?			**X**				
d	Any safety deficiencies? **No**	Describe:			**X**				
e	Any statute or rule violations? **No**	Describe and list required action: **See comment i.**			**X**				
f	Safe storage level on License: **N/A**	Should level be revised:			**X**				
g	Any License violations? **No**	Describe and list required action:			**X**				
h	Date of current License: **N/A**	Should new License be issued?			**X**				
i	Date of last Emergency Action Plan revision: **N/A**	Should EAP be revised?			**X**				
j	Any Agency actions? **No**	Describe and list required action:			**X**				
k	Normal inspection frequency: **Weekly, Annually**	Should inspection frequency be revised?			**X**				
l	Recommended date for next inspection: **October 2025**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe: **There are four monitoring wells for this structure to comply with groundwater monitoring requirements.**								
B	Any repair or replacement required? **N/A**	Describe: **N/A**	**X**						
c	Date of last monitoring report: **January 2024 (for 2023)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**				

DAM EMBANKMENT CHECKLIST								
3	***DAM CREST***							
a	Settlements, slides, depressions?			**X**				
b	Misalignment?			**X**				
c	Longitudinal/Transverse cracking?			**X**				
d	Animal burrows? **Ant hills were observed on the North and East Embankments (example Photo IMG_7090).**				**X**	**X**		
e	Adverse vegetation?			**X**				
f	Erosion? **See comment ii.**				**X**	**X**	**X**	
4	***UPSTREAM SLOPE***							
a	Erosion? **See comment iii.**				**X**	**X**	**X**	
b	Inadequate ground cover?			**X**				
c	Adverse vegetation? **See comment iv.**				**X**		**X**	
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap? **No riprap was observed above the water line on the upstream slope.**				**X**			
f	Stone deterioration?			**X**				
g	Settlements, slides, depressions, bulges? **Portions of the slope are steeper than others.**				**X**		**X**	
h	Animal burrows? **None observed. Continue to monitor.**			**X**		**X**		

Combined Waste Treatment Pond (CWTP)		SID: N/A	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***							
a	Erosion?	**See comment v.**			**X**	**X**	**X**	
b	Inadequate ground cover?	**Areas along the downstream slope without vegetation or riprap appear to be eroding.**			**X**		**X**	
c	Adverse vegetation?	**See comment iv.**			**X**		**X**	
d	Longitudinal/Transverse cracking?	**None observed. Continue to monitor.**		**X**		**X**		
e	Inadequate riprap?	**See comment vi.**		**X**				
f	Stone deterioration?			**X**				
g	Settlements, slides, depressions, bulges?	**Portions of the downstream slope are uneven (Photo IMG_7094).**			**X**	**X**		
h	Soft spots or boggy areas?	**There is water on both sides of the embankment.**	**X**					
i	Movement at or beyond toe?	**Cannot observe.**	**X**					
j	Animal burrows?	**None observed. Continue to monitor.**		**X**		**X**		
6	***ABUTMENT CONTACTS***							
a	Erosion?			**X**				
b	Differential movement?			**X**				
c	Cracks?			**X**				
d	Settlements, slides, depressions, bulges?			**X**				
e	Seepage?			**X**				
f	Animal burrows?	**None observed. Continue to monitor.**		**X**		**X**		
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***							
a	Describe:	**None.**						
B	Internal drains flowing?		**X**					
c	Seepage at or beyond toe?	**Cannot observe.**	**X**					
d	If so, does seepage contain fines?		**X**					
e	Evidence of sand boils at or beyond toe?		**X**					

RESERVOIR CHECKLIST								
8	***RESERVOIR***							
a	High water marks?			**X**				
b	Erosion/slides into pool area?			**X**				
c	Sediment accumulation?	**See comment vii.**			**X**			
d	Floating debris present?			**X**				
e	Depressions, sinkholes, or vortices?			**X**				
f	Low ridges/saddles allowing overflow?	**A weir previously allowed overflow into the NPDES outlet.**			**X**			
g	Structures below dam crest elevation?	**Twin 30-inch reinforced concrete pipe outlets are located at the eastern side of the CWTP.**			**X**			

Additional comments and recommendations for the CWTP:

i. As part of the 2021 IDF update (AECOM 2021), the normal operating level was revised and is now at EL 5329.5 feet (EL 5326.488 feet NGVD29). The water in the CWTP was observed to be at EL 5328.99 feet (NAVD88) during the inspection, approximately 0.51 feet below the new normal operating level. The purpose of reducing the normal operating level was to prevent discharge from the CWTP through the NPDES discharge point without the stop logs in place. APS has installed blockages (e.g., "pigs") in each conduit to prevent flow into the canal in the event the stop logs are overtopped.

ii. The set of shallow holes observed on the downstream shoulder of the North Embankment near the 18-inch pipe that transfers water from the canal to the CWTP observed during the 2023 inspection was present during this inspection (Photo IMG_7081). Holes were also observed in other locations along the embankment crest (Photos IMG_7085, IMG_7110, and IMG_7120). These areas should be monitored and repaired.

    Holes on the downstream shoulder of the East Embankment that have been observed during previous inspections were also present during this inspection (Photo IMG_7122). The holes were as deep as 1 foot and shallower compared to the 2023 inspection, but appeared to be closer to the edge of the slope. There is no vegetation on the downstream slope in this area.

iii. Erosion rills were observed at various locations along the upstream slope (Photos IMG_7076, IMG_7077, and IMG_7093). Repair erosion when it exceeds 1 foot in depth.

iv. Vegetation (grass, trees, and shrubs) was observed on the upstream (Photos IMG_7082, IMG_7088, IMG_7096, IMG_7098, and IMG_7118) and downstream (Photos IMG_7075, IMG_7080, and IMG_7130) slopes during this inspection. The vegetation has grown substantially over the last few years and should be removed. The woody vegetation should be removed using the NMOSE vegetation management guidelines (NMOSE 2011); roots should be removed in their entirety and the area should be backfilled with compacted structural fill under the supervision of a geotechnical engineer.

    Although most of the downstream slope is vegetated, the areas with loose soil or a series of holes along the downstream shoulder generally have less vegetation. Operators should track the presence of holes in the crest and possible erosion or sloughs on the downstream slope as part of their weekly inspections.

v. Instances of erosion were observed on the downstream slope (Photos IMG_7087, IMG_7109, IMG_7122, and IMG_7130). Some of the erosion is undermining riprap boulders, which could accelerate the erosion process if the boulders fall off the slope. This condition indicates slow, but progressive erosion on the embankment. Continue to monitor the shallow erosion and repair erosion rills when they exceed 1 foot in depth. Erosion under the riprap boulders should be repaired.

vi. APS installed additional riprap on the downstream slope of the embankment in August 2017 to prevent wave erosion along the slope. The additional riprap was placed from approximately 5 feet below the canal water surface to approximately 2 feet above the canal water surface. Additional riprap should be added to the downstream slope considering the future maintenance needs (e.g., continued erosion, sloughing, vegetative growth) along the part of the embankment above the canal and APS's future use for the embankment structure.

vii. The facility formerly included seven decant cells and one forebay cell in the western half of the CWTP. When the CWTP was in use, flow from the collection distribution vault was directed to the selected cells. Settled solids were periodically removed and decanted water flowed to the CWTP free water pond. Suspended sediment and CCR settled in the decant cells in the western half of the impoundment. APS began preparing the CWTP for closure in 2022. This process includes removing the decant cells (Photo IMG_7073) and dredging the ash from the bottom of the reservoir (Photos IMG_7149 and IMG_7153). APS began dredging CCR from the CWTP in January 2023 and completed dredging in December 2024.

viii. In 2020, APS installed a new 18-inch dual-wall pressure pipe to pump water from the discharge canal to the CWTP. The pipe allows APS to maintain the phreatic level in the embankment and reservoir as the CWTP no longer receives inflow from the Plant, but some water from the reservoir is provided to the nearby Navajo Mine. The pipe is located on the downstream edge of the embankment and is buried where it crosses the crest and enters the reservoir (Photos IMG_7075 and IMG_7077). The pipe is surrounded with controlled low strength material (CLSM) flowable fill where it is buried in the embankment.

ix. The weekly inspection reports for the period between October 1, 2023, and September 30, 2024, were reviewed and indicate the following:

    a. The June 14, 2024, and September 24, 2024, inspections indicated that there was vegetation present on the upstream slope that impeded the visual inspection of the CCR unit that required monitoring. Similar conditions were observed during the annual inspection.

4.4 APS FIELD INSPECTION – DRY FLY ASH DISPOSAL AREA (DFADA)

<table>
<tr><td colspan="3">Dry Fly Ash Disposal Area (DFADA)</td><td colspan="3">State Identification Number (SID): N/A</td><td rowspan="12">Not Applicable</td><td rowspan="12">No</td><td rowspan="12">Yes</td><td rowspan="12">Monitor</td><td rowspan="12">Repair</td><td rowspan="12">Investigate</td></tr>
<tr><td>SID: N/A</td><td>Landfill Name: Dry Fly Ash Disposal Area (Cells 1, 2, 3, and 4)</td><td>Type: Lined Landfill</td><td colspan="2">Purpose: Permanent storage of dry CCR (fly ash, bottom ash, dry FGD solids) and select construction debris (e.g. concrete and wood)</td></tr>
<tr><td colspan="2">Contact(s): Ray Markley, P.E. (APS)</td><td colspan="3">Report Date: January 19, 2025</td></tr>
<tr><td colspan="2">Inspected by: Ray Markley, P.E. (APS), Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: October 17, 2024</td></tr>
<tr><td colspan="2">Reviewed by: Ray Markley, P.E. (APS)</td><td colspan="3">Review Date: January 14, 2025</td></tr>
<tr><td colspan="2">Design Maximum Ash Elevation (ft): 5,295</td><td colspan="3">Current Maximum Ash Elevation (ft):
Based on survey data from FHI:
Cell 1 is EL 5298 feet (October 2024)
Cell 2 is EL 5282 feet (October 2024)
Cell 3 is EL 5285 feet (October 2024)
Cell 4 is EL 5245 feet (October 2024)</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): Not applicable</td><td colspan="2">Design Side Slope: Varies. 4:1 on final outside slopes, 2:1 on internal slopes.</td><td>Observed Side Slope: Varies. 4:1 on final outside slopes, 2:1 on internal slopes.</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): Not applicable</td><td colspan="2">Lat: 36° 40′ 43.27"N</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td colspan="2">Long: 108° 3' 12.2"W</td></tr>
<tr><td colspan="2">Landfill Area (acres): 135 (Current, Cells 1, 2, 3, and 4)</td><td colspan="3">Landfill Capacity (ac-ft): 10,153 for Cells 1, 2, 3, and 4</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: Diversion of 100-year, 24-hour run-on storm. Storage of impacted run-off from 25-year, 24-hour storm, spillway passage of impacted run-off from 100-year, 24-hour storm.</td></tr>
<tr><td colspan="2">Photos: Yes. See Appendix D.</td><td colspan="3">Pages: 3</td></tr>
</table>

Dry Fly Ash Disposal Area (DFADA)			SID: **N/A**	N/A	No	Yes	Mon	Rep	Inv
MONITORING CHECKLIST									
1	***INSTRUMENTATION AND MONITORING***								
a	Describe:	**There are no instruments or other monitoring devices for this structure.**							
b	Any repair or replacement required?	**N/A**	Describe: **N/A**		**X**				
c	Date of last monitoring report:	**January 2024 (for 2023)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**			
2	***CONDITION SUMMARY***								
a	Waste placed in good practices?					**X**			
3	***LANDFILL CONFIGURATION***								
a	Settlements, slides, slope instability?				**X**				
b	Cracking?				**X**				
c	Run on control?	**See comment i.**				**X**	**X**	**X**	
d	Run off control?					**X**			
e	Erosion?	**See comment i.**				**X**	**X**		
f	Dust control issues?	**None observed. Continue to monitor in accordance with the FCPP CCR Dust Control Plan.**			**X**				

Additional comments and recommendations for the DFADA:

i. There is erosion in the Stormwater Diversion Channel extension constructed as part of the Cell 4 expansion where the previous alignment terminated (Photo IMG_7514). This area should be monitored and repaired since sediment is building up in the new stilling basin (Photo IMG_7512) and along the Stormwater Diversion Channel (Photo IMG_7524). Additional erosion (headcutting) in the Stormwater Diversion Channel was observed at the entrance near the ash haul road (Photo IMG_7492) and the new outlet (Photos IMG_7527 and IMG_7528). Repair erosion gullies when they exceed 1 foot in depth.

   The stilling basin constructed as part of the Cell 4 Stormwater Diversion Channel extension is filled with sediment on the upstream side of the weir wall. Clean out the stilling basin and Stormwater Diversion Channel when sediment begins to accumulate.

ii. APS has brought the height of Cell 3 to approximately the same elevation as the South Embankment of the LAI and Cell 1 (Photos IMG_7162, IMG_7199, and IMG_7340). Currently, the ash placement location is in Cell 4. APS, through its ash haul contractor, transports dewatered FGD filter cake and dry fly ash to Cell 4 in separate haul trucks, spreads the CCR in thin lifts, mixes the two materials on grade, and compacts the mixture. APS's ash haul contractor occasionally excavates fly ash from Cell 3 to mix with the dewatered FGD filter cake when there is an insufficient volume of dry fly ash produced at the Plant. A separate area within Cell 4 is designated to dispose of CCR and CCR-impacted material from the CWTP dredging operations.

iii. There are no external runoff collection ditches. Internal drain systems report to one of three separate lined leachate collection ponds for Cells 1, 2, and 4 (Photo IMG_7340). Cell 3 drains to the Cell 1 collection pond. The water levels in these three ponds are maintained by the ash haul contractor by use of a mobile suction pump. This water is used for dust control on site.

iv. Reeds and grasses have colonized the DFADA Cell 1 leachate collection pond (Photos IMG_7543, IMG_7567, and IMG_7569) and the western toe of Cells 1 and 3 (Photo

IMG_7539). The drainage channel to the Cell 1 leachate collection pond has become clogged with sediment and vegetation to the point that leachate drains into the pond from Cell 1 in other locations (Photo IMG_7545). The leachate collection ponds are designed to contain the 25-year, 24-hour design storm event (URS 2015). The reeds should be removed to ensure the pond has sufficient capacity to accommodate the design volume.

Several plants are growing through the Pyramat geosynthetic along the western toe of Cell 1. The plants should be removed.

The junction of the LAI and Cell 3 has been subject to historic erosion. Currently there are reeds and sediment in the drainage ditch along the Cell 3 toe that would impede stormwater routing. The reeds should be removed. The area should be inspected after storm events and sediment should be removed as necessary.

v. The junction of Cells 1 and 4 is susceptible to erosion and there is a potential that ash in Cell 4 could be carried down the slope and away from the DFADA during high velocity flow events (Photo IMG_7540). Construct a diversion berm or dedicated flow channel to prevent ash from being carried offsite.

vi. Similar to the 2023 inspection, there was evidence of moisture on the western slope just above the Cell 4 toe, near the Cell 4 leachate collection pond, at the time of the inspection (Photo IMG_7533). In addition, the presence of white salt deposits throughout the saturated area indicated this portion of the slope had previously been saturated. This area is at the lowest point in the Cell 4 foundation and does not adversely affect slope stability. APS will continue to monitor drainage into the leachate collection pond.

vii. The weekly inspection reports for the period between October 1, 2023, and September 30, 2024, do not indicate that there were any appearances of actual or potential structural weakness or other conditions that have the potential to disrupt the operation or safety of the CCR unit.

4.5 APS FIELD INSPECTION – RETURN WATER POND (RWP)

<table>
<tr><td colspan="3">Return Water Pond (RWP)</td><td colspan="2">State Identification Number (SID): N/A</td><td rowspan="15">Not Applicable</td><td rowspan="15">No</td><td rowspan="15">Yes</td><td rowspan="15">Monitor</td><td rowspan="15">Repair</td><td rowspan="15">Investigate</td></tr>
<tr><td>SID: N/A</td><td>Dam Name: Return Water Pond (RWP)</td><td colspan="2">Type: Earth</td><td>Purpose: Temporary water storage</td></tr>
<tr><td colspan="2">Contact(s): Ray Markley, P.E. (APS)</td><td colspan="3">Report Date: January 19, 2025</td></tr>
<tr><td colspan="2">Inspected by: Ray Markley, P.E. (APS),
Lee Wright, P.E. (AECOM)</td><td colspan="3">Inspection Date: October 16, 2024</td></tr>
<tr><td colspan="2">Reviewed by: Ray Markley, P.E. (APS)</td><td colspan="3">Review Date: January 14, 2025</td></tr>
<tr><td colspan="2">Design Dam Crest Elevation (ft): 5,381.1</td><td colspan="3">Design Spillway Crest Elevation (ft): None</td></tr>
<tr><td colspan="2">Design Total Freeboard (ft): 2.1</td><td colspan="3">Measured Total Freeboard (ft):
7.37 feet (RWP cell);
5.38 feet (FGD cell)</td></tr>
<tr><td colspan="2">Statutory Dam Height (ft): 12 (max)</td><td colspan="3">Structural Height (ft): 12 (max, north side)</td></tr>
<tr><td colspan="2">Dam Crest Length (ft): 2,067</td><td colspan="2">Upstream Slope: 3:1</td><td>Downstream Slope: 3:1</td></tr>
<tr><td colspan="2" rowspan="2">Dam Crest Width (ft): 20</td><td colspan="2">Lat: 36° 41′ 04.35″N</td><td rowspan="2">Water Rights: N/A</td></tr>
<tr><td colspan="2">Long: 108° 29′ 30.09″W</td></tr>
<tr><td colspan="2">Reservoir Area (acres): 5.13</td><td colspan="3">Reservoir Storage (ac-ft): 38.6 (maximum storage capacity at EL 5379 feet)</td></tr>
<tr><td colspan="5">Inflow Design Flood/Safe Flood-Passing Capacity: Not Calculated</td></tr>
<tr><td colspan="2">Reservoir Level During Inspection (ft):
EL 5373.73 feet (RWP cell)
EL 5375.72 feet (FGD cell)</td><td colspan="2" rowspan="2">Photos: Yes. See Appendix E.</td><td rowspan="2">Pages: 4</td></tr>
<tr><td colspan="2">Estimated Solids Level (ft): The RWP is designed to impound water and does not specifically receive solid waste streams.</td></tr>
</table>

Return Water Pond (RWP)			SID: N/A	N/A	No	Yes	Mon	Rep	Inv
COMPLIANCE CHECKLIST									
1	***CONDITION SUMMARY, LICENSE, EAP, NEXT INSPECTION***								
a	Recorded downstream hazard:	**Low**	Should hazard be revised?		**X**				
b	If high hazard, estimate downstream persons-at-risk (PAR): **N/A**		Is there a significant increase since the last inspection?		**X**				
c	Recorded size:	**Non-Jurisdictional**	Should size be revised?		**X**				
d	Any safety deficiencies?	**No**	Describe:		**X**				
e	Any statute or rule violations?	**No**	Describe and list required action:		**X**				
f	Safe storage level on License:	**N/A**	Should level be revised:		**X**				
g	Any License violations?	**No**	Describe and list required action:		**X**				
h	Date of current License:	**N/A**	Should new License be issued?		**X**				
i	Date of last Emergency Action Plan revision: **N/A**		Should EAP be revised?		**X**				
j	Any Agency actions?	**No**	Describe and list required action:		**X**				
k	Normal inspection frequency:	**Weekly, Annually**	Should inspection frequency be revised?		**X**				
l	Recommended date for next inspection: **October 2025**								

MONITORING CHECKLIST									
2	***INSTRUMENTATION AND MONITORING***								
a	Describe: **There are three monitoring wells on the northern side of this structure to comply with groundwater monitoring requirements.**								
b	Any repair or replacement required? **N/A**		Describe: **N/A**	**X**					
c	Date of last monitoring report:	**January 2024 (for 2023)**	Should new readings be taken and new report provided? **Annual reporting is required.**			**X**			

DAM EMBANKMENT CHECKLIST								
3	***DAM CREST***							
a	Settlements, slides, depressions?			**X**				
b	Misalignment?			**X**				
c	Longitudinal/Transverse cracking?			**X**				
d	Animal burrows?			**X**				
e	Adverse vegetation?	**Some vegetation is beginning to grow on the crest. Continue to monitor.**		**X**		**X**		
f	Erosion?			**X**				
4	***UPSTREAM SLOPE***							
a	Erosion?	**The upstream slope is covered with geomembrane.**		**X**				
b	Inadequate ground cover?			**X**				
c	Adverse vegetation?			**X**				
d	Longitudinal/Transverse cracking?			**X**				
e	Inadequate riprap?			**X**				
f	Liner damage?	**See comment iv.**			**X**		**X**	
g	Settlements, slides, depressions, bulges?	**The liner in the anchor trench appeared to be disturbed along the Northeast Embankment (Photo IMG_7064). The liner also appeared to be looser in the western side of the Internal Embankment where construction activity had taken place (Photo IMG_7045). Continue to monitor these areas and repair the liner/trench if the disturbance begins to affect the embankment.**			**X**	**X**		
h	Animal burrows?			**X**				

Return Water Pond (RWP)	SID: N/A	N/A	No	Yes	Mon	Rep	Inv
5	***DOWNSTREAM SLOPE***						
a	Erosion?		**X**				
b	Inadequate ground cover?		**X**				
c	Adverse vegetation? **Some vegetation is beginning to grow on the slope. Continue to monitor.**		**X**		**X**		
d	Longitudinal/Transverse cracking?		**X**				
e	Inadequate riprap?		**X**				
f	Stone deterioration?		**X**				
g	Settlements, slides, depressions, bulges?		**X**				
h	Soft spots or boggy areas?		**X**				
i	Movement at or beyond toe?		**X**				
j	Animal burrows?		**X**				
6	***ABUTMENT CONTACTS***						
a	Erosion?		**X**				
b	Differential movement?		**X**				
c	Cracks?		**X**				
d	Settlements, slides, depressions, bulges?		**X**				
e	Seepage?		**X**				
f	Animal burrows?		**X**				
7	***SEEPAGE/PIPING CONTROL DESIGN FEATURE(S)***						
a	Describe: **The RWP features a leachate collection and recovery system (LCRS) between the primary and secondary 60 mil HDPE liners designed to collect impounded water that leaks through the primary HDPE liner before it leaks through the secondary HDPE liner and into the ground. The LCRS riser pipes are positioned at the lowest points of the RWP and FGD cells.**						
b	Internal drains flowing? **The LCRS in the FGD cell was set to automatic and operating at the time of the inspection. The LCRS in the RWP cell was off at the time of the inspection.**			**X**			
c	Seepage at or beyond toe?		**X**				
d	If so, does seepage contain fines?	**X**					
e	Evidence of sand boils at or beyond toe?		**X**				

RESERVOIR CHECKLIST							
8	***RESERVOIR***						
a	High water marks?			**X**			
b	Erosion/slides into pool area?		**X**				
c	Sediment accumulation? **The majority of sediment in the RWP cell consists of organic debris blown into the cells by the wind. Dry FGD was also present on the upstream slopes of the FGD cell. Solids that entered the ponds via the inflow system are also present.**			**X**			
d	Floating debris present?		**X**				
e	Depressions, sinkholes, or vortices?		**X**				
f	Low ridges/saddles allowing overflow? **An overflow weir at EL 5379 feet along the crest of the Internal Embankment connects the RWP cell to the FGD cell.**			**X**			
g	Structures below dam crest elevation?		**X**				

Additional comments and recommendations for the RWP:

i. Most of the FGD spilled on the crest, downstream slopes, and the outer berm around the FGD cell during the 2023 cleaning has been removed; however, some FGD spills remain (Photos IMG_7003, IMG_7007, IMG_7009, and IMG_7015). When periodically cleaning the pond, subcontractors should remove spilled CCR in accordance with the FCPP CCR Dust Control Plan prior to demobilizing from the site.

ii. The downstream drainage ditch on the western corner of the RWP is filled with sediment to the extent that the drain pipe under the entrance road is almost completely blocked (Photos IMG_7012 and IMG_7013). The drainage characteristics of the RWP are designed such that all runoff from upstream tributary basins is diverted around the surface impoundment (APS 2020b). The drainage ditch should be cleared so that the design run-on cannot overtop the ditch and enter the RWP.

iii. The bottom of the RWP and FGD cells is below the original grade. The RWP consists of a homogenous, rectangular, diked embankment constructed using weathered shale and sandstone excavated from the site's footprint and broken down into sand and clay.

iv. The RWP liner system consists of a primary 60-mil HDPE geomembrane liner, a drainage geonet, a secondary 60-mil HDPE geomembrane liner, a geosynthetic clay liner (GCL), and a prepared subgrade that was scarified, proof-rolled, and compacted prior to construction (AECOM 2020).

