40 CFR Parts 257

2024 Checklist for P.E. Annual Inspection for CCR Surface Impoundments, § 257.83(b)

Sikeston BMU Sikeston Power Station Fly Ash Surface Impoundment Annual Inspection

NOTE – THE FLY ASH POND CEASED RECEIVING WASTE IN 2021.

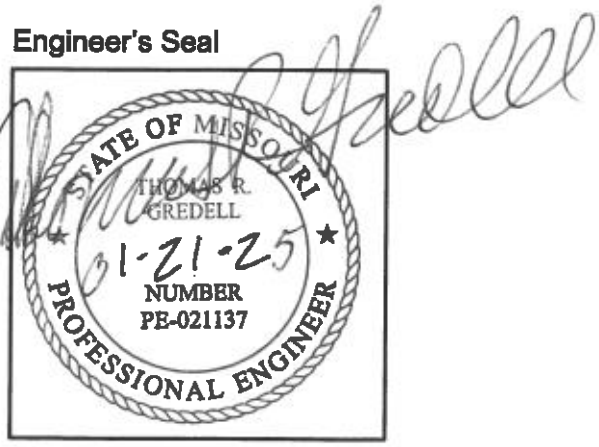
Requirements	Signs of actual or potential structural weakness (257.83(b)(vi))	Disruptions or potential disruption to the operation and safety of the unit (257.83(b)(vi))
CCR Unit and appurtenant structures 257.83(b)(ii)	None Observed. Continue to Monitor.	None Observed. Potential seepage has been noted in past annual inspection reports and on the northwestern embankment. No evidence of erosion or slope instability. Seepage is minor and vegetation is in very good condition. 2024 Dewatering project has significantly improved conditions related to structural stability. Continue to monitor.
CCR Unit and appurtenant structures 257.83(b)(ii)	No Staff Gauge Present. The need for staff gauges is no longer necessary due to the inactive status of the Fly Ash Pond and pending closure	Fly Ash Pond is inactive and currently only receives direct rainfall. 2024 Dewatering project includes significantly larger stormwater storage capacity and an automated stormwater removal system to remove accumulated stormwater and send it to the Process Pond. Water levels should continue to be checked after heavy rainfall events.

The 2024 Annual Inspection included a review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record in general accordance with 257.83(b)(i).

The 2024 Dewatering project has significantly improved conditions related to structural stability. Minor maintenance items associated with routine upkeep and items that require continued observation observed during the 2024 Annual Inspection do not impact the structural integrity of the embankment. SBMU agrees to continue to monitor and address these items in a timely manner through normal maintenance.

GREDELL Engineering Resources, Inc.

Engineer's Seal



Thomas R. Gredell, P.E.
Missouri License: PE-021137
Date: January 21, 2025

SIKESTON POWER STATION – FLY ASH POND
2024 ANNUAL INSPECTION CHECK SHEET

SIKESTON POWER STATION
Fly Ash Pond
Annual Inspection Check Sheet

Date	November 20, 2024
Inspector	Wayne Elliott, E.I.
Pool Level	Estimated el. 310+/- (Small quantities of surface water were present in the dewatering trenches)
Temperature	Mid 60°s
Weather	Clear, dry

1. Date of Previous Annual Inspection:
   a. October 13, 2023
2. Date of Previous Periodic Inspection:
   a. The date of the most recent weekly inspection report reviewed for this Annual Inspection was December 10, 2024.
3. Description of Emergency Conditions (EC) or Immediate Maintenance (IM) conditions observed since the last annual inspection:
   a. No EC or IM conditions were noted for of the Fly Ash Pond during the 2024 Annual Inspection on November 20, 2024. The FAP was in good condition during the annual inspection.
4. Describe any action taken to restore or improve safety and integrity of impounding structure:
   a. The Fly Ash Pond was re-graded to create temporary dewatering trenches intended to convey stormwater to a low area excavated in the south end of the pond. A precast concrete wet well was constructed at the south end of the pond to collect and automatically pump accumulated stormwater (as it accumulates due to precipitation events) to the SPS Process Pond for treatment and disposal. The concrete wet well includes three (3) electrical water pumps. The pumps are controlled by float switches that turn the pumps on/off automatically remove water that accumulates in the south end of the pond.
   b. The rutting and potholes periodically identified in weekly inspection reports by plant personnel were apparently corrected by grading the road on one or more occasions in 2024 as evidenced by the intermittent nature of the weekly report comments. Two small potholes were observed near the southeast corner of the pond in the road on top of the berm during our 2024 annual site inspection. These should be repaired. Continued observation of the road surface on the top of the berms should continue in 2025, followed by maintenance when required.
   c. In response to past observations of potential berm seepage in the southeast FAP berm (indicated by the observation of cattails above the toe of the slope and different type of vegetation), a field investigation and office evaluation was completed in mid-2018 by Reitz & Jens, Inc. as a subconsultant to GREDELL Engineering Resources, Inc. (GER). The conclusion of that evaluation is that the possible seepage did not have a negative impact on the stability of the embankments. Visual field observations of these areas have been made since 2018. Field observations since that time found that potential seepage on the northwest and southeast berms have not resulted in evidence of slumping, seepage flow or erosion and no actions were required. The 2024 dewatering project has significantly reduced overall water levels in the pond and is believed to be reducing the saturation of the CCR materials which reduces seepage potential. Continued monitoring is recommended.
5. Describe any modifications to the geometry of the impounding structure since the previous annual inspection:
   a. Significant changes were made to the Fly Ash Pond in 2024 in preparation for dewatering and

permanent in-place closure.