    The FGD cell was cleaned in 2023 and in doing so, the liner was known to have sustained visible damage in six locations; the damage ranged from minor cuts in the upper 60-mil liner to damage throughout the upper 60-mil liner, geogrid, and the lower 60-mil liner system. A subcontractor repaired the known damage in November 2023. The FGD cell was put back into service and has been used throughout 2024. During this inspection, the 1.25-inch DR11 HDPE return pipe in the FGD cell was flowing full during the main inspection on October 16 and was observed flowing full again when the inspectors returned for a follow up inspection on October 17. The inspectors monitored the return pipe for several minutes on both days and did not observe indications that the flow had recently started or was about to stop. The observed volume and duration suggested there is unrepaired damage to the liner. It was not clear during the inspection if the leakage into the LCRS was exceeding the system's capacity either continuously or temporarily. The FGD cell should be drawn down slowly, the liner should be inspected for damage, seams should be inspected for intact welds, and the liner should be repaired. When periodically cleaning the pond, subcontractors should use handheld excavation equipment as the excavation gets closer to the liner. In addition, operators should note whether the LCRS return pipes are flowing during their weekly inspections.

v. The RWP is sized to contain the 100-year, 24-hour rain event. It has 4.6 acre-feet of deadpool storage to EL 5370.55 feet and 28.1 acre-feet of operational and outage storage to EL 5379.00 feet. The remaining 2.1 feet (to the crest at EL 5381.10 feet) is reserved for storage of the 100-year, 24-hour rainfall event. There are no water bodies directly downstream of the RWP (AECOM 2020).

vi. The weekly inspection reports for the period between October 1, 2023, and September 30, 2024, do not indicate that there were any appearances of actual or potential structural weakness or other conditions that have the potential to disrupt the operation or safety of the CCR unit.

5.0 DATA REVIEW

5.1 LINED ASH IMPOUNDMENT

5.1.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the embankment since the last inspection in 2023.

APS has installed 73 pumping wells and observation wellpoints throughout the reservoir since July 2023. APS began pumping from the extraction wells in January 2024. The wells and wellpoints are installed along a bottom ash access road that connects the South Embankment and the West Embankment.

5.1.2 Instrumentation

The locations of geotechnical and other related instrumentation in the vicinity of the LAI are shown on Figure 6 – Lined Ash Impoundment (LAI) Instrumentation Map. The minimum and maximum recorded readings for each instrument over the October 1, 2023 – September 30, 2024 (current) review period are reported in the following table:

Instrument Name	Minimum	Maximum	Unit
LAI Piezometers (10/1/23 to 9/30/24)			
P-7.1	5196.87[1]	5196.87[1]	Water Elevation (ft)
P-7.2	5191.35[1]	5191.35[1]	Water Elevation (ft)
P-7.3	5184.75[1]	5184.75[1]	Water Elevation (ft)
P-8.1	5196.60[1]	5196.60[1]	Water Elevation (ft)
P-8.2	5182.10[1]	5182.10[1]	Water Elevation (ft)
P-8.3	5174.10[1]	5174.10[1]	Water Elevation (ft)
P-9.1	5196.87[1]	5196.87[1]	Water Elevation (ft)
P-9.2	5183.97[1]	5183.97[1]	Water Elevation (ft)
P-9.3	5170.87[1]	5170.87[1]	Water Elevation (ft)
P-10.1	5198.22[1]	5198.22[1]	Water Elevation (ft)
P-10.2	5184.22[1]	5184.22[1]	Water Elevation (ft)
P-10.3	5173.72[1]	5173.72[1]	Water Elevation (ft)
P-11.1	5201.11	5201.77	Water Elevation (ft)
P-11.2	5189.65[1]	5189.65[1]	Water Elevation (ft)
P-11.3	5174.65[1]	5174.65[1]	Water Elevation (ft)
P-12.1	5202.54[1]	5202.54[1]	Water Elevation (ft)
P-12.2	5186.54[1]	5186.54[1]	Water Elevation (ft)
P-12.3	5176.54[1]	5176.54[1]	Water Elevation (ft)
[1] Porewater pressure measurements are negative (draining condition). The reported elevation is for the tip of the instrument.			

Instrument Name	Minimum	Maximum	Unit
NTB Piezometers (10/1/23 to 9/30/24)			
P-100.1	5202.06[1]	5202.06[1]	Water Elevation (ft)
P-100.2	5190.06[1]	5190.06[1]	Water Elevation (ft)
P-100.3	5183.23[1]	5183.23[1]	Water Elevation (ft)
P-101.1	5185.93[1]	5185.98	Water Elevation (ft)
P-101.2	5177.85[1]	5177.85[1]	Water Elevation (ft)
P-101.3	5164.20	5165.88	Water Elevation (ft)
P-102.1	5188.85[1]	5188.85[1]	Water Elevation (ft)
P-102.2	5174.60[1]	5174.60[1]	Water Elevation (ft)
P-102.3	5169.66	5169.78	Water Elevation (ft)
P-103.1	5185.91[1]	5185.91[1]	Water Elevation (ft)
P-103.2	5170.91[1]	5170.91[1]	Water Elevation (ft)
P-103.3	5160.24[1]	5160.24[1]	Water Elevation (ft)
P-104.1	5198.72[1]	5198.72[1]	Water Elevation (ft)
P-104.2	5185.47[1]	5185.47[1]	Water Elevation (ft)
P-104.3	5178.47[1]	5178.47[1]	Water Elevation (ft)
P-105.1	5184.82[1]	5184.82[1]	Water Elevation (ft)
P-105.2	5174.16[1]	5174.16[1]	Water Elevation (ft)
P-105.3	5162.16[1]	5162.16[1]	Water Elevation (ft)
P-106.1	5186.09[1]	5186.09[1]	Water Elevation (ft)
P-106.2	5165.51[1]	5165.51[1]	Water Elevation (ft)
P-106.3	5159.01[1]	5159.01[1]	Water Elevation (ft)
P-107.1	5197.27[1]	5197.27[1]	Water Elevation (ft)
P-107.3	5173.44[1]	5173.44[1]	Water Elevation (ft)
P-108.1	5184.26[1]	5184.26[1]	Water Elevation (ft)
P-108.2	5173.59[1]	5173.59[1]	Water Elevation (ft)
P-108.3	5169.92	5170.88	Water Elevation (ft)
P-109.1	5188.76[1]	5188.76[1]	Water Elevation (ft)
P-109.2	5172.51[1]	5172.51[1]	Water Elevation (ft)
P-109.3	5164.93[1]	5164.93[1]	Water Elevation (ft)
P-110.1	5184.28[1]	5184.63	Water Elevation (ft)
P-110.2	5171.86[1]	5171.86[1]	Water Elevation (ft)
P-110.3	5163.44[1]	5163.44[1]	Water Elevation (ft)
P-111.1	5187.29[1]	5187.29[1]	Water Elevation (ft)
P-111.2	5172.37	5173.35	Water Elevation (ft)
P-111.3	5160.04[1]	5160.04[1]	Water Elevation (ft)

[1] Porewater pressure measurements are negative (draining condition). The reported elevation is for the tip of the instrument.

Instrument Name	Minimum	Maximum	Unit
Survey Monuments (10/1/23 to 9/30/24)			
SM7[2]	5215.719	5215.812	Elevation (ft)
SM9[2]	5216.988	5217.031	Elevation (ft)
Settlement Rods (10/1/23 to 9/30/24)			
SR-7[2]	5250.571	5250.612	Elevation (ft)
SR-8[2]	5256.048	5256.111	Elevation (ft)
SR-9[2]	5248.469	5248.515	Elevation (ft)
SR-10[2]	5248.764	5248.799	Elevation (ft)
SR-100[2]	5222.075	5222.108	Elevation (ft)
SR-101[2]	5205.309	5205.363	Elevation (ft)
SR-102[2]	5205.076	5205.116	Elevation (ft)
SR-104[2]	5219.180	5219.235	Elevation (ft)
SR-105[2]	5204.856	5204.900	Elevation (ft)
SR-106[2]	5205.231	5205.275	Elevation (ft)
SR-109[2]	5206.392	5206.450	Elevation (ft)
SR-110[2]	5205.709	5205.761	Elevation (ft)
Inclinometers (10/1/23 to 9/30/24)			
I-1	0	0.3383	Inches
I-2	0	0.0584	Inches
I-103	0	0.1844	Inches
I-107	0	0.1253	Inches
I-111	0	0.1631	Inches
Open Standpipe Piezometers (10/1/23 to 9/30/24)			
P-23	5156.38	5156.48	Water Elevation (ft)
P-24	Dry	Dry	Water Elevation (ft)
P-25	Dry	Dry	Water Elevation (ft)

2) Starting in March 2019, a third-party surveyor began collecting the monthly survey monument and settlement rod data instead of APS personnel. The third-party surveyor uses a different post-processing technique than APS personnel.

The data for the piezometers over the current review period indicate no adverse trends related to the performance of the dam. The data for the majority of vibrating wire piezometers indicates the phreatic level at these instruments is either declining, stabilizing, or is negative (a draining condition). Exceptions are described below.

Vibrating wire piezometers P-102.3, P-103.2, P-104.2, P-105.3, P-107.1, P-107.3, P-109.3, and P-111.3 all appear to indicate sudden piezometric offsets between 0.03 feet and 1 foot starting on August 7, 2024. The eight affected instruments are all on MUX boards #3 and #4. The data trends after August 7, 2024, match the data trends established through August 6, 2024. The offsets are not present at other vibrating wire piezometers in the same clusters and the continued trends indicate the offsets are likely due to a data collection system error

and not a stability problem at the NTB. It is possible that these offsets are precursors to the data collection system failure that has prevented data collection since September 6, 2024. The issue(s) that caused the data collection system should be resolved or repaired, and APS should resume vibrating wire data collection as soon as possible.

The phreatic level measured at piezometer P-102.3 remained positive throughout the current review period. The highest water elevation (EL 5169.78 feet) was recorded on October 1, 2023, and decreased at a relatively constant rate throughout the current review period; the lowest water elevation (EL 5169.65 feet) was recorded on September 4, 2024.

The phreatic level measured at piezometer P-111.2 has remained relatively constant since late 2020 as it follows variations in barometric pressure. The variability of the P-111.2 data indicate the instrument is not submerged below the phreatic surface. Previously, APS had been concerned about an isolated increase in the measured phreatic level starting in May 2020. The consistent data obtained since late 2020 indicates that the increasing trend has ended. APS will continue to monitor this instrument and the nearby instruments for changes in the phreatic level.

The data for the survey monuments and settlement rods during the current review period were recorded by a third-party Professional Surveyor. The survey data do not suggest a significant change or a negative trend related to the performance of the dam.

In May 2023, APS transitioned the inclinometer data collection system from the Durham Geo Slope Indicator (DGSI) Digitilt Classic Inclinometer System to the DGSI Digitilt AT Inclinometer System. APS proceeded with this change after experiencing hardware problems with the Digitilt Classic Inclinometer System in the months prior to May 2023. Data from the current review period (10/1/2023 to 9/30/2024) were obtained using the Digitilt AT Inclinometer System with the 9/8/2023 survey as the baseline survey. The inclinometer data for the current review period do not show any new adverse trends; however, the known, major trends, including displacement between depths of 6 and 20 feet in I-103 and the variability in the tilt change plots, remain present.

5.1.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water in LAI	Depth of Water (ft) (calculated)	Water Elevation (ft) (estimated)	Measurement Location
Minimum	(No water)	(No water)	Southwest Corner (STA 36+00)
Maximum	(No water)	(No water)	Southwest Corner (STA 36+00)
Present (this inspection)	(No water)	(No water)	Southwest Corner (STA 36+00)
CCR	**Depth of CCR (ft) (calculated)**	**CCR Elevation (ft) (measured)[1]**	**Measurement Location**
Minimum (North Corner)	15.54	5289.54	V-ditch inlet on the north end of the LAI inside the CCR berm
Maximum (West Embankment)	73	5278	The West Embankment near the Drop Inlet Structure (STA 57+00)
Present (this inspection)	73	5278	The West Embankment near the Drop Inlet Structure (STA 57+00)

1) APS's ash haul contractor conducts monthly drone flights to assess filling progress in the DFADA (Section 5.4.3). On August 15, 2024, the drone flight also encompassed the LAI and LDWP. The values in this table reflect the elevations from this unofficial survey.

APS completed removing impounded water in February 2022, leaving only CCR and interstitial water below the CCR surface in the reservoir. Subsurface water within the impounded CCR continues to drain to the LDWP via the Drop Inlet Structure and the Deadpool Sump.

As the LAI began to reach capacity, CCR deposition moved from the old V-ditch on the north end of the East Embankment to the northeast corner of the LAI. Deposited material slopes from northeast (at the north V-ditch) to southwest (at the Southwest Corner). The depth (thickness) of the CCR at the time of the inspection is estimated by subtracting the bottom of the LAI (EL 5205 feet) from the estimated average ash elevation (the average ash elevation is assumed to be near the Drop Inlet Structure at STA 57+00). The basis for the CCR depths and elevations presented in the above table were revised to match surface elevations recorded in the August 15, 2024, DFADA survey that encompassed the LAI and LDWP.

5.1.4 Storage Capacity

The maximum storage capacity of the LAI is 5,986 acre-feet (ac-ft) based on the 2012 elevation-area-capacity curve (EAC) (URS 2012). The 2012 EAC is based on a maximum reservoir elevation at 5280 feet, therefore the EAC is unchanged after APS completed the 2022 crest elevation remediation work.

5.1.5 Approximate Impounded Volume at Time of Inspection

The approximate volume of impounded CCR in the LAI at the time of the inspection was 5,732 ac-ft based on the average impounded volume two feet below the crest elevation in the 2012 EAC (URS 2012).

5.1.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

APS constructed access roads throughout the reservoir to be used for pre-closure construction activities. The roads are several feet thick and connect the West and South Embankments across the reservoir. At the time of the inspection, APS had already installed 73 pumping wells and observation wellpoints throughout the reservoir to be used for pre-closure construction dewatering activities. APS intends to install more wells within the reservoir in the future. This operational change will allow APS to complete the CCR unit's closure.

5.2 LINED DECANT WATER POND

5.2.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the unit since the last inspection in 2023.

5.2.2 Instrumentation

The locations of geotechnical and other related instrumentation in the vicinity of the LDWP are shown on Figure 7 – Lined Decant Water Pond (LDWP) Instrumentation Map.

The minimum and maximum recorded readings for each instrument over the October 1, 2023 – September 30, 2024 (current) review period are reported in the following table:

Instrument Name	Minimum	Maximum	Unit
Survey Monuments (10/1/23 to 9/30/24)			
SM7[1]	5215.719	5215.812	Elevation (ft)
SM9[1]	5216.988	5217.031	Elevation (ft)
Open Standpipe Piezometers (10/1/23 to 9/30/24)			
P-18	Dry	Dry	Water Elevation (ft)
P-19	Dry	Dry	Water Elevation (ft)
P-20	Dry	Dry	Water Elevation (ft)
P-21	Dry	Dry	Water Elevation (ft)
P-22	Dry	Dry	Water Elevation (ft)
P-23	5156.38	5156.48	Water Elevation (ft)
P-24	Dry	Dry	Water Elevation (ft)
P-25	Dry	Dry	Water Elevation (ft)

1) Starting in March 2019, a third-party surveyor began collecting the monthly survey monument and settlement rod data instead of APS personnel. The third-party surveyor uses a different post-processing technique than APS personnel, resulting in relatively more variability between measurements than in previous years.

The data for the survey monuments and settlement rods during the current review period were recorded by a third-party Professional Surveyor. The survey data do not suggest a significant change or a negative trend related to the performance of the dam.

The data for the piezometers over the current review period indicate no significant elevation changes or trends related to the performance of the dam. The bottoms of piezometers P-19, P-21, and P-22 were recorded as being wet, but there was no measurable water level throughout the review period. APS believes these values represent run-on that has infiltrated the piezometer from the surface and has not drained, rather than water at the bottom of the Pond 3/native soil interface. APS intends to continue monitoring these piezometers.

5.2.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water in LDWP	Depth of Water (ft) (observed)	Water Elevation (ft) (measured)	Measurement Location
Minimum	0.0	5202.0	Southwest corner of the impoundment
Maximum	0.8	5205.2	Staff gauge near the East Embankment
Present (this inspection)	0.5	5202.5	Southwest corner of the impoundment
CCR	**Depth of CCR (ft)**	**CCR Elevation (ft)[1]**	**Measurement Location**
Minimum	< 0.5	5203.0	Southwest corner of the impoundment
Maximum	< 0.5	5205.5	Northeast corner of the reservoir
Present (this inspection)	< 0.5	5203.0	Southwest corner of the impoundment

1) APS's ash haul contractor conducts monthly drone flights to assess filling progress in the DFADA (Section 5.4.3). On August 15, 2024, the drone flight also encompassed the LAI and LDWP. The values in this table reflect the elevations from this unofficial survey.

The LDWP is used to impound CCR transport water decanted from the LAI. Therefore, the CCR depth (thickness) is minimal and not normally measured. The quantity of solids impounded in the LDWP is minimal; based on observations of exposed liner, as well as salts and small volumes of CCR collecting on the liner seams in the eastern and northern portions of the reservoir, the thickness of the CCR within the LDWP is less than six inches. The thickest location of CCR is assumed to be near the LAI Decant Tower drain pipes in the northeast corner of the reservoir.

The water elevation in the LDWP has fallen below the elevation of the staff gauge along the East Embankment (Appendix B Photo IMG_7467). The water elevation during the inspection is approximated using the original Ash Pond 3 surface topography, the current water area in the southwest corner of the impoundment where water from the LAI Decant Tower and Deadpool Sump collects, and the August 15, 2024, interim DFADA survey APS's ash haul contractor conducted. The minimum elevation of the LDWP (top of Ash Pond 3) is EL 5202 feet (in the southwest corner) based on Sections D and E in APS Drawing FC-C-17-ADS-150793-4 (APS 2004).

5.2.4 Storage Capacity

The storage capacity of the LDWP is 435 ac-ft at EL 5213.2 feet. The maximum storage capacity of the LDWP is 517 ac-ft at EL 5216 feet based on the 2012 EAC (URS 2012).

5.2.5 Approximate Impounded Volume at Time of Inspection

The approximate volume of impounded water in the LDWP at the time of the inspection was approximately 2.5 ac-ft. This value is based on approximately 5 acres of water 0.5 feet deep.

5.2.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

The only liquid remaining in the LDWP is water drained from the LAI. A review of the operating record indicated the LDWP was operated as intended over the previous year.

There are no significant changes to the structural integrity of the dam since the 2023 inspection.

5.3 COMBINED WASTE TREATMENT POND

5.3.1 Geometry Changes Since Last Inspection

APS retained a dredging subcontractor to remove CCR from the bottom of the CWTP reservoir in late 2022. Dredging began in early January 2023 and was in progress during this inspection. The decant cells on the west side of the reservoir were removed as part of this scope.

APS designated an offset from the toe of the CWTP embankment to prevent the dredge from undermining the embankment. Based on observations along the crest and the portion of the upstream slope above the water surface, the dredging activity does not appear to have impacted the CWTP embankment. APS does not intend to make changes to the geometry of the CWTP embankment as part of the dredging activities.

5.3.2 Instrumentation

There are no instruments associated with the CWTP embankment.

5.3.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water in CWTP	Depth of Water (ft) (calculated)	Water Elevation (ft) (measured)	Measurement Location
Minimum	8.66	5327.66 (NAVD88)	Obtained from GPS tracking during dredging operations.
Maximum	11.56	5330.56 (NAVD88)	
Present (this inspection)	9.99	5328.99 (NAVD88)	
CCR	**Depth of CCR (ft) (estimated)**	**CCR Elevation (ft) (estimated)**	**Measurement Location**
Minimum	0	(none – native soil)	South/central section of the reservoir on 9/26/2024
Maximum	8.53	~ 5319	Western end of the reservoir on 11/15/2023
Present (this inspection)	0-1	5308 to 5325	Various locations in the reservoir

The CWTP does not receive inflow from the Plant and APS does not regularly record or track the water elevation in the CWTP. The water elevation data available for the current review period (10/1/2023 through 9/30/2024) is estimated from GPS elevation records in a limited number of daily field reports prepared as part of the ongoing dredging operation in the pond. A water level transducer installed in the reservoir adjacent to the pipe that conveys inflow from the discharge canal to the CWTP is intended to keep the reservoir level relatively constant (Photo IMG_7077).

CCR solids in the CWTP reservoir are submerged and are currently being removed via dredging. The CCR elevations in the table above are based on estimates the dredging subcontractor calculates. The maximum, minimum, and present CCR depth (thickness) in the table above reflect the variable subsurface at the CWTP as dredging progressed throughout the year. The maximum CCR thickness is based on the highest difference between the estimated design surface and a bathymetric survey conducted on November 15, 2023, within the reservoir (e.g., not along the

embankment or the toe of the embankment). The minimum CCR thickness is based on reports of reaching native soil toward the end of the current review period.

5.3.4 Storage Capacity

The estimated storage capacity of the CWTP reservoir is 164 ac-ft.

5.3.5 Approximate Impounded Volume at Time of Inspection

The volume of impounded water and solids in the CWTP reservoir at the time of the inspection was estimated to be approximately 138 ac-ft based on the impounded water elevation. As the dredging operation reaches native soil, CCR is removed; however, the water level remains relatively constant. Therefore, the approximate volume of impounded water and solids is similar to the approximate volume estimated in 2023.

5.3.6 Structural Weakness or Operational Change/Disruption

Based on observations made during previous inspections and the condition of the embankment observed during this inspection, slow, progressive erosion on the embankment appears to have continued since the 2023 annual inspection. In addition, the vegetation on the upstream and downstream slopes appears to be continuing to grow.

APS ceased discharging to the CWTP by November 23, 2020. The current water level is maintained by pumping water from the discharge canal into the reservoir as the Navajo Mine continues to use the CWTP as a water source for its ongoing operations. The CWTP reservoir elevation is currently level-controlled via automated sensors.

5.4 DRY FLY ASH DISPOSAL AREA

5.4.1 Geometry Changes Since Last Inspection

APS has been placing CCR in Cell 4 since the 2023 inspection.

APS currently uses a portion of the Cell 3 surface to stockpile wet lightweight aggregate fill designated to be used for access road construction. The lightweight aggregate fill is stockpiled, allowed to drain, and then removed. Some CCR and CCR-impacted material has also been placed in Cell 2.

5.4.2 Instrumentation

There are no instruments associated with the DFADA.

5.4.3 CCR Volume

The approximate volume of CCR in the DFADA at the time of the inspection was estimated to be 7,785.6 ac-ft in the four DFADA cells based on the October 2024 survey performed by the ash placement contractor (FHI).

5.4.4 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

There have been no operational changes or disruptions to the CCR unit in the previous year.

5.5 RETURN WATER POND

5.5.1 Geometry Changes Since Last Inspection

There have not been any significant changes to the geometry of the unit since the last inspection in 2023.

5.5.2 Instrumentation

There are no instruments associated with the RWP.

5.5.3 CCR and Water Elevations

The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection is presented in the following table:

Water in RWP	Depth of Water (ft) (observed)	Water Elevation (ft) (measured)	Measurement Location
Minimum (RWP Cell)	5.68	5373.73	Northern corner of the cell.
Minimum (FGD Cell)	0	(Not applicable)	South corner of the cell.
Maximum (RWP Cell)	6.46	5374.51	Southwest corner of the cell.
Maximum (FGD Cell)	1.63	5375.72	North corner of the cell.
Present (this inspection, RWP Cell)	5.68	5373.73	Northern corner of the cell.
Present (this inspection, FGD Cell)	1.63	5375.72	North corner of the cell.
CCR	**Depth of CCR (ft)**	**CCR Elevation (ft)**	**Measurement Location**
Minimum	Not applicable	Not applicable	Not applicable
Maximum	Not applicable	Not applicable	Not applicable
Present (this inspection)	Not applicable	Not applicable	Not applicable

Based on as-built drawings FC45CM-C-65-WP-AP-200485-14 (APS 2019), the bottom of the RWP Cell is at EL 5368.05 feet. Similarly, the bottom of the FGD Cell is at EL 5374.09 feet. Water depths are estimated relative to these values. The maximum and minimum water values are based on the water depths observed during the 2023 inspection and this inspection. The RWP was assumed to be at its maximum impounded volume within the last year during the 2023 inspection and reduced to the current (minimum) impounded volume during this inspection. APS does not regularly record the water level of the RWP.

The RWP was designed to provide temporary storage of LAI/LDWP and Pond 3 pumphouse (liquid) discharges, thus, it does not impound a significant quantity of solids. Therefore, the CCR depth is minimal and not normally measured.

5.5.4 Storage Capacity

The estimated storage capacity of the RWP is 38.6 ac-ft at EL 5379 feet.

5.5.5 Approximate Impounded Volume at Time of Inspection

The approximate impounded volume in the RWP cell at the time of the inspection was 14.72 ac-ft. The approximate impounded volume in the FGD cell at the time of the inspection was 1.74 ac-ft.

5.5.6 Structural Weakness or Operational Change/Disruption

No conditions associated with structural weakness were identified during the field inspection.

No conditions that are or could be disruptive to the operation and safety of the CCR unit and appurtenant structures were identified during the field inspection.

During this inspection, the 1.25-inch DR11 HDPE return pipe in the FGD cell was flowing full on October 16 and October 17. The observed volume and duration suggested there is unrepaired damage to the liner. The FGD cell is operated independently of the RWP cell and APS may elect to remove FGD from time to time. It was not clear during the inspection if the leakage into the LCRS was exceeding the system's capacity continuously or temporarily; however, the leak should be repaired to prevent continuous discharge and to maintain the intended function of the FGD cell.

6.0 OPERATION AND MAINTENANCE RECOMMENDATIONS

6.1 LINED ASH IMPOUNDMENT

6.1.1 Current Lined Ash Impoundment Action Items

The following items were noted during inspections as requiring attention.

Action Item	Action Status
1) The diversion channel in the reservoir along the Northwest Embankment was filled with sediment during this inspection.	The diversion channel should be re-excavated or replaced with a permanent solution and the design surface flow regime should be maintained at all times.
2) The EAP distribution list should be updated with current personnel.	Review the EAP distribution list annually and update as necessary.
3) The vibrating wire piezometer data collection system failed on September 5, 2024.	Repair the system and replace the components necessary to resume data collection.
4) A 6-inch deep rut was observed along the center of the East Embankment crest.	Monitor the rut and repair it if it extends deeper than 1 foot.
5) Erosion rills, gullies, and tunnels (under the dust suppressant) on the downstream shoulder and embankment slopes.	Continue ongoing repair program for repairing rills if the erosion depth exceeds 1 foot. NOTE: This will always be an ongoing maintenance activity.
6) There are several tears in the liner along the upstream slope on the South, West, and Northwest Embankments.	Repair the tears under the direction of the APS geotechnical engineer.
7) The liner along the South Embankment is very tight and the tension appears to be tearing the liner along and near existing seams and previous repairs, especially in the Southwest Corner.	The tension could be released by excavating the anchor trench, pulling extra liner out to provide slack, and backfilling the trench. Repair the cuts and torn seams under the direction of the APS geotechnical engineer.
8) There are tears in the exposed liner at the cenosphere mining area in the Southwest Corner.	The working area for the cenosphere mining operation is built into the reservoir area and the liner damage is not affecting the integrity of the embankment. The area should be monitored.
9) There are bulges and depressions along the upstream slope in the Southwest Corner of the LAI.	The presence and identified causes of the bulges and depression should be recorded and the APS geotechnical engineer should be consulted. Repair documentation should be recorded.

Action Item	Action Status
10) The erosion gully on the downstream slope of the East Embankment north of the laydown yard area is wider and deeper than it was during the 2023 inspection.	Repair the erosion.
11) There are vertical scarps at the top of the downstream slope at the southern end of the East Embankment.	Monitor the embankment and repair the slope if the scarps expand or cracks begin to form near the scarps.
12) There is water flowing out of the South Embankment toe drain.	Measure the flowrate on a weekly basis as part of the 7-day CCR inspections and provide the measurements to the APS geotechnical engineer.
13) The 8-inch and 16-inch pipes at the bottom of the Drop Inlet Structure are both flowing into the LDWP.	Clean out the 8-inch pipe to allow free flow from the LAI to the LDWP and inspect the 16-inch pipe for blockages (and remove any observed obstructions). Acceptable jetting pressures should be calculated and monitored to avoid damaging the pipe.
14) There is some debris in the reservoir from previous geotechnical investigations.	Remove the debris.
15) There is fugitive CCR on the northwest, north, and east sides of the LAI, including the crest, downstream slopes, and downstream toe.	The fugitive CCR should be removed and control measures described in the FCPP Dust Control Plan should be implemented to the extent necessary to prevent fugitive CCR from leaving the LAI.

6.1.2 Previous Lined Ash Impoundment Action Items

The following items were noted during the three previous annual inspections and have been addressed.

Action Item and First Instance of Observation	Resolution
1) Ruts were observed on the Northwest Embankment crest (2022 inspection).	Regrade the crest to repair the ruts. Drivers should be instructed to avoid traversing through muddy areas.
2) Ruts and a depression were observed along the West Embankment (2023 inspection).	The ruts and depression observed in the Southwest Corner and along the West Embankment during the 2023 inspection were not present during this inspection.
3) Shallow holes along the East Embankment crest were observed along the anchor trench (2023 inspection).	The shallow holes were not observed during the 2024 inspection.
4) The West Embankment crest south of the Drop Inlet Structure contains a high proportion of finer ash particles (2023 inspection).	Coarser bottom ash was placed along the crest.
5) MUX board #2 sporadically records repeated or erroneous data (2023 inspection).	The MUX board was replaced and data collection resumed.
6) Some inclinometer surveys are inconsistent between months (2023 inspection).	Data consistency improved in 2024.
7) The torn seams are leaking water (2022 inspection).	The seams were not leaking water during the 2023 inspection. The water source may have been depleted by the time the inspection was conducted.
8) In mid-September 2022, the vibrating wire piezometer data collection electronics began failing intermittently (2022 inspection).	The datalogger was repaired and uninterrupted data collection resumed on November 30, 2022.
9) There is an erosion gully on the downstream slope of the East Embankment (2022 inspection).	The area is covered with fugitive CCR, obscuring the erosion and filling in the gully.

Action Item and First Instance of Observation	Resolution
10) The LAI does not have sufficient capacity to retain the 72-hour PMP with 2.8 feet of residual freeboard as designed. The West Embankment crest is at approximate EL 5279 feet instead of the design value at EL 5280 feet. There is approximately 1.33 feet of freeboard at the West Embankment. In addition, the freeboard designated along the Northwest and East Embankments is not available due to the presence of ash up to the embankment crest (2021 inspection).	The West Embankment crest was raised to its design elevation and a ditch was excavated around the perimeter of the embankment to divert stormwater to the Southwest Corner. The free-standing water in the Southwest Corner of the pond was removed.
11) Ruts were observed on the downstream side of the South Embankment crest and the downstream side of the East Embankment crest (2021 inspection).	The ruts were not observed during the 2022 inspection.
12) Two protrusions were observed beneath the liner on the upstream slope near the midpoint of the South Embankment (2021 inspection).	The protrusions in the liner observed during the 2021 inspection were not observed during the 2022 inspection. It was not clear if these had been repaired, covered with ash, or if the protrusions had sunk into the clay core. Continue to monitor the liner for abnormalities and repair them under the direction of the APS geotechnical engineer.

6.2 LINED DECANT WATER POND

6.2.1 Current Lined Decant Water Pond Action Items

The following items were noted during inspections as requiring attention.

Action Item	Action Status
1) The EAP distribution list should be updated with current personnel.	Review the EAP distribution list annually and update as necessary.
2) Ruts were observed along the upstream half of the South Embankment crest. Ponded rainwater was observed in the southwest corner near the Interstitial Evacuation Pump during the 2019 inspection and it appears there is still a low spot in this area.	Repair the ruts. Regrade the low spot.
3) Ant hills were observed in the crest of the South and West Embankments.	Mark ant hills and animal burrows identified during weekly inspections. NOTE: This will always be an ongoing maintenance activity.
4) The seam connecting two adjacent sheets of liner has failed along approximately 10 inches at the North Embankment.	Repair the liner.
5) There is a small hole in the liner at the crest elevation along the North Embankment.	Repair the hole.
6) Up to 2.5 feet of erosion was observed on the downstream slopes at the time of the inspection. Several feet of erosion was observed at the South Embankment/LAI abutment contact.	Continue the ongoing repair program for repairing rills when the erosion depth exceeds 1 foot. NOTE: This will always be an ongoing maintenance activity.
7) There is erosion on the embankment where the Deadpool Pump pipe runs up the slope.	The erosion should be repaired to prevent damage to the pipe.
8) Portions of the outer pipes for the siphon lines are exposed along the East Embankment crest.	Place and compact additional fill in these areas to prevent damage to the pipes.
9) The liner in the anchor trench in the central portion of the West Embankment appeared to be pulling out of the trench.	Continue to monitor the liner in the anchor trench. Re-anchor the liner if the liner continues to pull out of the trench.

6.2.2 Previous Lined Decant Water Pond Action Items

The following items were noted during the three previous annual inspections and have been addressed.

Action Item and First Instance of Observation	Resolution
1) The liner is exposed at the edge of the anchor trench near the midpoint of the East Embankment (2023 inspection).	The exposed liner was not observed during the 2024 inspection.
2) The sign identifying the CCR unit fell down (2022, 2023 inspections).	The sign was re-erected.

6.3 COMBINED WASTE TREATMENT POND

6.3.1 Current Combined Waste Treatment Pond Action Items

The following items were noted during inspections as requiring attention.

Action Item	Action Status
1) Ant hills were observed along the embankment crest and animals have been known to burrow in the area.	Repair ant hills and animal burrows as needed. NOTE: This will always be an ongoing maintenance activity.
2) Holes were observed on the downstream shoulder of the North Embankment near the 18-inch pipe that transfers water from the canal to the CWTP in the vicinity of a set of shallow depressions observed during the 2021 inspection and at other locations along the North Embankment.	Regrade these areas and repair the holes.
3) There was a series of holes up to 1 foot deep and a separate hole approximately 1 foot deep on the downstream shoulder of the East Embankment.	Monitor the erosion holes and repair them if they are observed to expand.
4) Instances of erosion were observed along the upstream and downstream slopes.	Continue to monitor these areas and repair erosion if it exceeds 1 foot in depth.
5) Vegetation (grass, small trees, and shrubs) was observed on the upstream and downstream slopes during this inspection.	The grasses should be cut and vegetation removal along the upstream and downstream slopes should be performed in accordance with the NMOSE vegetation maintenance guidelines "*Vegetation Management on Dams*" (2011) reference. NOTE: This will always be an ongoing maintenance activity.
6) Erosion on the slopes is beginning to undermine riprap boulders.	Erosion under the riprap boulders should be repaired.
7) Areas with loose soil or a series of holes along the downstream shoulder generally have less vegetation and appear to be susceptible to erosion.	Operators should track the presence of holes in the crest and possible erosion or sloughs on the downstream slope as part of their weekly inspections.
8) Erosion along the slopes resulting in an irregular face.	Continue to monitor the area repair the area if required to bring it to the design slope (2H:1V).

6.3.2 Previous Combined Waste Treatment Pond Action Items

The following items were noted during the three previous annual inspections and have been addressed.

Action Item and First Instance of Observation	Resolution
1) A stretch of loose material was observed on the upstream half of the crest near the historic location of an 11.5-foot-long tension crack (2023 inspection).	The soil on the upstream half of the crest was not as loose during the 2024 inspection.
2) The upstream edge of the crest near where the tension crack observed during the 2020 inspection appeared to be loose over a distance of approximately 10 feet (2023 inspection).	This condition was not observed during the 2024 inspection.
3) A set of shallow holes was observed on the downstream shoulder of the North Embankment near the 18-inch pipe that transfers water from the canal to the CWTP (2022 inspection).	The holes were not present during the 2023 inspection.
4) Two erosion holes up to 9 inches deep were observed on the crest along the curved section of the embankment (2022 inspection).	The holes were not present during the 2023 inspection.

6.4 DRY FLY ASH DISPOSAL AREA

6.4.1 Current Dry Fly Ash Disposal Area Action Items

The following items were noted during inspections as requiring attention.

Action Item	Action Status
1) There is erosion at the Stormwater Diversion Channel inlet and outlet, as well as along the extension constructed as part of the Cell 4 expansion where the previous alignment terminated.	Monitor erosion and repair the erosion gullies when they exceed 1 foot in depth. Alternately, place additional sandstone riprap in the eroded area.
2) The stilling basin constructed as part of the Cell 4 Stormwater Diversion Channel extension is filled with sediment on the upstream side of the weir wall.	Clean out the stilling basin and Stormwater Diversion Channel when sediment begins to accumulate.
3) A colony of reeds is growing in the Cell 1 leachate collection pond.	The reeds should be removed.
4) Several plants are growing through the Pyramat geosynthetic along the western toe of Cell 1.	Remove the plants.
5) The junction of the LAI and Cell 3 has been subject to historic erosion. Currently there are reeds and sediment in the drainage ditch along the Cell 3 toe that would impede stormwater routing.	The reeds should be removed. The area should be inspected after storm events and sediment should be removed as necessary.
6) The junction of Cells 1 and 4 is susceptible to erosion and there is a potential that ash in Cell 4 could be carried down the slope and away from the DFADA during high velocity flow events.	Construct a diversion berm or dedicated flow channel to prevent ash from being carried offsite.

6.4.1 Previous Dry Fly Ash Disposal Area Action Items

The following items were noted during the three previous annual inspections and have been addressed.

Action Item and First Instance of Observation	Resolution
1) The Cell 4 leachate collection pond was empty at the time of the inspection (2022 inspection).	Water was present in the leachate collection pond during subsequent inspections.
2) There was saturation on the slope just above the Cell 4 toe, near the Cell 4 leachate collection pond. The presence of white salt deposits throughout the saturated area indicated this portion of the slope has been saturated for an extended period of time (2023 inspection).	APS believes the moisture is due to expected drainage in the landfill and it does not adversely affect slope stability. APS will continue to monitor drainage into the leachate collection pond.

6.5 RETURN WATER POND

6.5.1 Current Return Water Pond Action Items

The following items were noted during inspections as requiring attention.

Action Item	Action Status
1) Some vegetation is beginning to grow in the anchor trenches on the crest and along the downstream slopes.	Vegetation removal should be performed in accordance with the NMOSE vegetation maintenance guidelines "*Vegetation Management on Dams*" (2011) reference.
2) The 1.25-inch DR11 HDPE return pipe in the FGD cell was flowing full during the main inspection on October 16, 2024 and was observed flowing full again when the inspectors returned for a follow up inspection on October 17, 2024.	The FGD cell should be drawn down slowly and the liner should be inspected for damage, seams should be inspected for intact welds, and the liner should be repaired. When periodically cleaning the pond, subcontractors should use handheld excavation equipment as the excavation gets closer to the liner. In addition, operators should note whether the LCRS return pipes are flowing during their weekly inspections.
3) The liner in the anchor trench appeared to be disturbed in the north corner and along the Northeast Embankment.	Monitor this area and repair the liner/trench if the disturbance begins to affect the embankment or the structural integrity of the CCR unit.
4) FGD was spilled on the crest, downstream slopes, and the outer berm around the FGD cell due to the 2023 FGD cell cleaning activities.	Continue removing the FGD from the crest, downstream slopes, and outer berm. When periodically cleaning the pond, subcontractors should remove spilled CCR in accordance with the FCPP CCR Dust Control Plan prior to demobilizing from the site.
5) The downstream drainage ditch on the western corner of the RWP is filled with sediment to the extent that the drain pipe under the entrance road is completely blocked.	The drainage ditch should be cleared so that the design run-on cannot overtop the ditch and enter the RWP.

6.5.2 Previous Return Water Pond Action Items

The following items were noted during the two previous annual inspections and have been addressed.

Action Item and First Instance of Observation	Resolution
1) Shallow holes observed along the Northeast Embankment during the 2021 inspection appear to have developed into a shallow erosion feature (2022 inspection).	The shallow erosion feature was not apparent during the 2023 inspection.
2) Tension cracks were observed on the slope of the incised drainage ditch along the western corner of the pond, downstream of the FGD cell (2021 and 2022 inspections).	The cracks were not observed during subsequent inspections.
3) The two Flowserve horizontal base-mounted pumps at the downstream toe of the Northwest Embankment were both subject to work requests at the time of the inspection (2021 inspection).	The pumps were repaired.
4) The hinge for the access gate at the southern entrance to the RWP is broken (2021 inspection).	The gate was repaired.
5) The FGD Pond was observed to be at "full capacity" during a series of weekly inspections in December 2020 and January 2021. In addition, the RWP and FGD cells were near full capacity during the 2021 inspection.	Both cells were several feet lower during the 2022 inspection.

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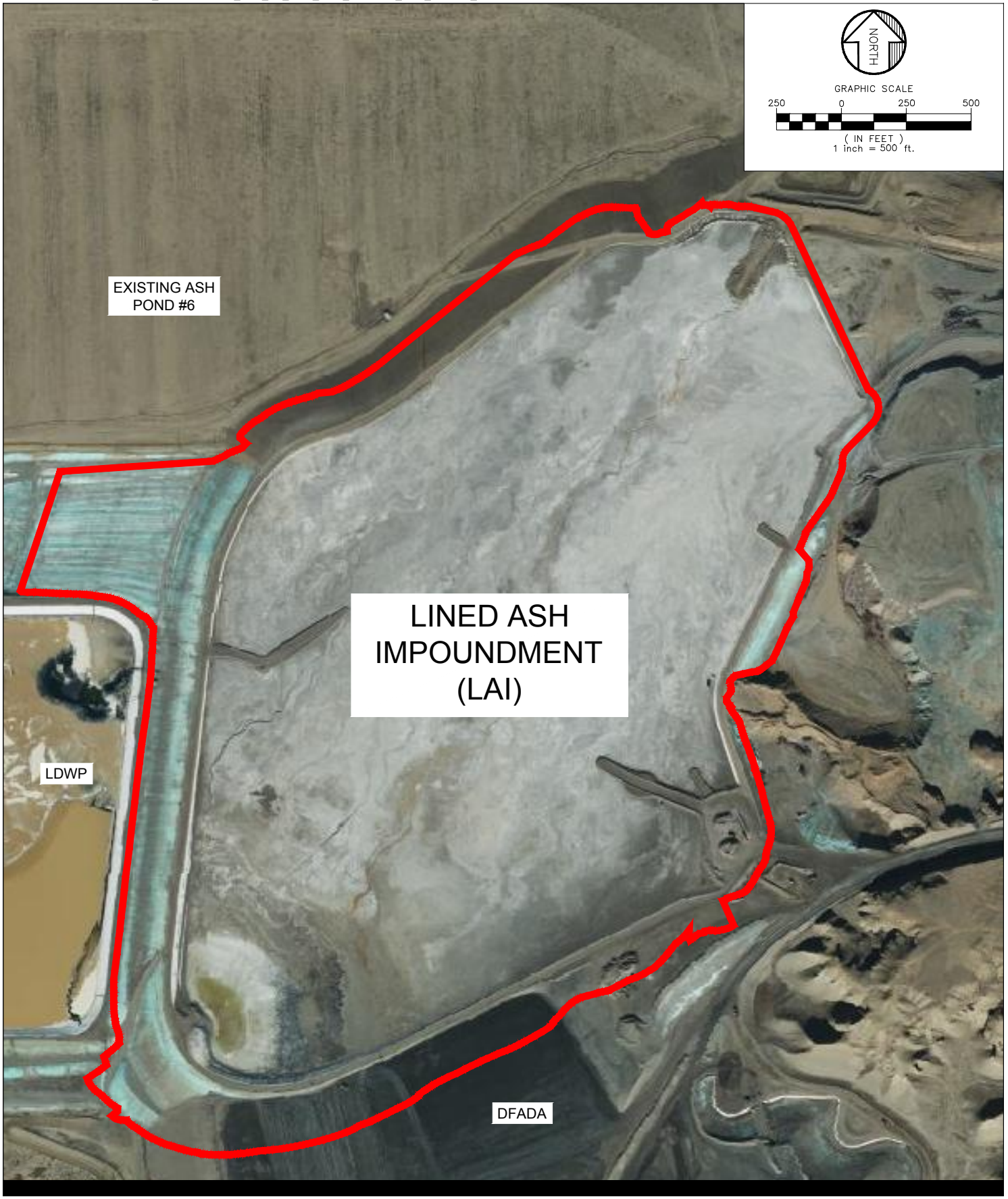
FIGURES

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 1 - LAI.DWG
ANSI A 8.5" x 11"