b. SPS hired a contractor to significantly regrade the ponded CCR materials to create a well-draining CCR surface that includes three (3) large north to south draining ditches that are up to 12 feet deep.
c. In addition, the south end of the Fly Ash Pond was excavated to a depth up to 16 feet deep to accumulate and temporarily store ongoing stormwater drainage.

6. Describe any modifications to the operation of the impounding structure since the previous annual inspection:
   a. The Fly Ash Pond is inactive and no CCR materials were deposited since 2021.
   b. A precast concrete wet well was constructed in the approximate middle of the south end of the Fly Ash Pond to pump accumulated stormwater to the SPS Process Pond for treatment and disposal.
   c. The concrete wet well was fitted with three (3) electrical water pumps that are controlled by float switches that work to automatically remove water that accumulates in the south end of the pond.
7. List the approximate remaining storage capacity (Cubic Yards) of the impounding structure:
   a. Due to the inactive status of the Fly Ash Pond, no CCR has been placed into the Fly Ash Pond since early 2021.
   b. Recent construction operations in 2024 for temporary dewatering have reshaped the ash surface but the volume of waste remains unchanged.
8. List the approximate maximum, minimum and present depth and elevation of the impounded water since the previous annual inspection:
   a. The weekly inspection reports have never indicated an elevation of impounded water due to the lack of a staff gauge at the Fly Ash Pond outlet structure. Only direct precipitation enters the Fly Ash Pond.
   b. Significant changes were made to the Fly Ash Pond in 2024 in preparation for dewatering and permanent in-place closure that improved the internal drainage of precipitation and greatly increased the surface water storage capacity and removal system.
   c. At the time of the annual inspection (November 20, 2024) the maximum elevation of surface water was estimated to be 310+/-, which is approximately 12 feet below the top of the pond berms.
9. List the approximate maximum, minimum and present depth and elevation of the impounded CCR since the previous annual inspection:
   a. The Fly Ash Pond has been inactive since early 2021 and no CCR materials have been added to the pond since that time.
   b. SPS hired a contractor to significantly regrade the ponded CCR materials to create a well-draining CCR surface that includes three (3) large north to south draining ditches that are up to 12 feet deep.
   c. In addition, the south end of the Fly Ash Pond was excavated to a depth up to 16 feet deep to accumulate and temporarily store ongoing stormwater drainage.
   d. The regrading resulted in two stockpiles of dry CCR materials located in the south end of the pond with a maximum elevation of 334+/-.
   e. The minimum elevation of CCR materials is approximately 308 +/-.
10. Approximate volume of impounded water and CCR at the time of the inspection:

a. No CCR materials were placed in the Fly Ash Pond in 2024. Therefore, CCR volumes are the same as estimated at the end of 2021.

11. Describe any changes to the downstream watershed since the last annual inspection:

a. No changes to the downstream watershed occurred in 2024.

SIKESTON POWER STATION – FLY ASH POND
2024 ANNUAL INSPECTION CHECK SHEET

Inlet and Outlet Works		
Item	Condition Code	Comments
Outlet Condition	NI	The original outlet structure located in the northwest corner of the pond. It is concrete with an open intake that will accept stop logs. No stop logs were in place. The outlet structure discharges into one of two buried 24-inch pipes: one pipe discharges north and offsite the property; and one pipe discharges west and then follows an open channel swale to Process Waste Pond. Both pipes have been reported as permanently closed since 2016. Due to the 2024 dewatering project and the addition of an automated surface water pumping system in the south end of the pond, the original outlet structure is now obsolete.
Gate Condition/ Operability	NI	Due to the 2024 dewatering project and the addition of an automated surface water pumping system in the south end of the pond, the original outlet structure is now obsolete.
Leakage	NI	Due to the 2024 dewatering project and the addition of an automated surface water pumping system in the south end of the pond, the original outlet structure is now obsolete.
Outfall Condition	NI	The pond's original outfall structure discharge pipes are currently observed to be closed and are obsolete. See previous comments on the Outlet Condition.
Discharge (color and/or sediment)	OB	The pond's original outfall structure discharge pipes are currently obsolete. See previous comments on the pond Outlet Condition. The new concrete wet well and pump system discharges to a cleanout pipe north of the Bottom Ash Pond through closed pipe connections, therefore discharges are not visible. Discharge reported in one weekly report for November 17, 2024, describes pumping from the concrete wet well No discharge was occurring from the Fly Ash Pond during the November 2024 site inspection. The wet well is designed with a rock filter to minimize suspended solids entering the wet well. The water in the wet well was observed to be clear.
Obstructions	OB	The new concrete wet well and pump system discharges to a cleanout pipe north of the Bottom Ash Pond through closed pipe connections, therefore discharges are not visible. No obstructions inside the wet well were observed during the November 2024 site inspection. The wet well is designed with a rock filter to minimize suspended solids entering the wet well.
Instrumentation	OB	The concrete wet well is fitted with three (3) electrical water pumps that are controlled by float switches that work to automatically remove water that accumulates at the south end of the pond. The float switches are set to specific elevations to maintain water at the lowest level possible with the pumps installed. The total surface water storage volume was designed to contain the 25-year, 24-hour rainfall event within the pond. The pumps are designed to remove that volume of water within approximately 10 days of the event.