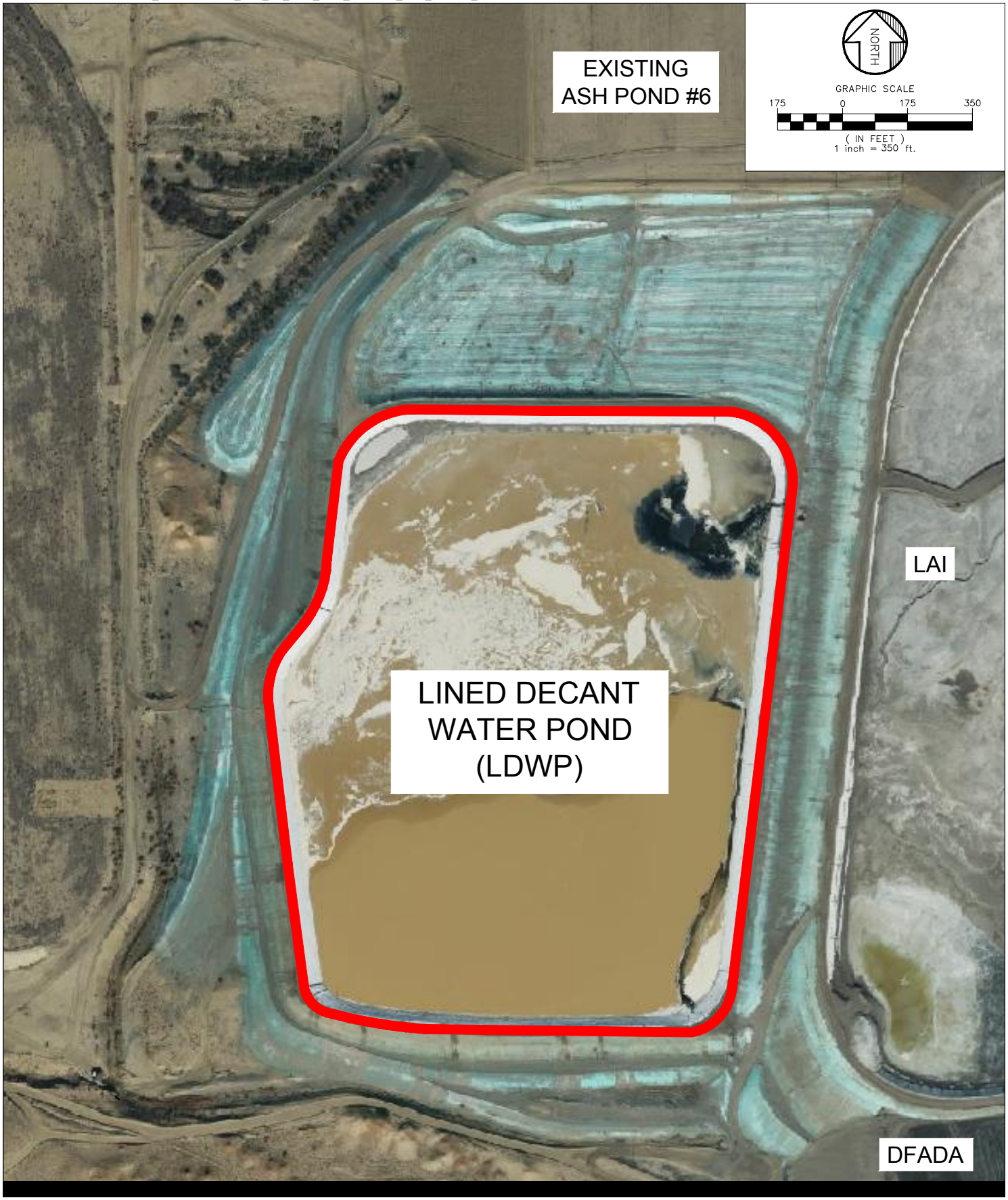
FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED ASH IMPOUNDMENT (LAI)

AECOM

FIGURE 1

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 2 - LDWP.DWG
ANSI A 8.5" x 11"



FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED DECANT WATER POND (LDWP)

AECOM

FIGURE 2

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 3 - CWTP.DWG

ANSI A 8.5" x 11"

FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

COMBINED WASTE TREATMENT POND (CWTP)

AECOM

FIGURE 3

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Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 4 - DFADA.DWG
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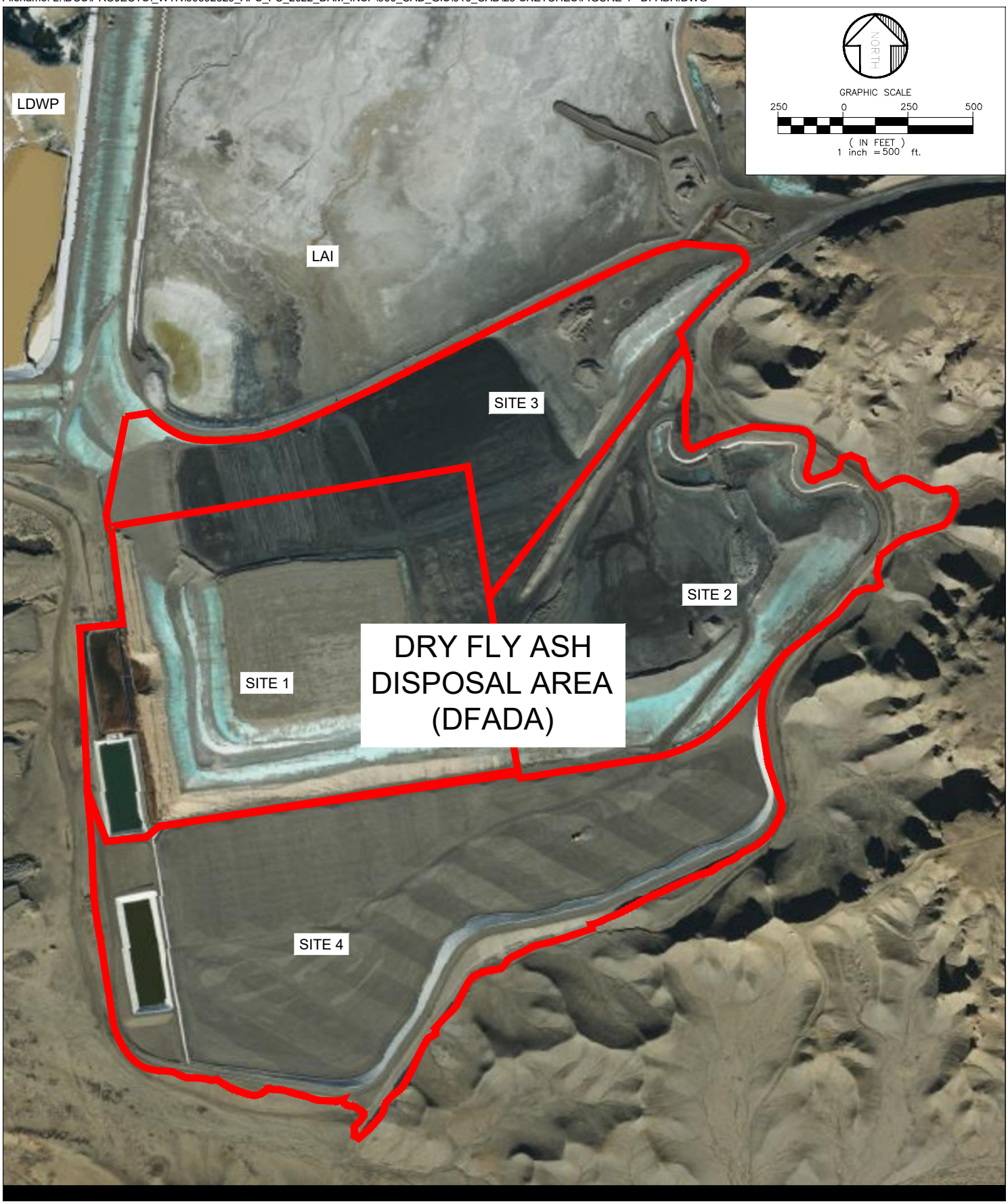


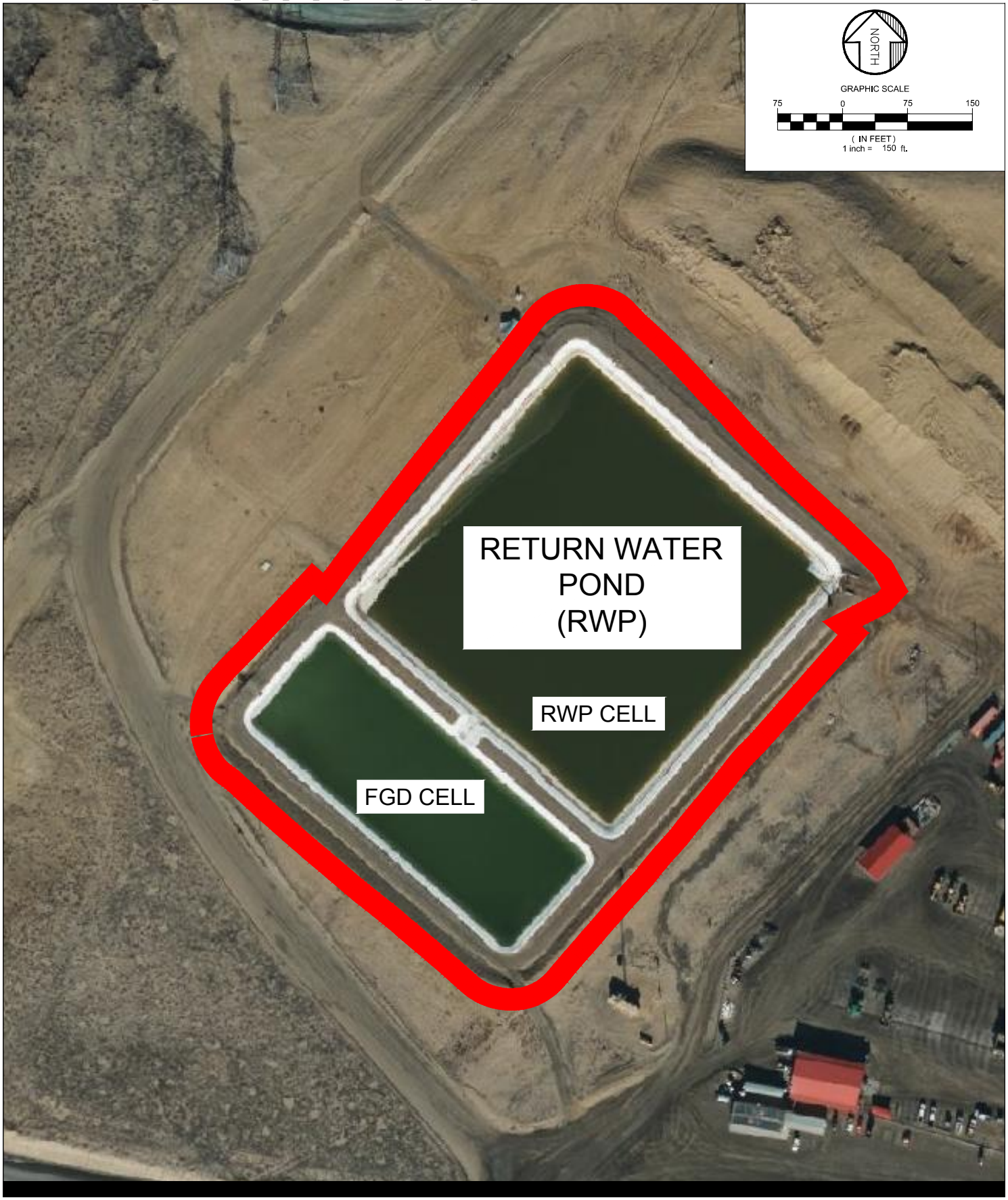
FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

DRY FLY ASH DISPOSAL AREA (DFADA)

AECOM

FIGURE 4

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 5 - RWP.DWG
ANSI A 8.5" x 11"



FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

RETURN WATER POND (RWP)

AECOM

FIGURE 5

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60670439_APS_FCPP_2021_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 6 - LAI INSTRUMENTATION MAP.DWG
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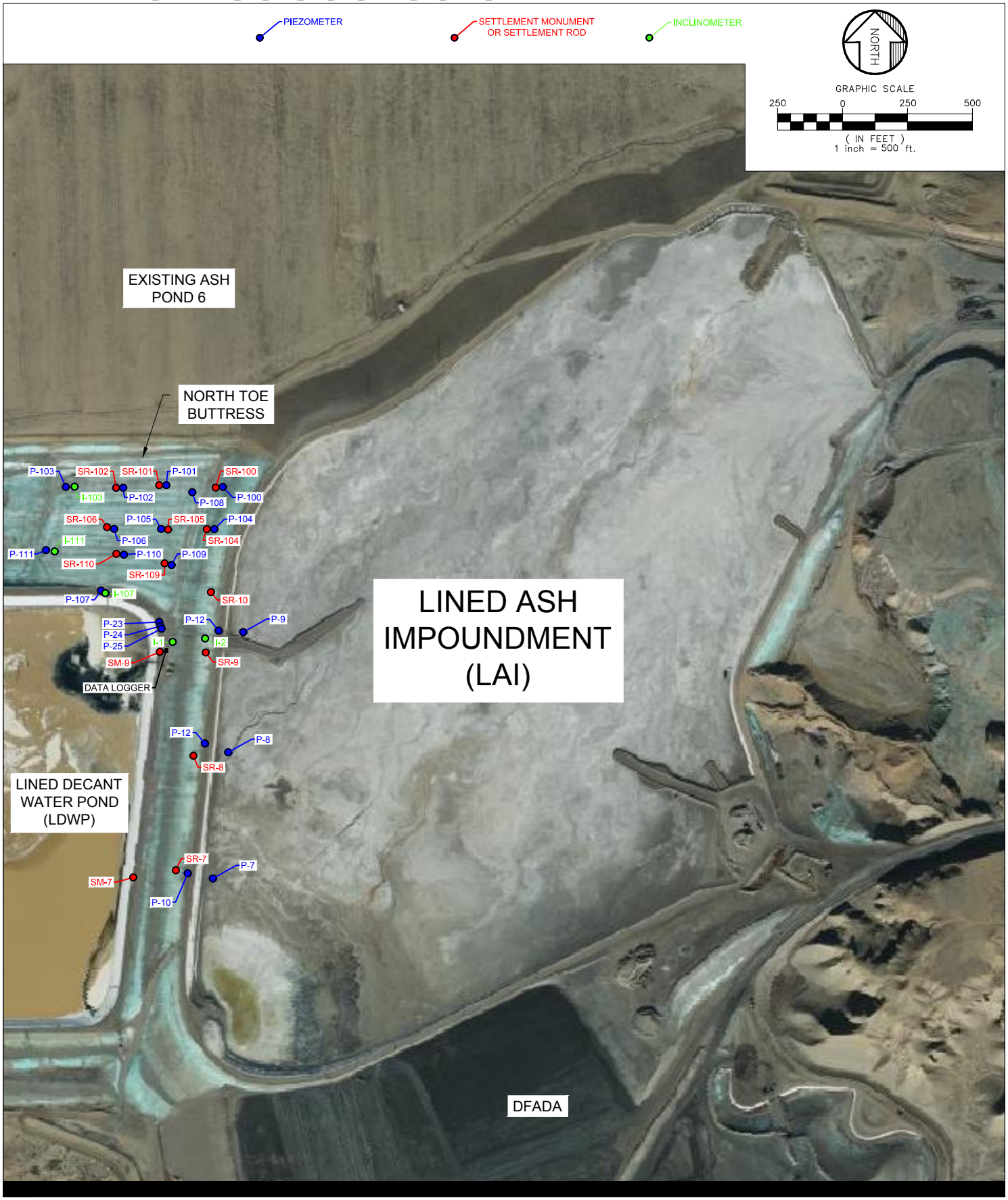


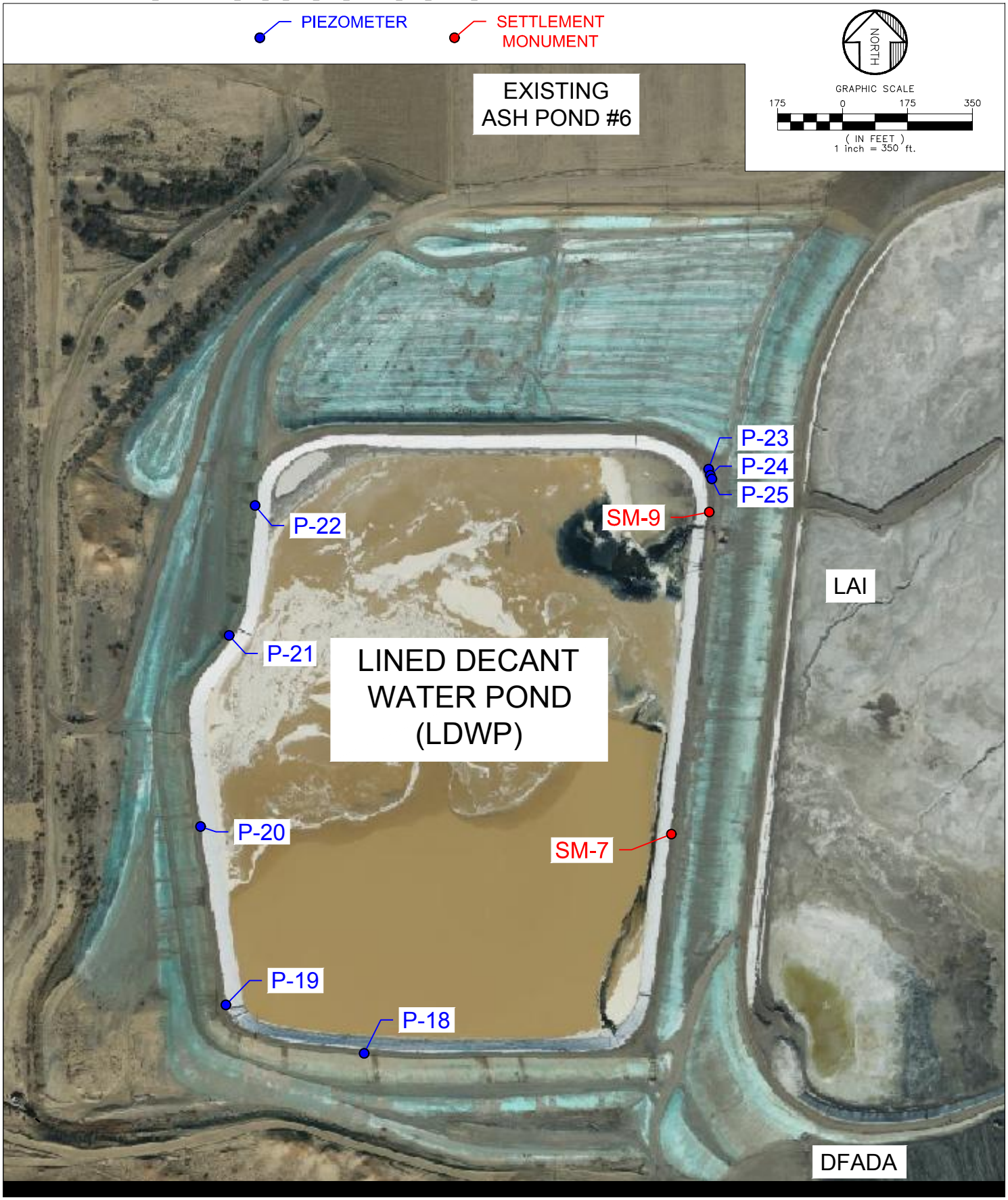
FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED ASH IMPOUNDMENT (LAI) INSTRUMENTATION MAP

AECOM

FIGURE 6

Last saved by: LEE.WRIGHT(2022-11-28) Last Plotted: 2022-11-28
Filename: L:\DCS\PROJECTS_WTR\60692529_APS_FC_2022_DAM_INSP\900_CAD_GIS\910_CAD\25-SKETCHES\FIGURE 7 - LDWP INSTRUMENTATION MAP.DWG
ANSI A 8.5" x 11"



FOUR CORNERS POWER PLANT
CCR IMPOUNDMENT AND LANDFILL INSPECTION REPORT
ARIZONA PUBLIC SERVICE

LINED DECANT WATER POND (LDWP) INSTRUMENTATION MAP

AECOM

FIGURE 7

APPENDIX A

LINED ASH IMPOUNDMENT (LAI) PHOTO LOG

20241017 – IMG_7159

The South Embankment crest and upstream slope, facing southwest from the eastern end.

20241017 – IMG_7167

The South Embankment upstream slope, facing northeast from the middle of the embankment.

20241017 – IMG_7168

The South Embankment upstream slope, facing southwest from the middle of the embankment.

20241017 – IMG_7169

The South Embankment upstream slope with a very tight liner and irregular, steeper areas.

20241017 – IMG_7173
A piece of plywood along the liner, separated by a thin layer of ash.

20241017 – IMG_7185
The upstream slope of the South Embankment, facing west toward the Southwest Corner.

20241017 – IMG_7186

Tears in the liner in the Southwest Corner, near the staff gauge. Also observed during the 2022 and 2023 inspections.

20241017 – IMG_7187

The LAI staff gage at STA 36+00 at the time of the inspection.

20241017 – IMG_7189

Access roads and dewatering wells in the reservoir, facing north from the Southwest Corner.

20241017 – IMG_7192

Undulations in the liner and tears along the horizontal seam. Also observed during the 2022 and 2023 inspections.

20241017 – IMG_7193

A tear along the horizontal seam in the Southwest Corner. Also observed during the 2022 and 2023 inspections.

20241017 – IMG_7196

Previous patches along the liner seam separating from the sheet.

20241017 – IMG_7198
The upstream slope of the South Embankment, facing east from the Southwest Corner.

20241017 – IMG_7204
Torn liner in the cenosphere mining area in the Southwest Corner, facing north.

20241017 – IMG_7211

A shallow erosion rill on the downstream shoulder at the Southwest Corner, facing west.

20241017 – IMG_7212

The upstream slope of the West Embankment, facing north from the Southwest Corner.

20241017 – IMG_7220

2.5 feet of erosion along the LAI access ramp on the south end of the West Embankment.

20241017 – IMG_7221

The downstream slope of the West Embankment, facing north from the access ramp.

20241017 – IMG_7224

Area where a 6-inch deep rut in the West Embankment crest was observed during the 2023 inspection.

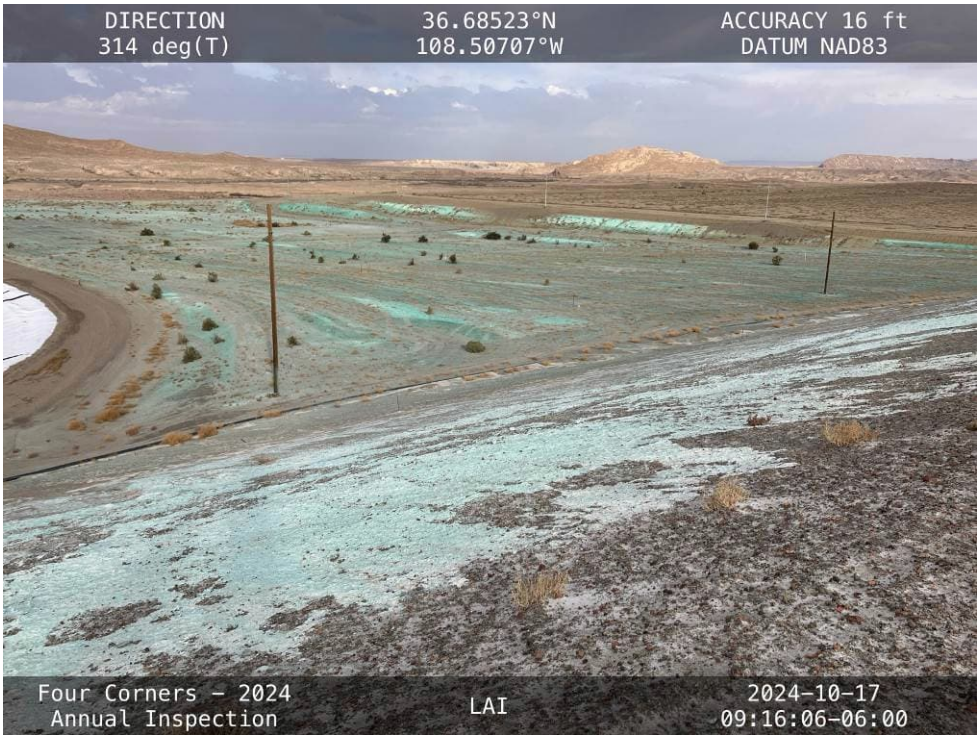
20241017 – IMG_7225

The upstream slope of the West Embankment, facing south from the Drop Inlet Structure ramp.

20241017 – IMG_7227
The upstream slope of the West Embankment, facing north from the Drop Inlet Structure ramp.

20241017 – IMG_7228
The Drop Inlet Structure, facing west from inside the LAI reservoir.

20241017 – IMG_7230
A road with wells installed to remove interstitial water inside the reservoir.



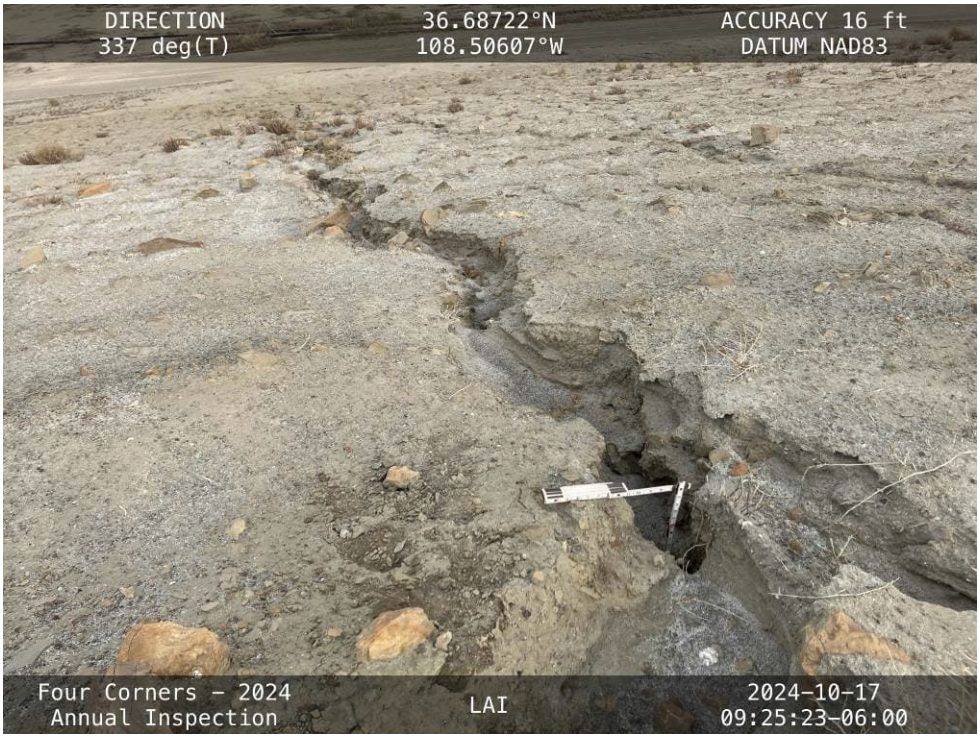
20241017 – IMG_7232
The North Toe Buttress, facing west from the crest of the West Embankment.

20241017 – IMG_7242
Rills forming in the groin between the LAI West Embankment and the northwest slope.

20241017 – IMG_7243
The impounded ash level along the north side of the West Embankment, facing south.

20241017 – IMG_7244

The impounded ash level at the crest of the Northwest Embankment covered with FGD, facing northeast.



20241017 – IMG_7246

A 16-inch deep erosion rill on the downstream slope of the Northwest Embankment.

20241017 – IMG_7251
The downstream slope of the Northwest Embankment covered with FGD, facing northeast.

20241017 – IMG_7254
The upstream slope of the Northwest Embankment, facing northeast.

20241017 – IMG_7257
The upstream slope of the Northwest Embankment, facing southwest.

20241017 – IMG_7259
Tire tracks at the Northwest Embankment access ramp.

20241017 – IMG_7260
The downstream slope of the Northwest Embankment, facing southwest.

20241017 – IMG_7264
The upstream slope of the Northwest Embankment near the north V-ditch, facing northeast.

20241017 – IMG_7274

The CCR berm constructed to keep stormwater off the crest at the north V-ditch, facing south.

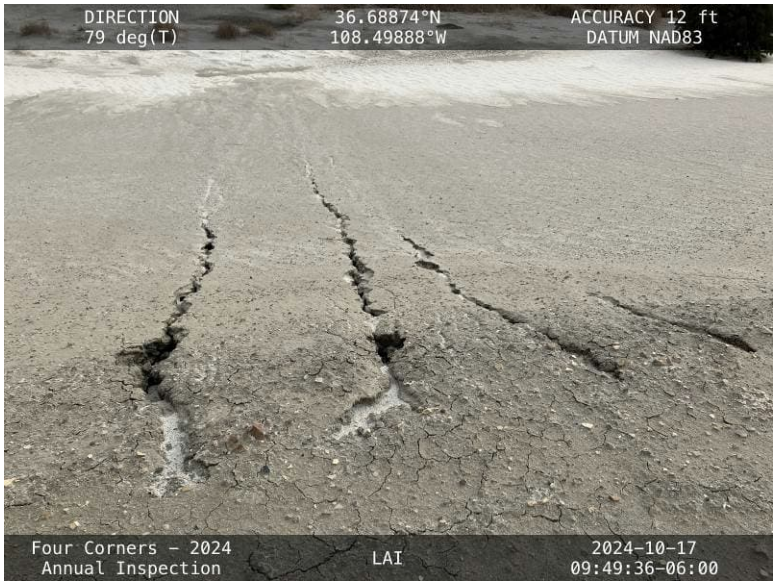
20241017 – IMG_7275

The CCR berm constructed to keep stormwater off the crest at the north V-ditch, facing west.

20241017 – IMG_7277
The upstream slope of the East Embankment, facing south near the north V-ditch.

20241017 – IMG_7278
The crest of the East Embankment, facing south near the north V-ditch.

20241017 – IMG_7279
The downstream slope of the East Embankment, facing south.



20241017 – IMG_7280 **20241017 – IMG_7281**
Erosion rills 7-10 inches deep on the downstream shoulder and slope of the East Embankment.

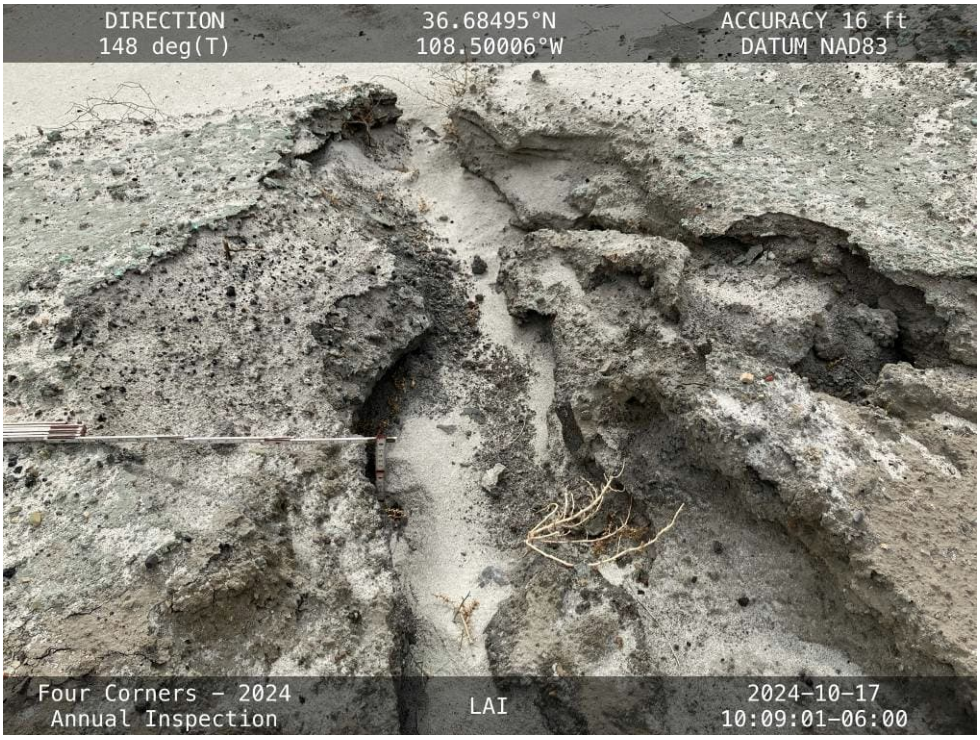
20241017 – IMG_7285
The downstream slope and toe of the East Embankment.

20241017 – IMG_7289
The containment berm on the East Embankment near the old V-ditch, facing south.

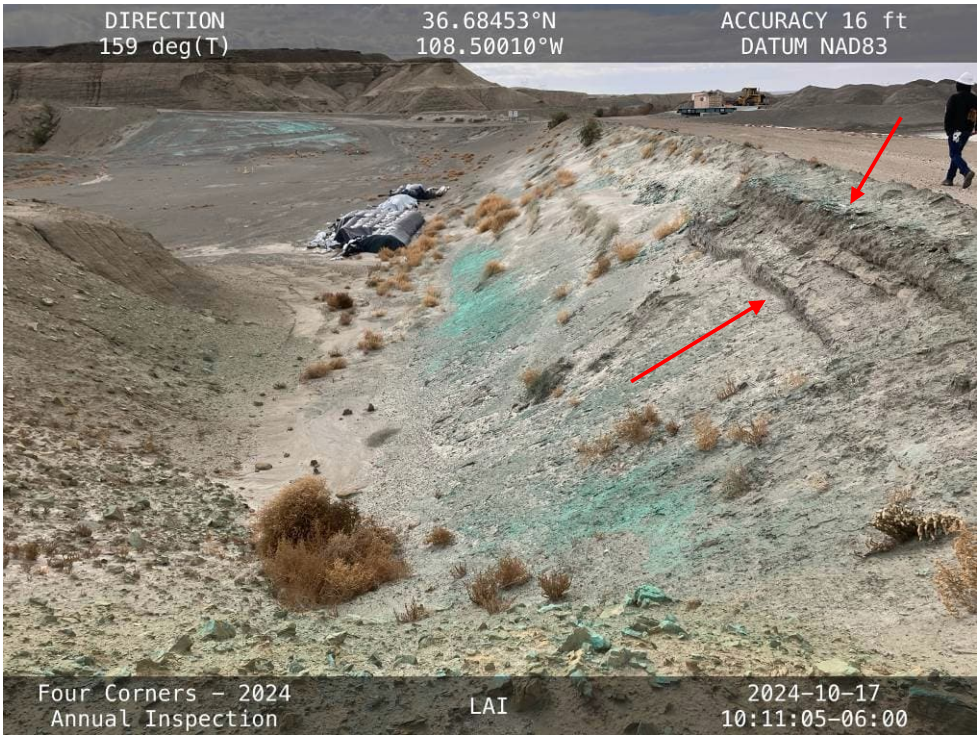
20241017 – IMG_7302
The crest of the East Embankment, facing south.

20241017 – IMG_7303
The downstream slope of the East Embankment, facing south from the middle section.

20241017 – IMG_7309
A 6-inch deep rut in the East Embankment crest.



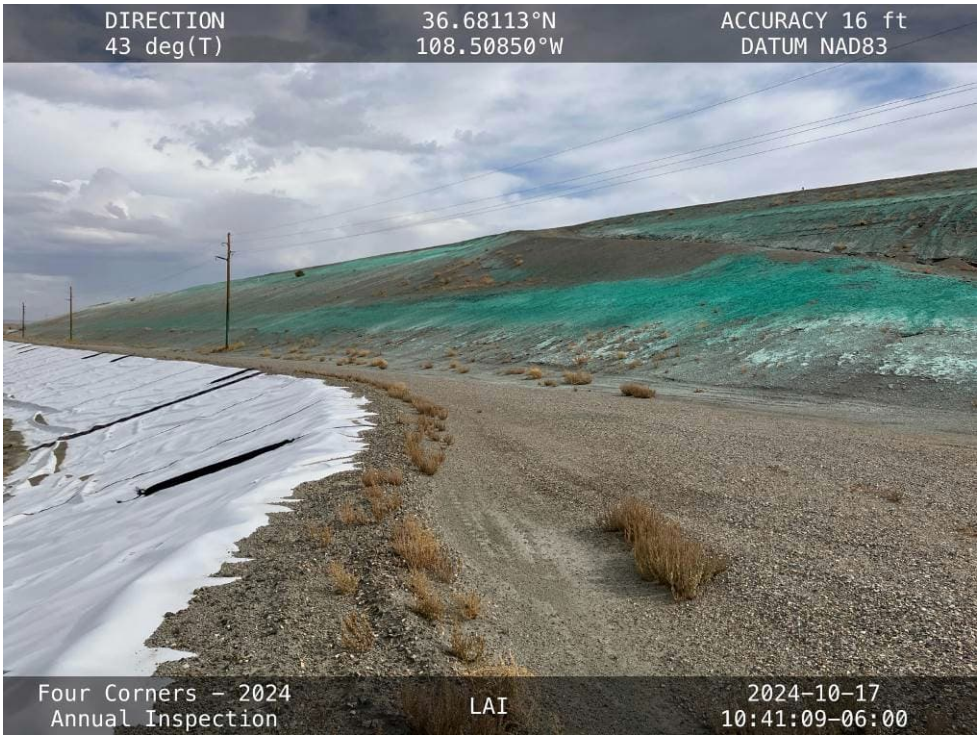
20241017 – IMG_7313
Approximately 18 inches of erosion on the downstream slope of the East Embankment shown in IMG_7319.



20241017 – IMG_7318
The downstream slope at the southern end of the East Embankment, with vertical scarps.

20241017 – IMG_7319
The downstream slope of the East Embankment facing north.

20241017 – IMG_7325
The downstream slope at the southern end of the East Embankment, facing northwest.



20241017 – IMG_7338
The downstream slope of the West Embankment, facing northeast.

20241017 – IMG_7395
The downstream slope of the West Embankment, facing east from the LDWP.

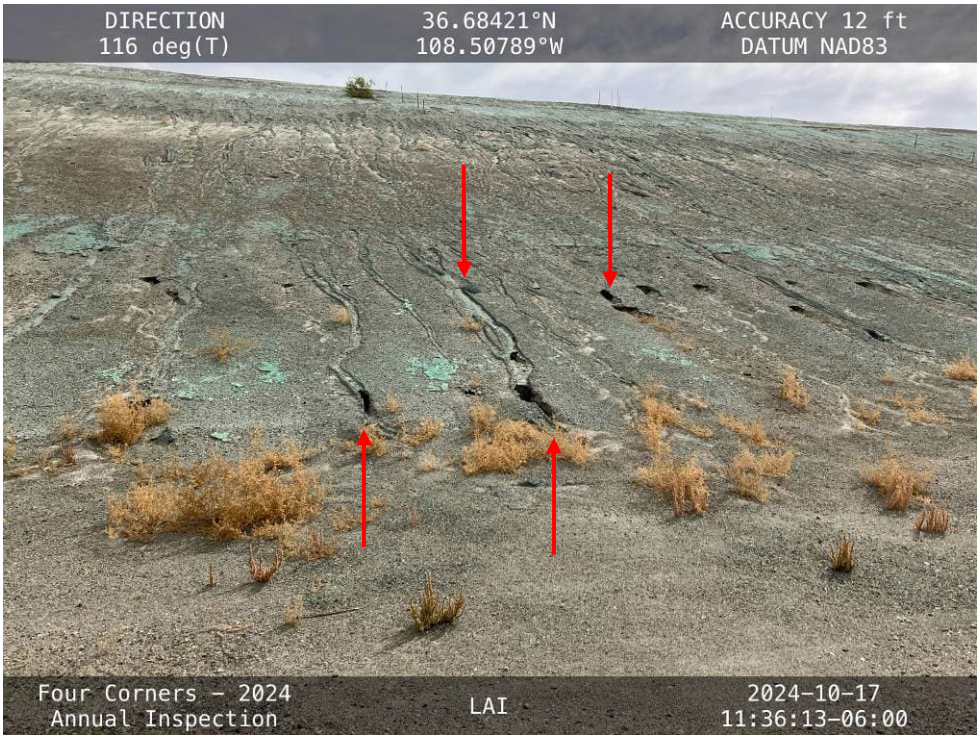
20241017 – IMG_7396
The downstream slope of the West Embankment, facing east from the LDWP.

20241017 – IMG_7397
The downstream slope of the West Embankment, facing east from the LDWP.

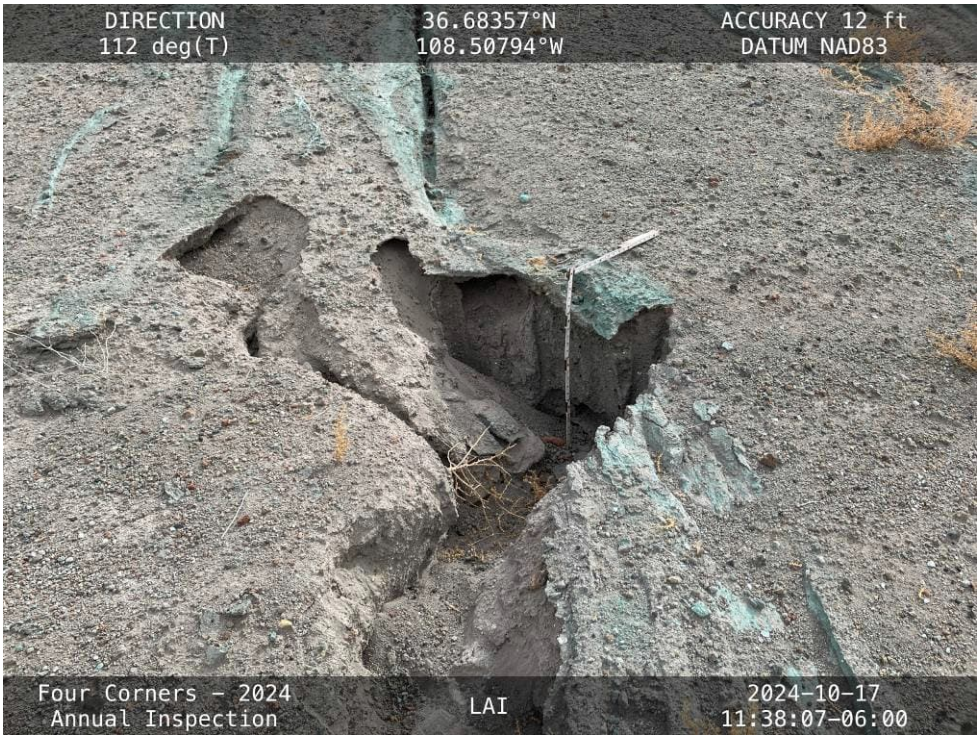
20241017 – IMG_7398
The downstream slope of the West Embankment, facing east from the LDWP.

20241017 – IMG_7432
The western half of the North Toe Buttress, facing north from the LDWP crest.

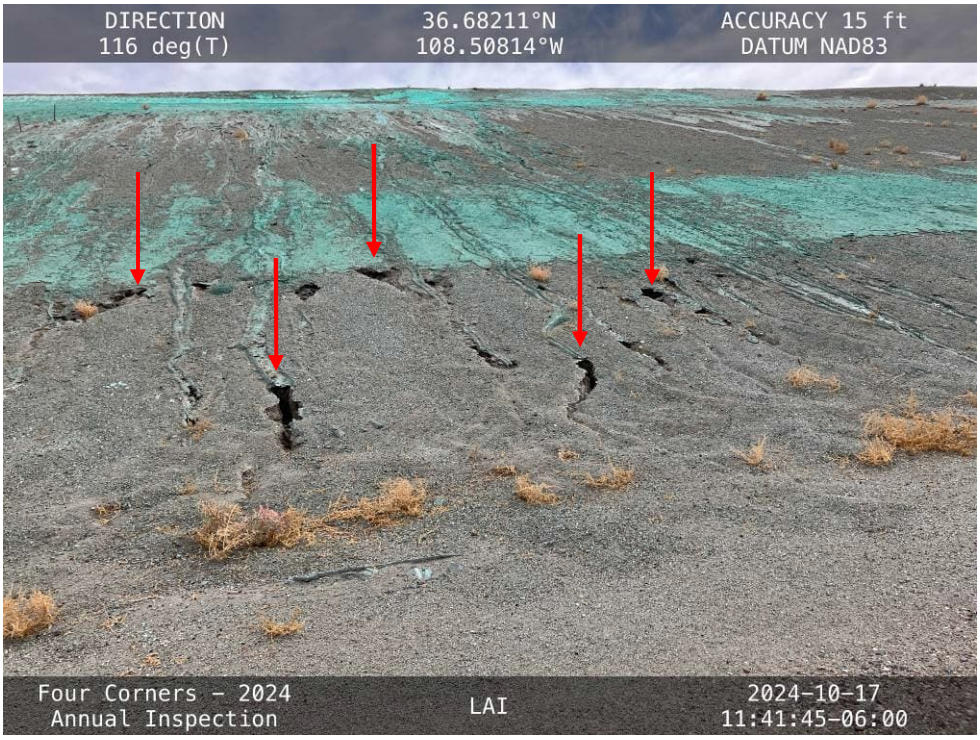
20241017 – IMG_7446
Erosion gullies at the toe of the West Embankment near the south end of the North Toe Buttress.



20241017 – IMG_7465
Erosion gullies forming on the lower half of the West Embankment downstream slope.



20241017 – IMG_7468
A 24-inch deep erosion gully along the toe of the West Embankment.



20241017 – IMG_7469
Erosion gullies forming on the lower half of the West Embankment downstream slope.

20241017 – IMG_7572
FHI cleaning bottom ash that washed away from the access ramp during the most recent storm.

20241017 – IMG_7574
The South Embankment toe drain behind the brush, with water present since April 2023.

20241017 – IMG_7579
The South Embankment toe drain with water flowing out of the conduits.

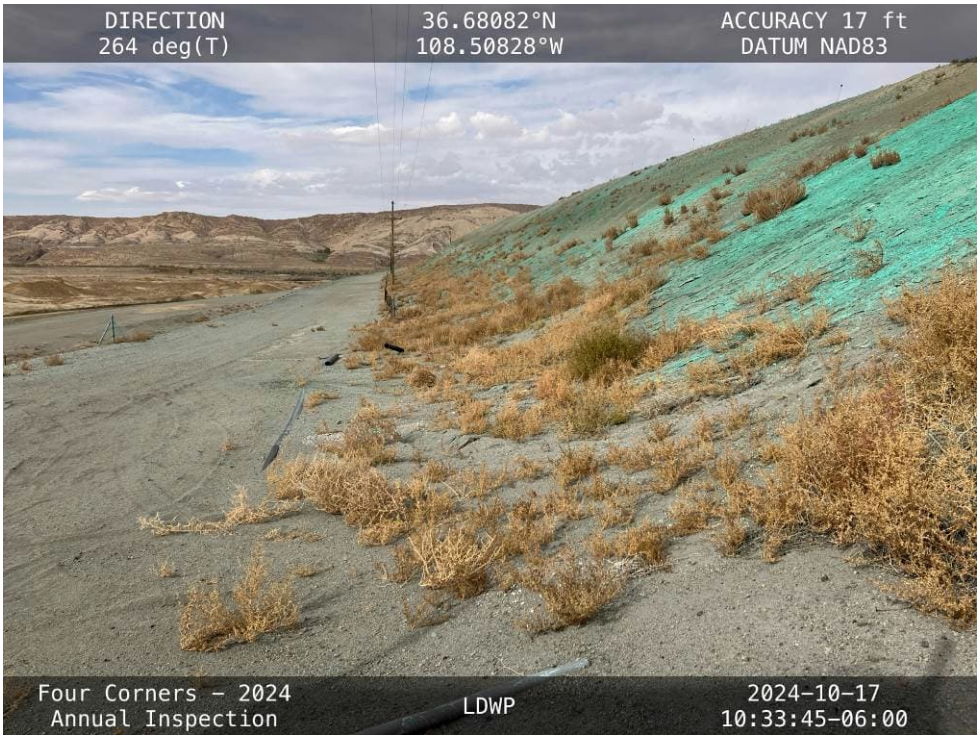
APPENDIX B

LINED DECANT WATER POND (LDWP) PHOTO LOG

20241017 – IMG_7207
The downstream slope of the LDWP South Embankment, facing west from the LAI crest.

20241017 – IMG_7209
The south end of the LDWP reservoir, facing west from the LAI crest.

20241017 – IMG_7235
The LDWP reservoir, facing southwest from the LAI crest.



20241017 – IMG_7326
The downstream slope and toe of the South Embankment, facing west along the upper half.

20241017 – IMG_7328
The downstream slope of the South Embankment, facing west along the lower half.

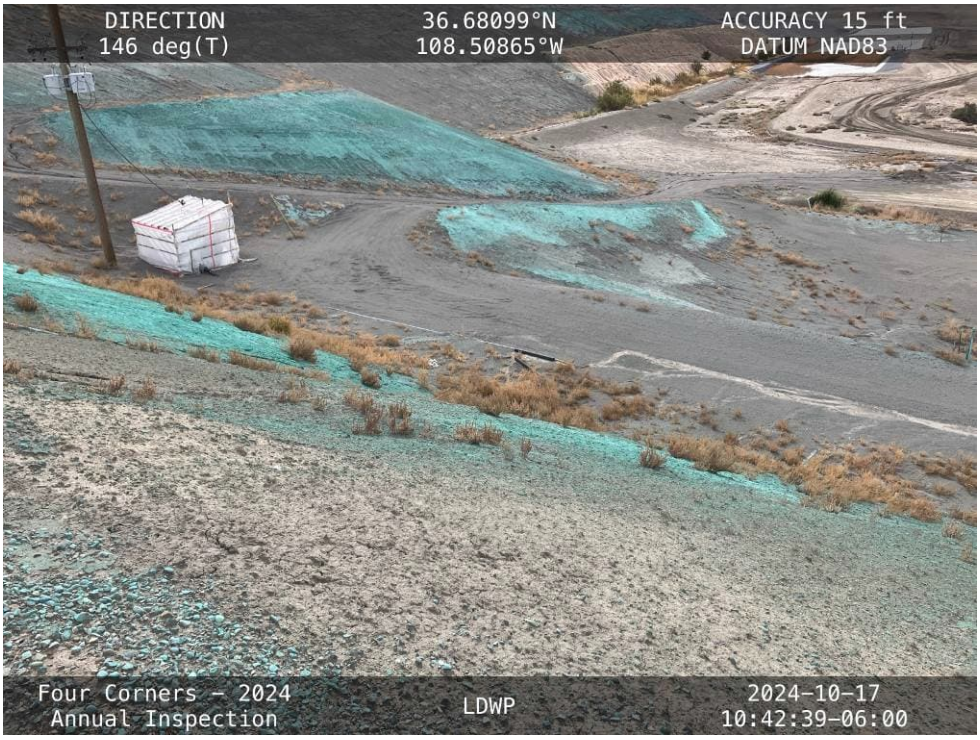
20241017 – IMG_7330
Erosion in the groin of the LDWP/LAI access ramp, facing north.

20241017 – IMG_7331
The downstream slope of the South Embankment, facing west from the southeast corner.

20241017 – IMG_7333
The crest of the South Embankment, facing west from the southeast corner.

20241017 – IMG_7334

The upstream slope of the South Embankment, facing west from the southeast corner.



20241017 – IMG_7341

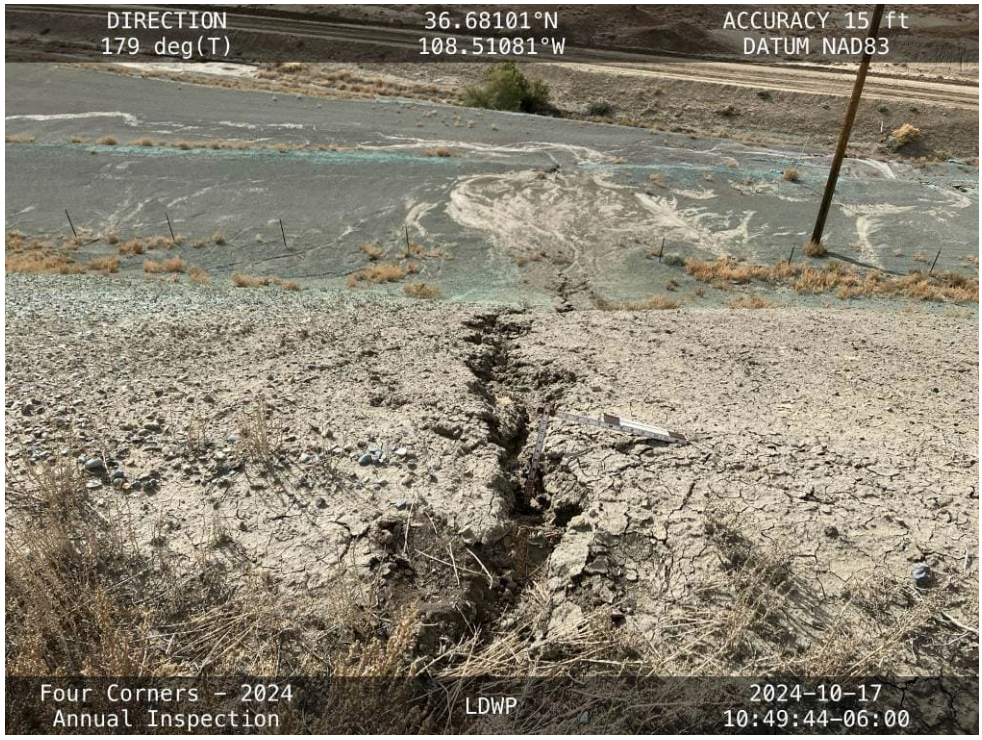
CCR at the toe of the slope where the Deadpool Pump pipe runs along the LDWP South Embankment.

20241017 – IMG_7342
Area of an historic rut on the crest of the South Embankment.

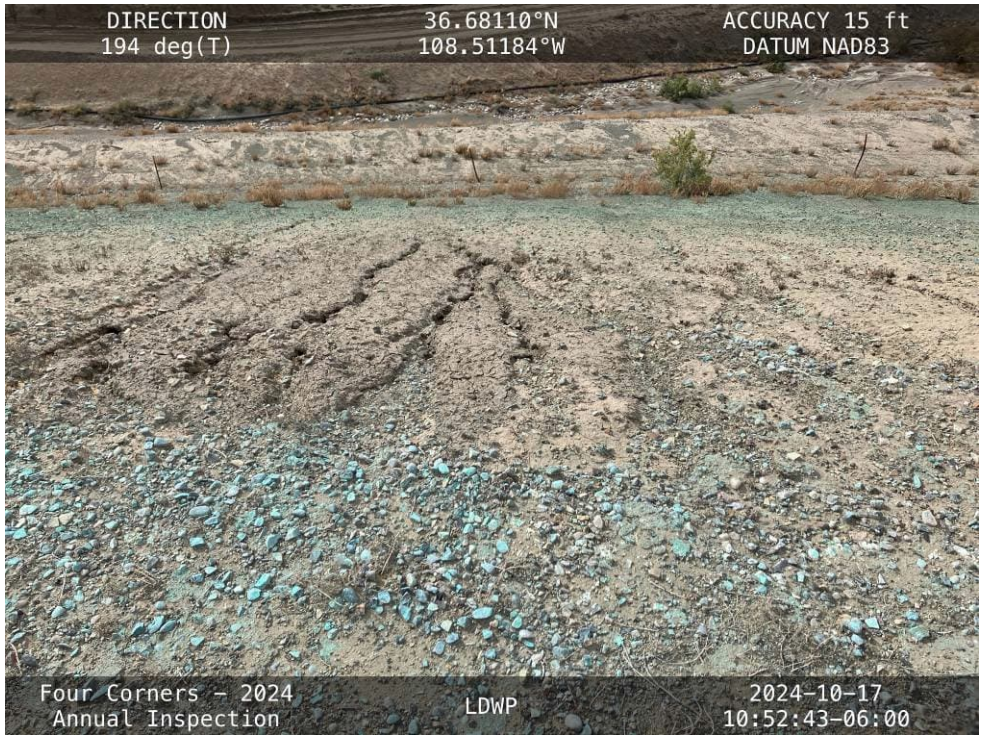
20241017 – IMG_7343
A wrinkle in the liner along the upstream slope of the South Embankment.

20241017 – IMG_7345
An ant hill on the downstream shoulder of the South Embankment.

20241017 – IMG_7348
Erosion on the downstream slope and sediment along the downstream toe of the South Embankment.



20241017 – IMG_7349
A 9-inch erosion rill on the downstream slope of the South Embankment.



20241017 – IMG_7353
Shallow erosion rills on the downstream slope of the South Embankment.

20241017 – IMG_7355
The upstream slope of the LDWP West Embankment, facing north from the southwest corner.

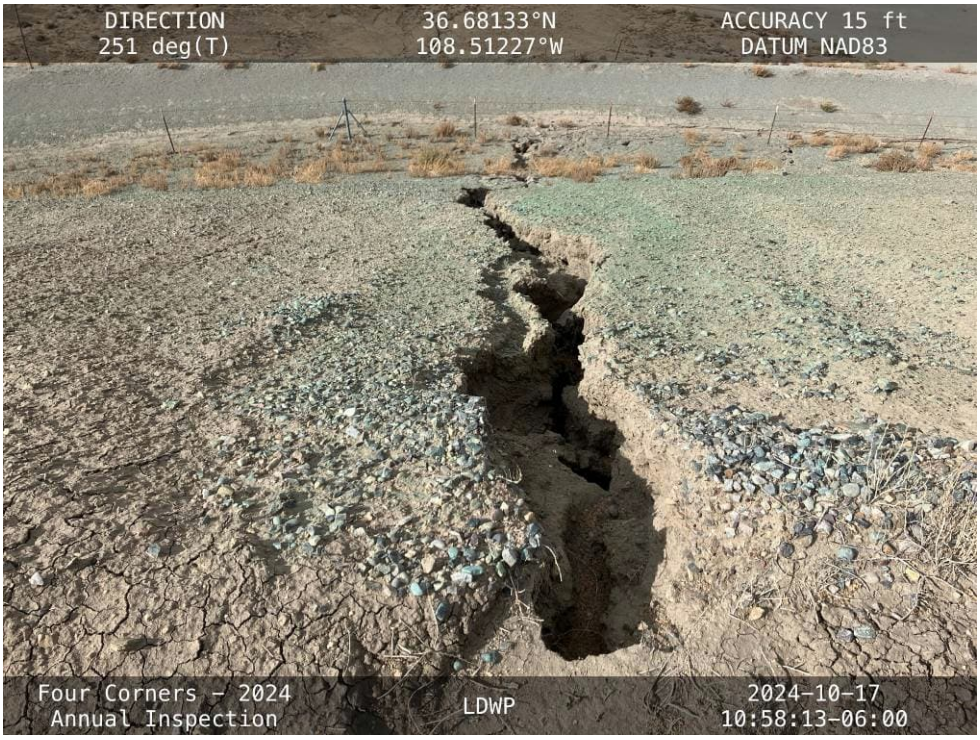
20241017 – IMG_7358
The upstream slope of the LDWP South Embankment, facing east from the southwest corner.

20241017 – IMG_7359
The crest of the LDWP South Embankment, facing east from the southwest corner.

20241017 – IMG_7361
The Interstitial Evacuation Pump access pipes in the southwest corner of the LDWP.

20241017 – IMG_7362
The crest of the West Embankment, facing north from the southwest corner.

20241017 – IMG_7363
The downstream slope of the West Embankment, facing north from the southwest corner.



20241017 – IMG_7364
A 2.5-foot deep erosion rill on the downstream slope of the West Embankment.

20241017 – IMG_7366
Erosion rills and sediment at the toe of the LDWP West Embankment, facing west.

20241017 – IMG_7371
A 10-inch deep erosion rill on the downstream slope of the West Embankment.

20241017 – IMG_7379
The upstream slope along the middle of the West Embankment, facing north.

20241017 – IMG_7380
The upstream slope along the southern half of the West Embankment, facing south.

20241017 – IMG_7381
The crest along the southern half of the West Embankment, facing south.

20241017 – IMG_7382
The downstream slope along the southern half of the West Embankment, facing south.

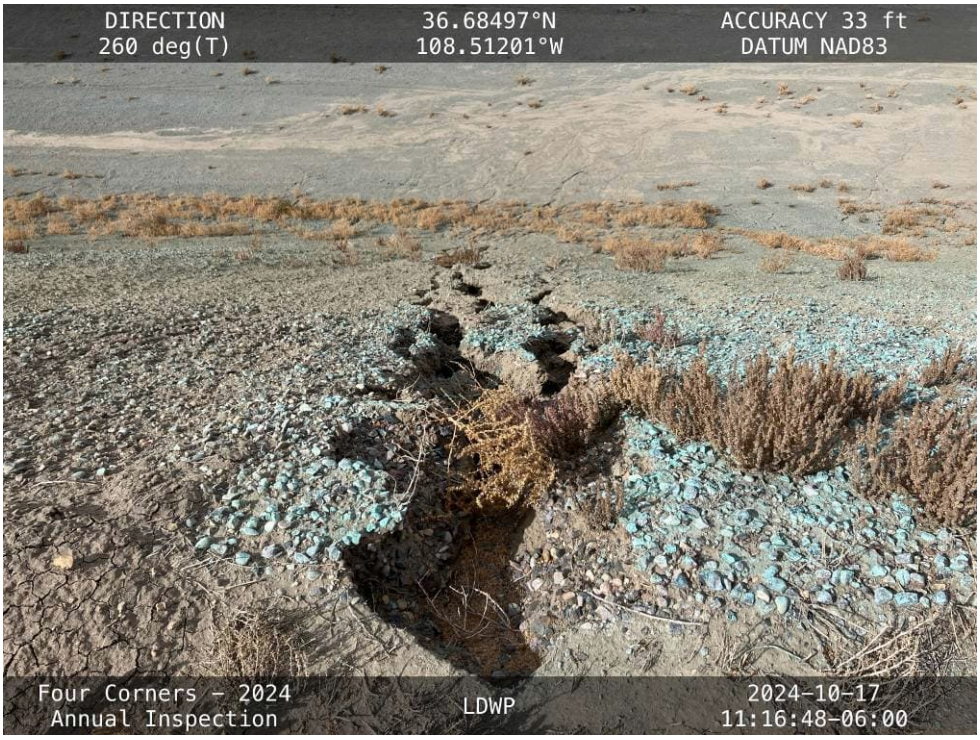
20241017 – IMG_7389
The northern half of the West Embankment downstream slope, facing north.

20241017 – IMG_7390

The liner pulling out of the anchor trench in the northern portion of the West Embankment.

20241017 – IMG_7400

An erosion gully forming on the downstream slope in the northern portion of the West Embankment.



20241017 – IMG_7404
An erosion gully forming on the downstream slope in the northern portion of the West Embankment.

20241017 – IMG_7405
The northwest corner of the LDWP, facing northeast from the West Embankment.

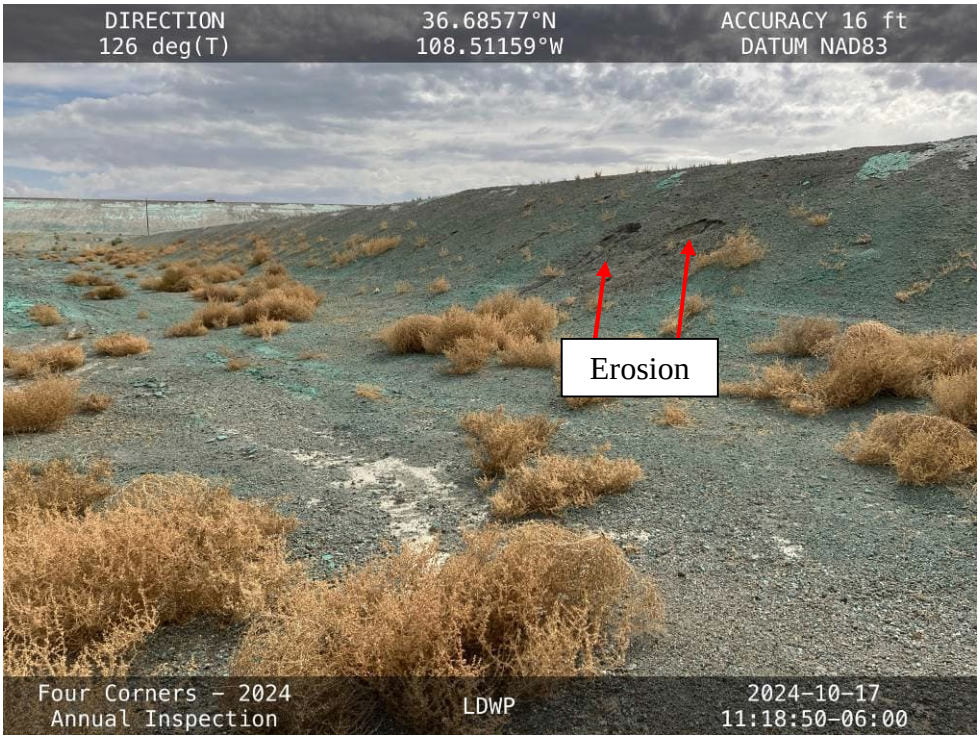
20241017 – IMG_7406
The downstream slope of the West Embankment, facing south from the northwest corner.

20241017 – IMG_7407
The upstream slope of the West Embankment, facing south from the northwest corner.

20241017 – IMG_7408
The upstream slope of the North Embankment, facing east from the northwest corner.

20241017 – IMG_7409
The crest of the North Embankment, facing east from the northwest corner.

20241017 – IMG_7411
The sign for the CCR unit and erosion rills on the downstream slope.



20241017 – IMG_7412
The downstream slope of the North Embankment, facing east from the northwest corner.

20241017 – IMG_7423
A hole in the liner along the North Embankment marked with a pin flag.

20241017 – IMG_7430
The north side of the reservoir, facing east from the North Embankment crest.

20241017 – IMG_7437
The crest of the North Embankment, facing west from the northeast corner.

20241017 – IMG_7438
The upstream slope of the North Embankment, facing west from the northeast corner.

20241017 – IMG_7444
The surface monuments for piezometers P-23, P-24, and P-25.

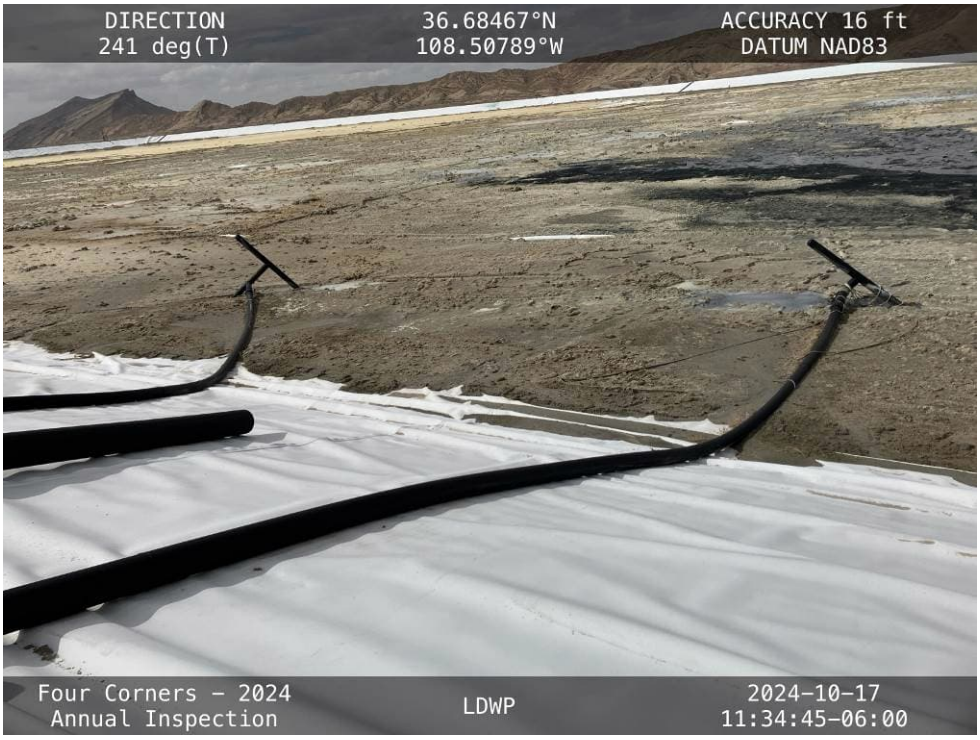
20241017 – IMG_7445
The upstream slope of the East Embankment, facing south from the northeast corner.

20241017 – IMG_7454
The 8-inch and 16-inch HDPE outlet pipes conveying decant water from the LAI.

20241017 – IMG_7455
The LAI/LDWP pump station.

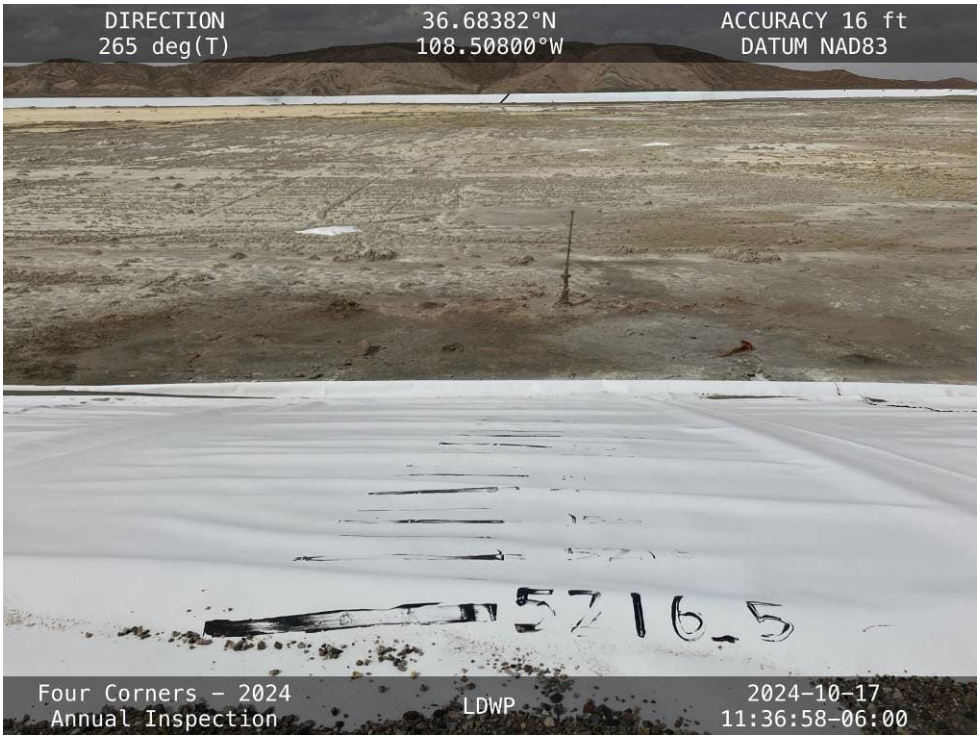
20241017 – IMG_7456
The LAI/LDWP pump station.

20241017 – IMG_7460
Portions of the outer pipes for the suction intake lines exposed across the East Embankment crest.



20241017 – IMG_7462
The suction intake lines in the northeast corner of the LDWP.

20241017 – IMG_7463
The upstream slope of the East Embankment, facing south from the northern half of the LDWP.



20241017 – IMG_7467

The reservoir staff gage and the elevation gage marked on the liner along the East Embankment.

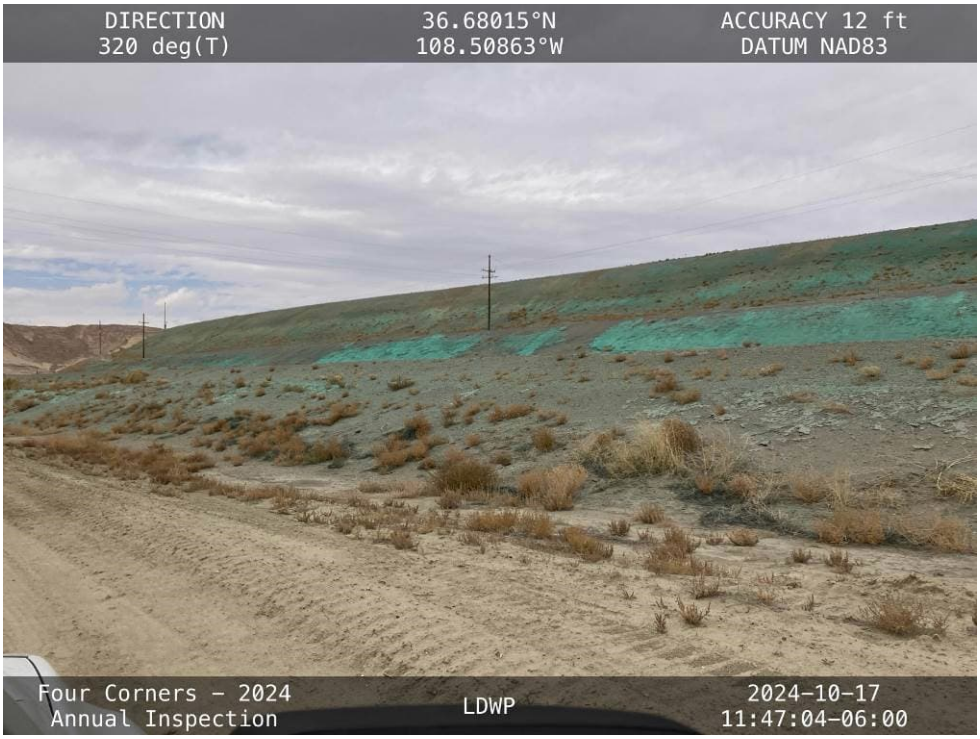
20241017 – IMG_7470

The upstream slope of the South Embankment, facing west from the southeast corner.

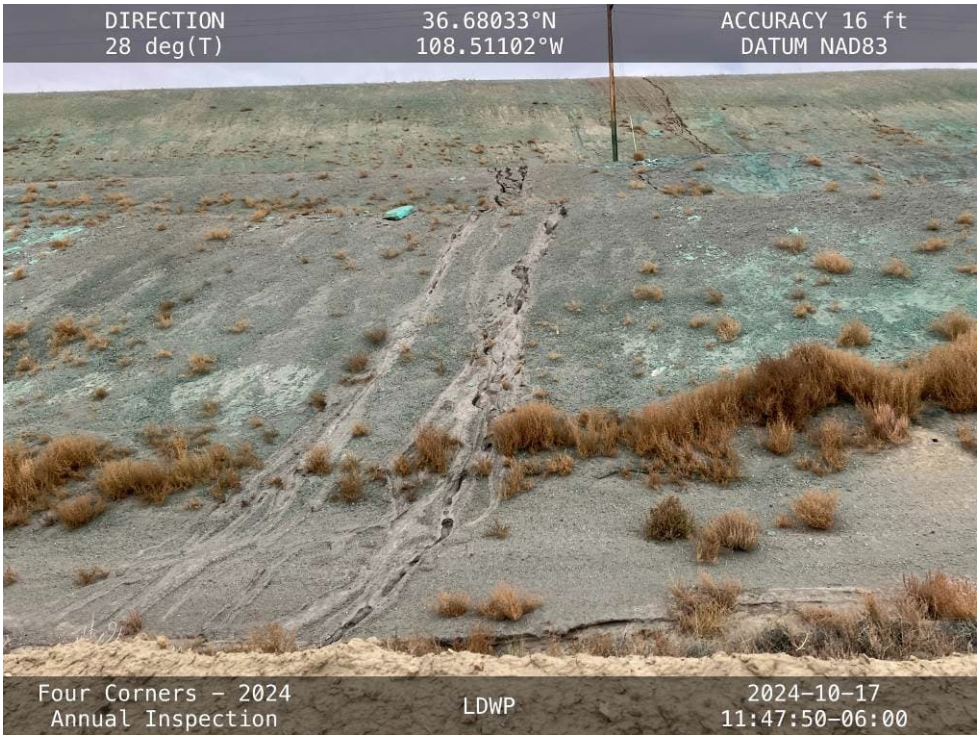
20241017 – IMG_7472
The upstream slope of the East Embankment, facing north from the southeast corner.

20241017 – IMG_7473
The crest of the East Embankment, facing north from the southeast corner.

20241017 – IMG_7474
The downstream slope of the South Embankment, facing north from the toe.



20241017 – IMG_7475
The downstream slope of the South Embankment, facing north from the toe.

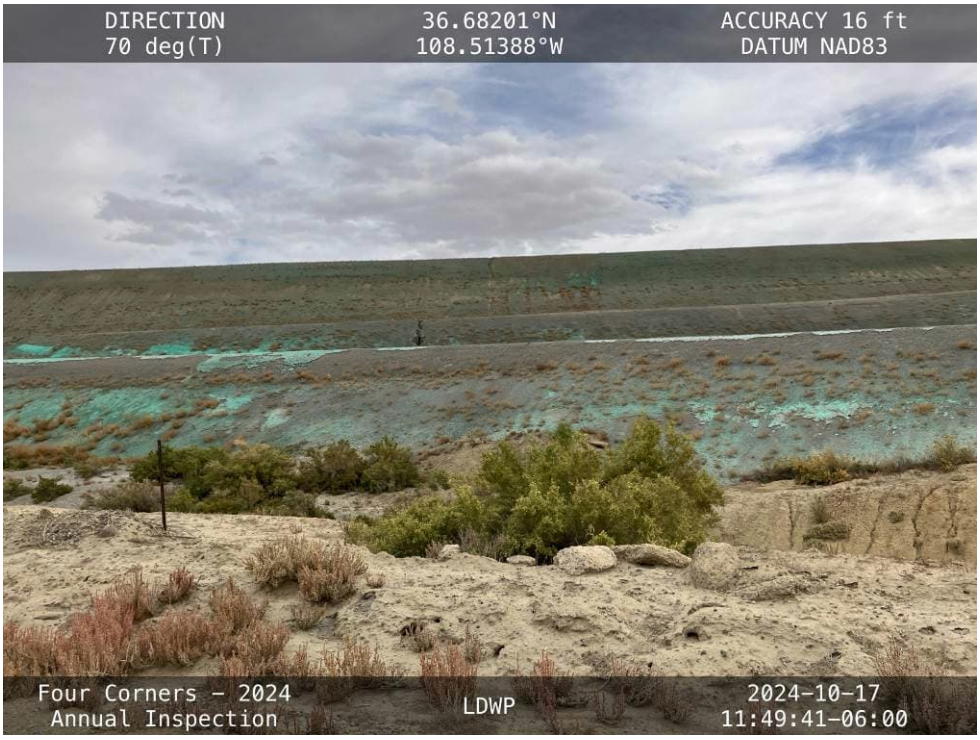


20241017 – IMG_7478
Erosion on the South Embankment downstream slope, facing north from the toe.

20241017 – IMG_7479
Erosion on the western half of the South Embankment downstream slope, facing north from the toe.

20241017 – IMG_7482

The West Embankment slope, facing east from the toe road north of the Pond 3 Pump House.

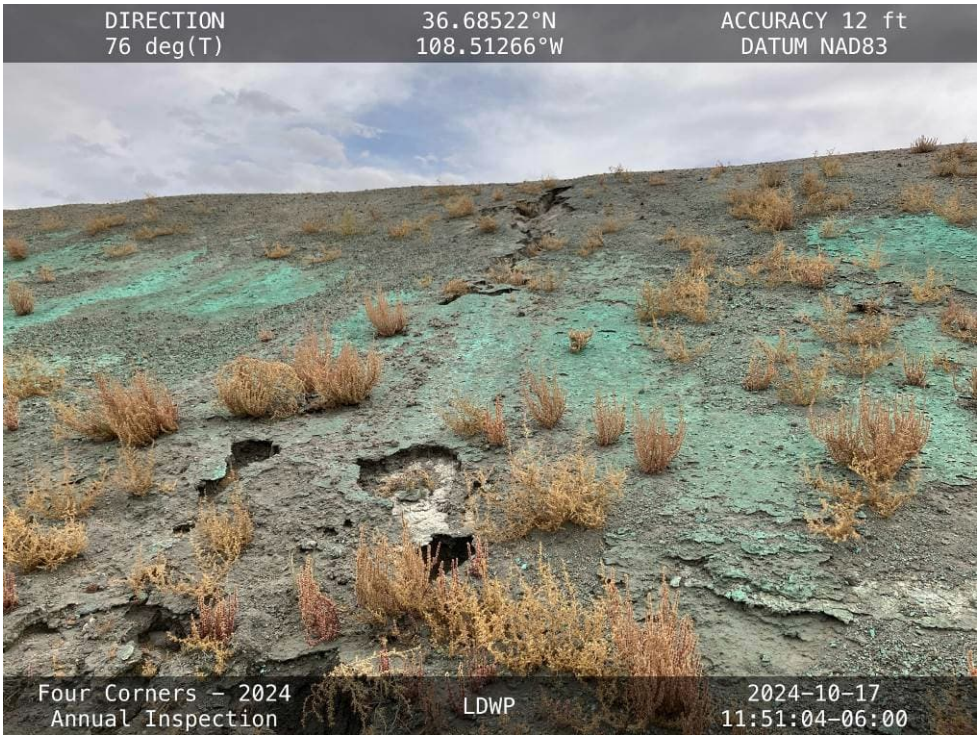


20241017 – IMG_7484

The West Embankment slope, facing east from the toe road north of the Pond 3 Pump House.

20241017 – IMG_7485

The West Embankment slope, facing east from the toe road north of the Pond 3 Pump House.



20241017 – IMG_7487

An erosion gully forming on the West Embankment slope, facing east.

APPENDIX C

COMBINED WASTE TREATMENT POND (CWTP) PHOTO LOG

20241016 – IMG_7073
The former location of the decant cells, facing south from the Left Abutment.

20241016 – IMG_7075
The crest of the North Embankment, facing east from the Left Abutment with the 18-inch pipe installed to transfer water from the canal to the CWTP.

20241016 – IMG_7076
An erosion rill forming on the upstream slope of the North Embankment.

20241016 – IMG_7077
Erosion around the water level transducer and the 18-inch pipe that transfers water from the canal to the CWTP.

20241016 – IMG_7080
Vegetation to be removed from the downstream slope.

20241016 – IMG_7081
Shallow holes on the downstream shoulder of the North Embankment where depressions have been previously observed.

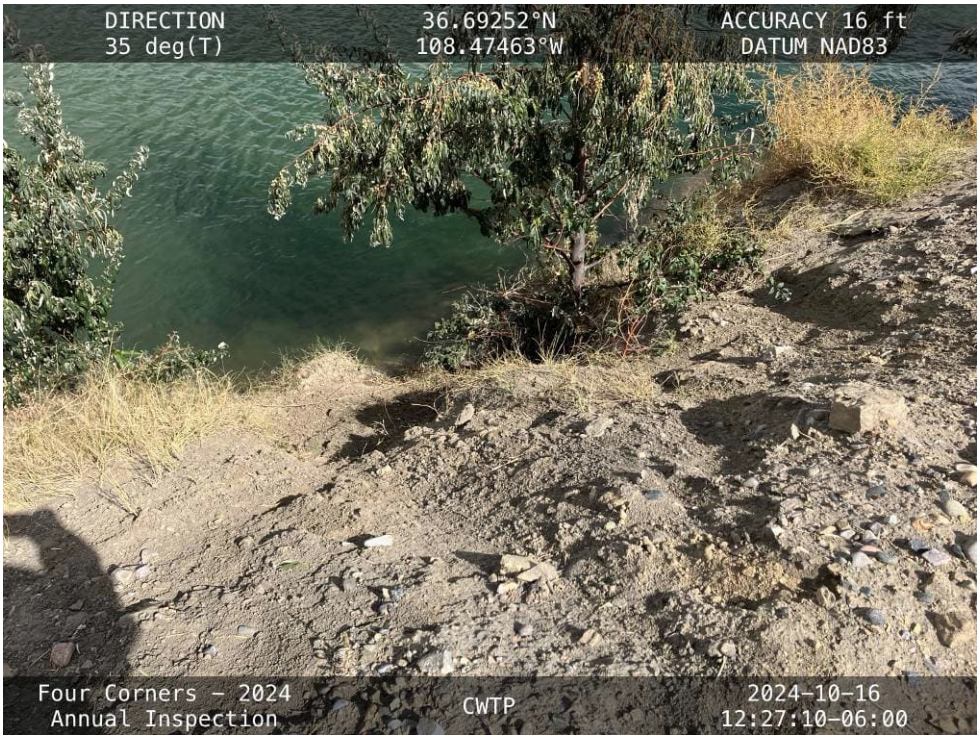
20241016 – IMG_7082
Vegetation to be removed from the upstream slope.

20241016 – IMG_7085
A 1-foot deep hole in the North Embankment crest.

20241016 – IMG_7087
Erosion around an old concrete post and undermining a riprap boulder on the downstream slope of the North Embankment.

20241016 – IMG_7088
Vegetation to be removed from the North Embankment upstream slope.

20241016 – IMG_7090
An ant hill on the upstream shoulder of the North Embankment.



20241016 – IMG_7093
Erosion on the upstream slope of the North Embankment.

20241016 – IMG_7094
The downstream slope along the North Embankment, facing west.

20241016 – IMG_7095
The crest of the North Embankment, facing west.

20241016 – IMG_7096
The upstream slope along the North Embankment, facing west.

20241016 – IMG_7098
The upstream slope at the transition from the North Embankment to the East Embankment.

20241016 – IMG_7109
Erosion undermining a riprap slab on the downstream slope of the North Embankment.

20241016 – IMG_7110
A shallow hole near the riprap slab in IMG_7109.

20241016 – IMG_7116
The crest of the East Embankment, facing northwest toward the curve.

20241016 – IMG_7117
The crest of the East Embankment, facing southeast.

20241016 – IMG_7118
The reservoir and vegetation along the upstream slope of the embankment, facing northwest.

20241016 – IMG_7120
A 1-foot-deep erosion hole on the downstream shoulder of the East Embankment crest. Similar erosion holes were also observed during the 2021, 2022, and 2023 inspections.

20241016 – IMG_7122

Holes (up to 1 foot deep) on the downstream shoulder of the East Embankment crest where 1.5-foot deep holes were observed in 2023, accompanied by erosion on the downstream slope.

20241016 – IMG_7130

Erosion around reeds growing on the downstream slope of the East Embankment.

20241016 – IMG_7142
The East Embankment crest, facing northwest near the abutment.

20241016 – IMG_7145
The upstream slope of the East Embankment, facing north.

20241016 – IMG_7149
The settling pond for the dredging subcontractor on the south side of the CWTP.

20241016 – IMG_7153
The barge dredging CCR from the CWTP.

APPENDIX D

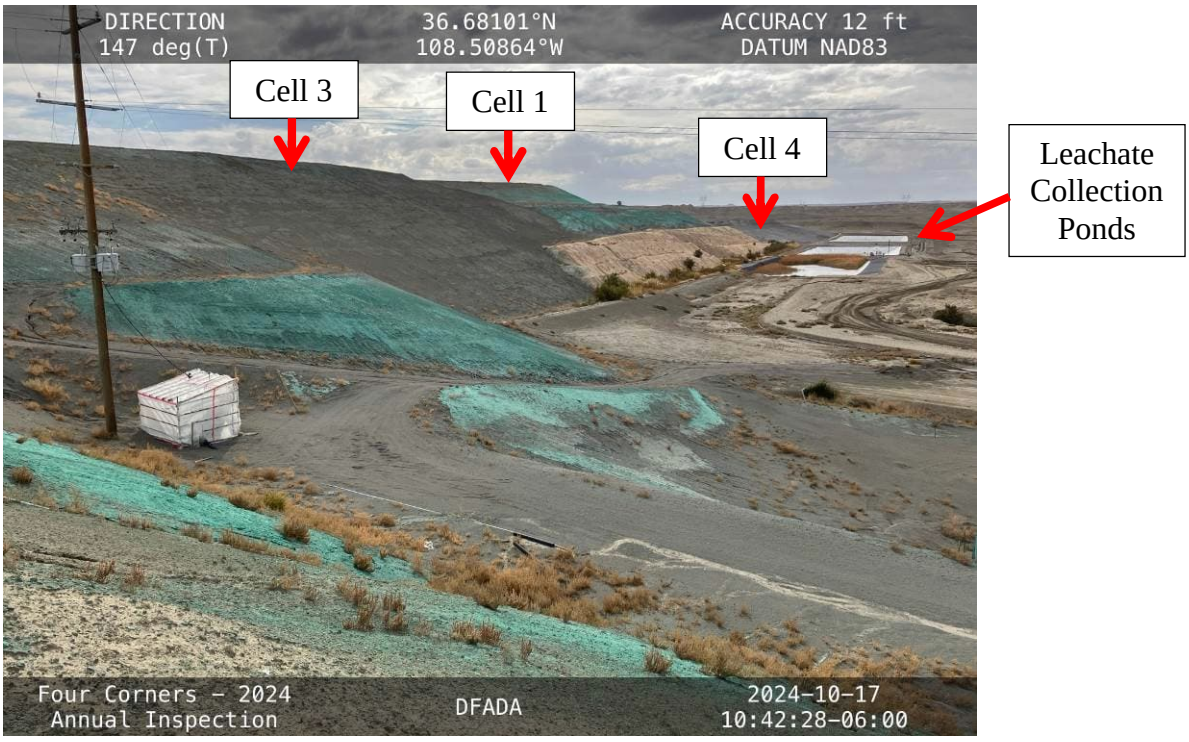
DRY FLY ASH DISPOSAL AREA (DFADA) PHOTO LOG

20241017 – IMG_7162
Cell 3, facing southwest from the South Embankment of the LAI.

20241017 – IMG_7180
The bottom ash stockpile on top of Cell 3, facing east from the LAI crest.

20241017 – IMG_7199

The top of the western portion of Cell 3 (foreground) and Cell 1 (background), facing south from the LAI.



20241017 – IMG_7340

The leachate collection ponds and the western portions of Cells 1, 3, and 4, facing south from the LDWP crest.

20241017 – IMG_7492
The inlet to the Stormwater Diversion Channel, facing north from the ash haul road.

20241017 – IMG_7495
MW-55R and the east side of Cell 2, facing south from the northeast side.

20241017 – IMG_7496
The slope on the east side of Cell 2, viewed from the east side.

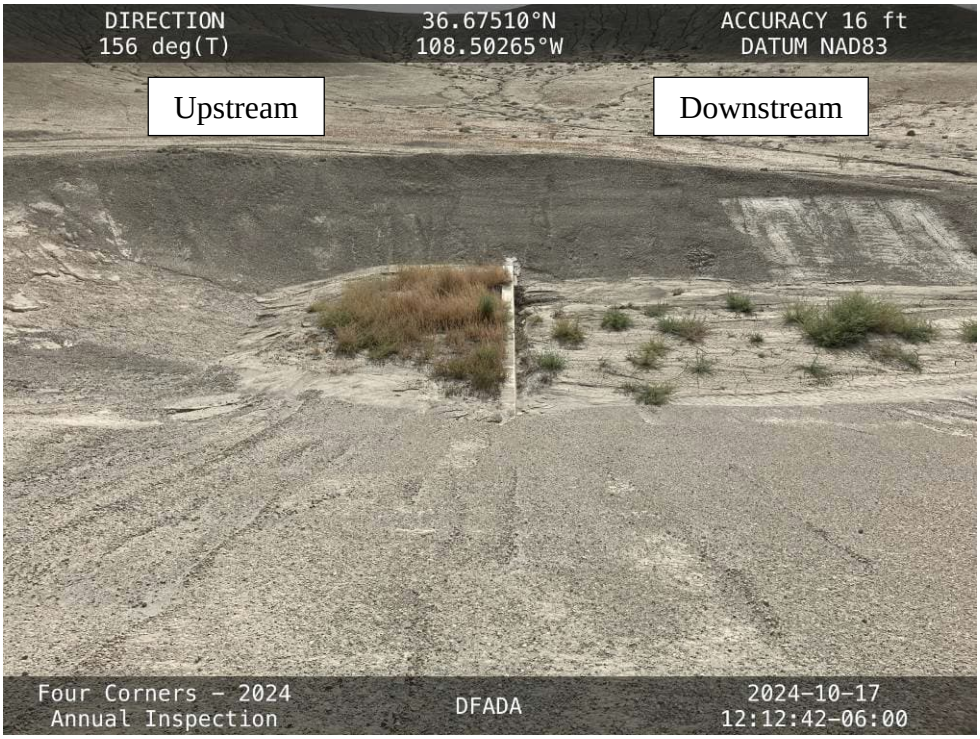
20241017 – IMG_7501
Erosion gullies on the southeast slope of Cell 2.

20241017 – IMG_7504

Sediment dredged out of the CWTP and placed in the eastern side of Cell 4.

20241017 – IMG_7511

The Stormwater Diversion Channel south of Cell 4 downstream of the stilling basin, facing southwest.



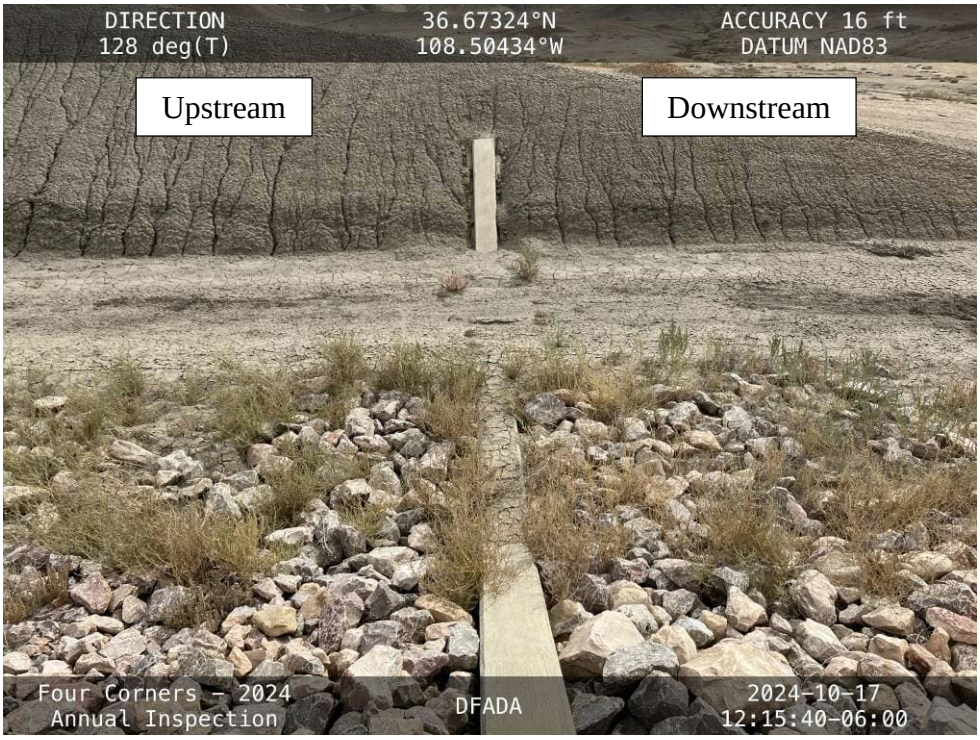
20241017 – IMG_7512
The concrete weir wall in the stilling basin filled with sediment on both sides.

20241017 – IMG_7514
Several feet of erosion where the Stormwater Diversion Channel previously terminated.

20241017 – IMG_7518
Cell 4, facing northwest from the south side of the DFADA.

20241017 – IMG_7521
Cell 4, facing northeast from the south side of the DFADA.

20241017 – IMG_7522
The downstream slope of Cell 4, facing southwest.



20241017 – IMG_7524
The headwall at the end of the Stormwater Diversion Channel with sediment on both sides.

20241017 – IMG_7526
The end of the Stormwater Diversion Channel, facing south.

20241017 – IMG_7527
More than 3.5 feet of erosion at the outlet for the Stormwater Diversion Channel.

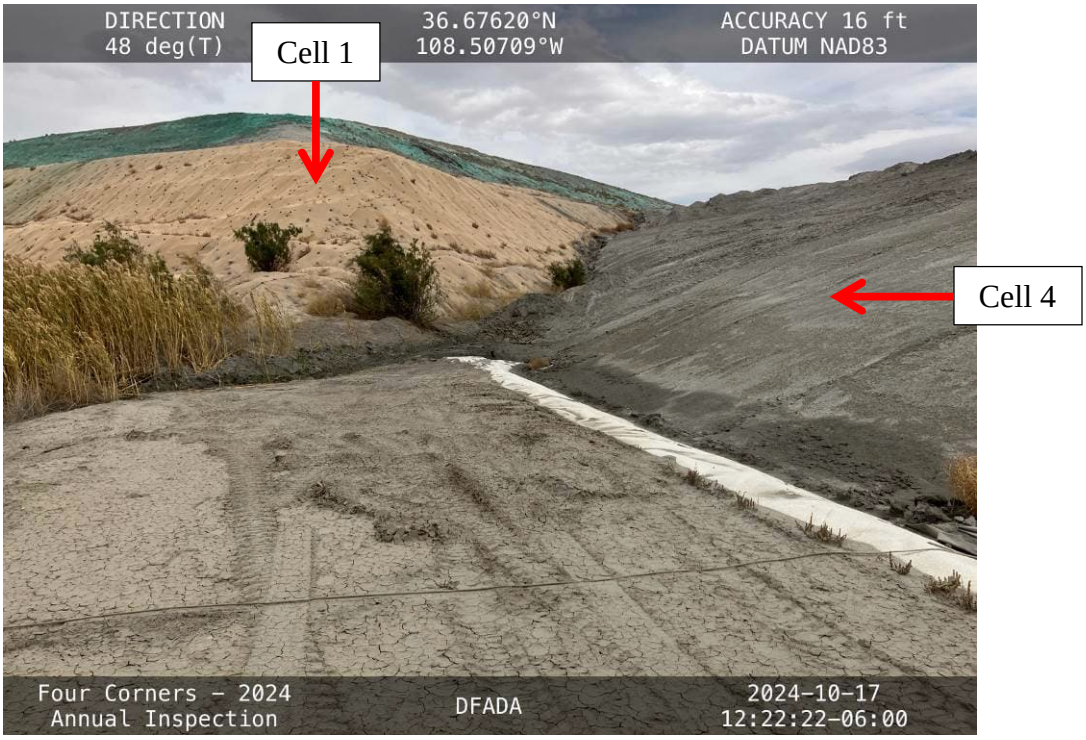
20241017 – IMG_7528
Erosion around the new outlet for the Stormwater Diversion Channel.

20241017 – IMG_7531
The western toe of Cell 4, facing north from the south end.

20241017 – IMG_7533
Moisture along the lower portion of the Cell 4 western slope.

20241017 – IMG_7538
The DFADA Cell 2 leachate collection pond, facing north from its southeast corner.

20241017 – IMG_7539
Reeds along the western toe of Cell 1, facing north from the southwest corner of Cell 1.



20241017 – IMG_7540
The junction of Cell 1 and Cell 4, facing northeast from the western toe.

20241017 – IMG_7543
The DFADA Cell 1 leachate collection pond, facing north from the western toe of Cell 1.

20241017 – IMG_7545
Vegetation to be removed and water draining from Cell 1, seeping directly over the liner into the leachate collection pond.

20241017 – IMG_7564
The Cell 4 leachate collection pond, as seen from its northwest corner.

20241017 – IMG_7567
The Cell 1 leachate collection pond and southern portion of the western slope.

20241017 – IMG_7569
The Cell 1 leachate collection pond and northern portion of the western slope.

20241017 – IMG_7571
The western slope of Cell 3.

20241017 – IMG_7584

The top of Cell 2, facing south near the entrance to the placement area.

APPENDIX E

RETURN WATER POND (RWP) PHOTO LOG

20241016 – IMG_6980

The drainage ditch along the downstream slope of the RWP cell Southeast Embankment, facing southwest.

20241016 – IMG_6982

The crest of the RWP cell Southeast Embankment, facing southwest from the eastern corner.

20241016 – IMG_6983
The upstream slope of the RWP cell Southeast Embankment, facing southwest from the eastern corner.

20241016 – IMG_6985
An ant hill on the crest of the Southeast Embankment of the RWP cell.

20241016 – IMG_6987
The drainage ditch on the downstream side of the FGD cell Southeast Embankment, facing southwest.

20241016 – IMG_6988
The crest of the FGD cell Southeast Embankment, facing southwest.

20241016 – IMG_6989
The upstream slope of the FGD cell Southeast Embankment, facing southwest.

20241016 – IMG_6990
The FGD cell, facing west.

20241016 – IMG_6991
The upstream slope of the Internal Embankment, facing northwest with the FGD cell on the left.

20241016 – IMG_6992
The crest of the Internal Embankment, facing northwest.

20241016 – IMG_6993

The upstream slope of the Internal Embankment, facing northwest with the RWP cell on the right.

20241016 – IMG_6995

The upstream slope of the RWP cell Southeast Embankment, facing northeast.

20241016 – IMG_6996
The crest of the RWP cell Southeast Embankment, facing northeast.

20241016 – IMG_6997
The drainage ditch on the downstream side of the RWP cell Southeast Embankment, facing northeast.

20241016 – IMG_7003
The crest of the FGD cell Southeast Embankment, facing northeast.

20241016 – IMG_7006
The upstream slope of the FGD cell Southwest Embankment, facing northwest.

20241016 – IMG_7007
The crest of the FGD cell Southwest Embankment, facing northwest.

20241016 – IMG_7008
The downstream slope of the FGD cell Southwest Embankment, facing northwest.

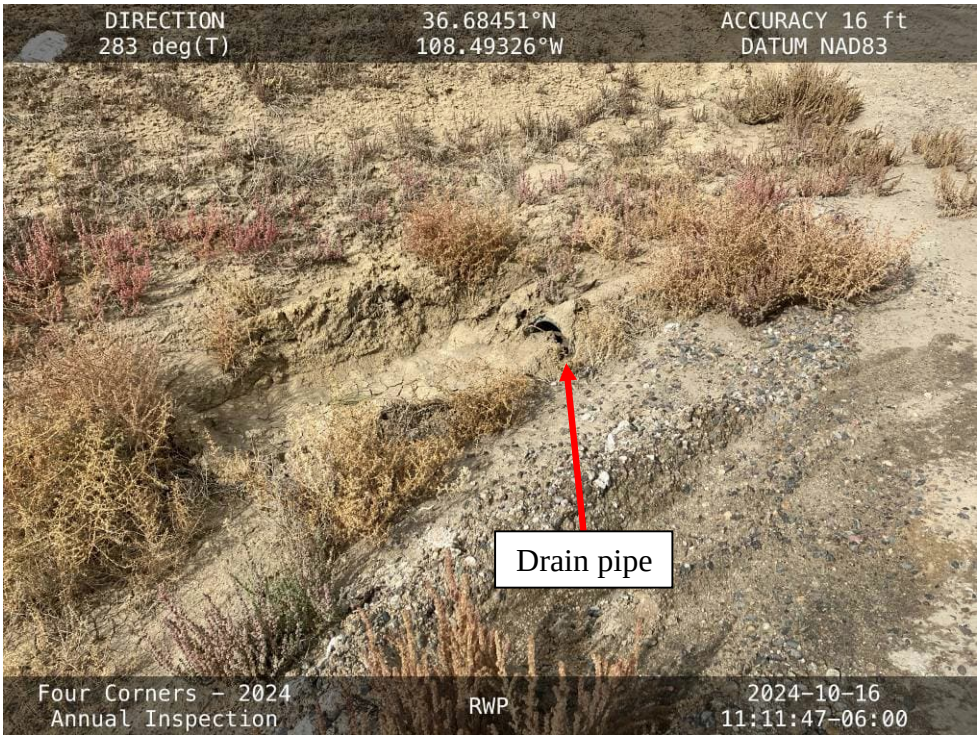
20241016 – IMG_7009

The upstream slope of the FGD cell Southwest Embankment, facing southeast from the western corner.

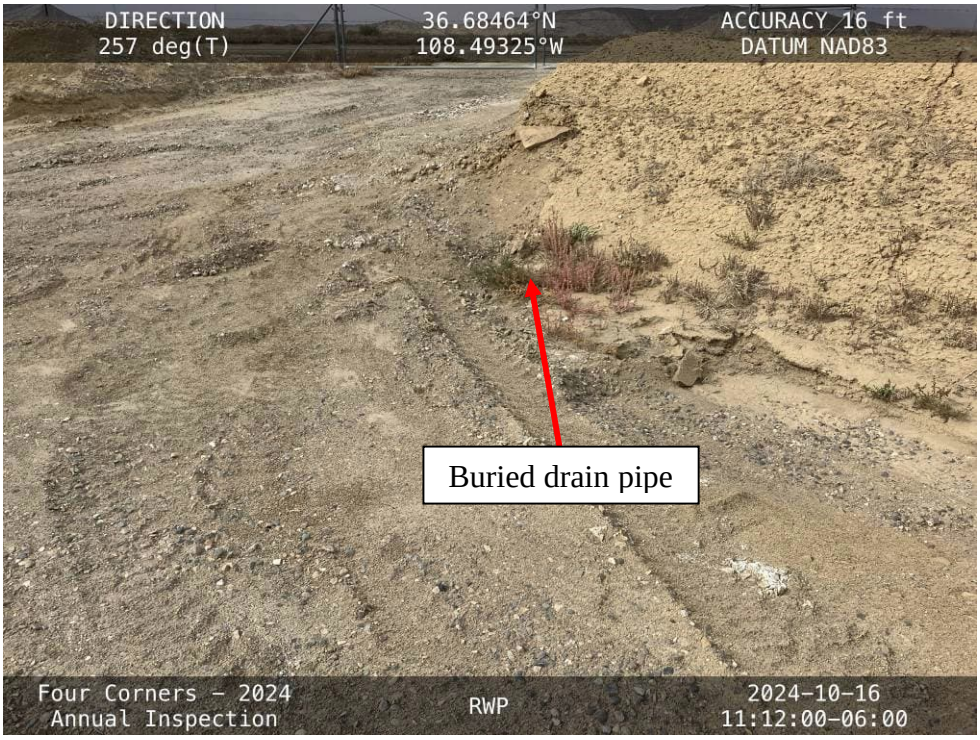
20241016 – IMG_7010

The crest of the Southwest Embankment of the FGD cell, facing southeast from the western corner.

20241016 – IMG_7011
The drainage ditch along the southwest side of the FGD cell, facing southeast from the western corner.



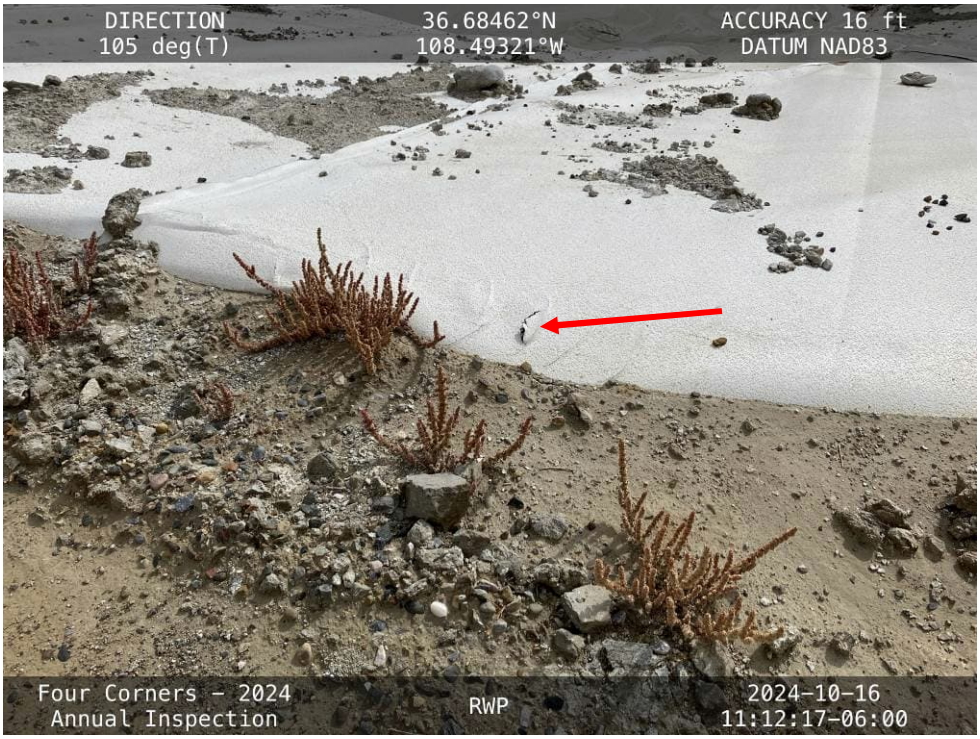
20241016 – IMG_7012
Sediment filling the drainage ditch on the western corner of the RWP.



20241016 – IMG_7013
Sediment (to be removed) blocking the drain pipe on the western corner of the RWP.

20241016 – IMG_7014
The downstream slope of the FGD cell Northwest Embankment, facing northeast.

20241016 – IMG_7015
The crest of the FGD cell Northwest Embankment, facing northeast.

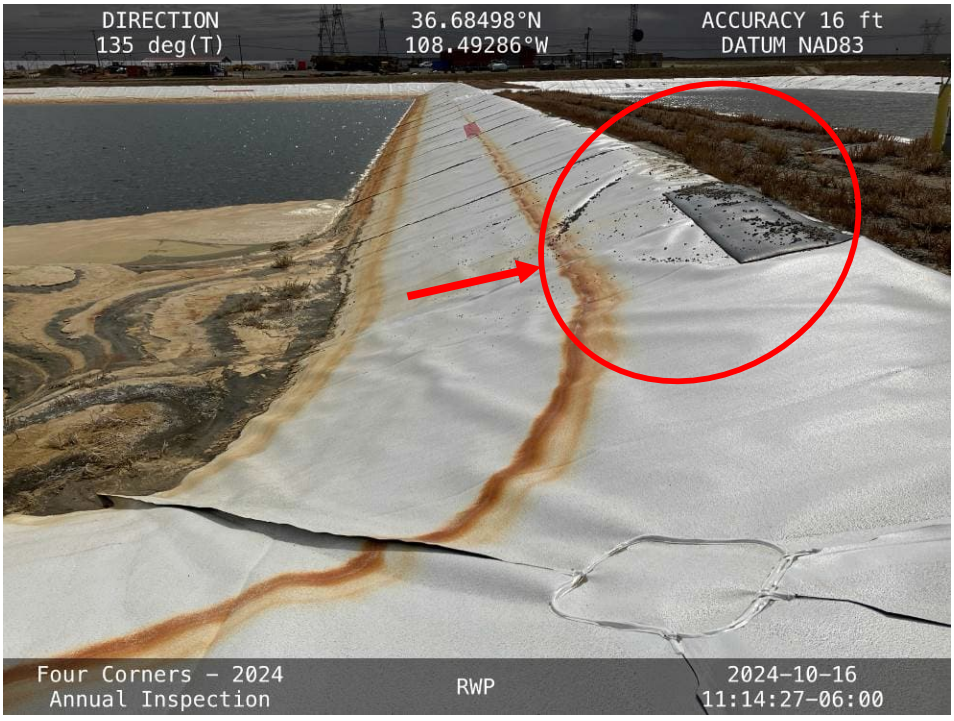


20241016 – IMG_7016
A tear in the liner along the crest of the FGD cell Northwest Embankment.

20241016 – IMG_7017
The upstream slope of the FGD cell Northwest Embankment, facing northeast.

20241016 – IMG_7019
The FGD cell Inlet Pipes.

20241016 – IMG_7028
The RWP cell inlet along the upstream slope of the Northwest Embankment, facing northeast.



20241016 – IMG_7030
The upstream slope of the Internal Embankment with loose liner where previous construction activity took place (arrow), facing southeast with the RWP cell on the left.

20241016 – IMG_7031
The crest of the Internal Embankment, facing southeast.

20241016 – IMG_7032
The upstream slope of the Internal Embankment, facing southeast with the FGD cell on the right.

20241016 – IMG_7034
The upstream slope of the FGD cell Northwest Embankment, facing southwest.

20241016 – IMG_7036
The downstream slope of the FGD cell Northwest Embankment, facing southwest.

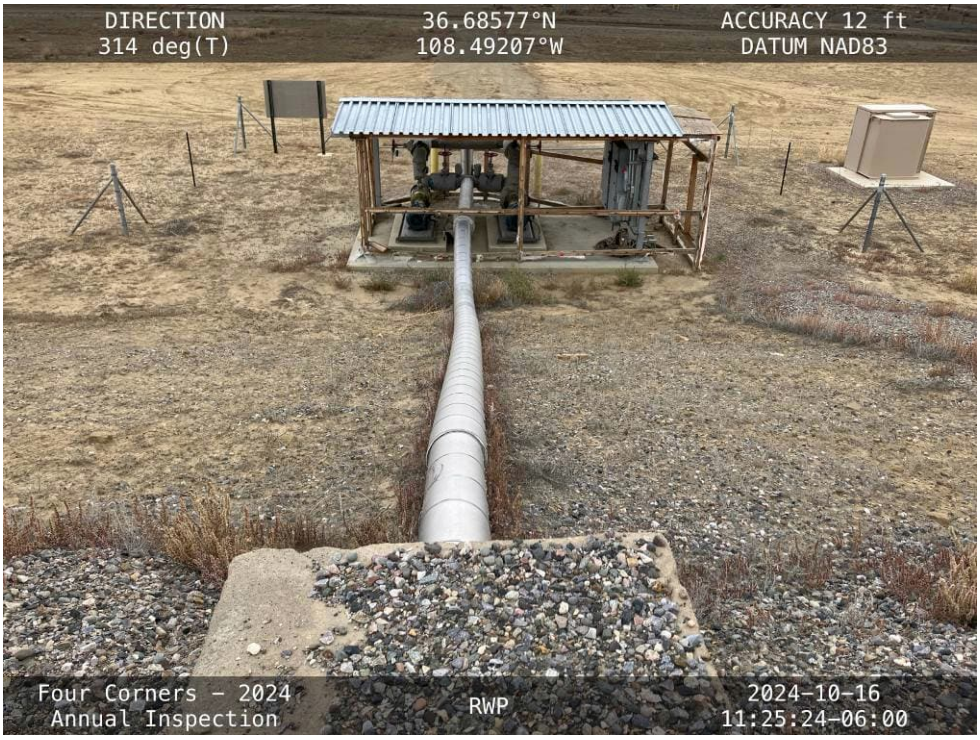
20241016 – IMG_7038
The 1.25-inch LCRS discharge pipe in the FGD cell flowing.

20241016 – IMG_7040
The downstream slope of the RWP cell Northwest Embankment, facing northeast.

20241016 – IMG_7041
The crest of the RWP cell Northwest Embankment, facing northeast.

20241016 – IMG_7043
The RWP cell inlet pipes.

20241016 – IMG_7045
The upstream slope of the Internal Embankment, facing southeast.



20241016 – IMG_7049
The return water pipe and pumps along the downstream slope of the RWP cell Northwest Embankment.

20241016 – IMG_7050
The crest of the RWP cell Northwest Embankment, facing southwest from the north corner.

20241016 – IMG_7054
The downstream slope of the RWP cell Northwest Embankment, facing southwest along the toe.

20241016 – IMG_7055

The upstream slope of the RWP cell Northwest Embankment, facing southwest from the north corner.

20241016 – IMG_7057

The upstream slope of the RWP cell Northeast Embankment, facing southeast from the north corner.

20241016 – IMG_7058
The crest of the RWP cell Northeast Embankment, facing southeast from the north corner.

20241016 – IMG_7059
The downstream slope of the RWP cell Northeast Embankment, facing southeast from the north corner.

20241016 – IMG_7063
The LCRS riser pipes and crane on the north side of the RWP.

20241016 – IMG_7064
The liner pulling out of the anchor trench along the RWP cell Northeast Embankment.

20241016 – IMG_7066

The upstream slope of the RWP cell Northeast Embankment, facing northwest from the eastern corner.

20241016 – IMG_7067

The crest of the RWP cell Northeast Embankment, facing northwest from the eastern corner.

20241016 – IMG_7068

The downstream slope of the RWP cell Northeast Embankment, facing northwest from the eastern corner.