Inlet and Outlet Works		
Item	Condition Code	Comments
		There are four (4) piezometers (installed ~ 2011) constructed within the Fly Ash Pond perimeter berms that serve to monitor water or saturation within the pond berms. These are identified as P-3, P-4, P-5 and P-9. The total depths of each piezometer are reported to be 25 feet, 25 feet, 14.5 feet and 25 feet, respectively. In the 2024 monthly reports, P-3 water levels ranged from 24.15 to 24.50 feet below the top of casing, P-4 water levels ranged from 23.95 to 25.00 feet below the top of casing, P-5 water levels ranged from 5.60 to 13.70 feet below top of casing, and P-9 water levels ranged from 19.99 to 24.80 feet below top of casing. This indicates that 3 of the 4 berm piezometers are effectively dry! Eight (8) additional piezometers were installed in the interior of the ash pond in August 2022. The piezometers are constructed of 2-inch diameter PVC pipe installed at depths between 18.0 to 20.0 feet. These eight (8) piezometers are numbered FAP-1 through FAP-8, and piezometers FAP-3, FAP-6, FAP-7, and FAP-8 were removed during the temporary dewatering construction in 2024. Water column heights in these piezometers reflect the piezometric level in CCR materials within the Fly Ash Pond. The water levels of the 3 of 4 piezometers measured during the November 2024 annual inspection and ranged from 9.6 to 13.0 feet below top of casing (BTOC). [NOTE - Water level was not measured in piezometer FAP-4.] This indicates that the piezometric water level within the ponded CCR materials is 10 feet or less above the bottom of the pond liner (~ elevation 302.0). The low water levels noted during 2024 in both the 4 piezometers installed in the berms and the 4 piezometers installed in the interior of the ash indicate that the overall dry weather in 2023 and 2024, as well as the dewatering project have resulted in the ponded CCR materials slowly dewatering in preparation for closure.
Inlet Piping Condition	NE	Fly ash has not routinely been sluiced into the Fly Ash Pond since the CCR rule has been in effect. No CCR materials have been placed in the pond since early 2021. A buried 30-inch pipe exists that was designed to convey excess water from the Bottom Ash Pond to the Fly Ash Pond or vice versa as an emergency spillway. This structure is now obsolete due to the 2024 dewatering project.
Emergency Spillway	OB	There currently is no functional emergency spillway in the Fly Ash Pond. Inflow to the Fly Ash Pond is limited to rainfall only. Due to the 2024 dewatering project and the addition of an automated surface water pumping system in the south end of the pond, the original outlet structure is now obsolete and the planned closure of the Fly Ash Pond in 2025, the construction of an emergency discharge structure is no longer considered necessary.

SIKESTON POWER STATION – FLY ASH POND
2024 ANNUAL INSPECTION CHECK SHEET

Inlet and Outlet Works		
Item	Condition Code	Comments
Other:		NONE

Earth Embankment		
Item	Condition Code	Comments
Vertical & Horizontal Alignment of Crest	GC	No visible evidence of vertical or horizontal deformation of embankment has been observed. Small, shallow (less than 1.0 foot) depressions were noted throughout 2024 in weekly inspections and apparently were repaired when needed.
Seepage/Wetness / Ponding Areas	GC(Seepage)	An area along the exterior of the southeastern berm of the Fly Ash Pond was previously identified as an area of potential seepage from the Fly Ash Pond based on the presence of a small number of cattails and green vegetation present during drought conditions. The area is located upslope from the perimeter stormwater ditch inside of the railroad loop. The area was observed during the 2024 inspection, and there were no signs of erosion of the outer berm soils or other indications of instability during our annual inspection. The berms of the fly ash pond had not been recently mowed, possibly indicating that the surface conditions were saturated at the time of inspection. It is recommended that this area be visually monitored in the future to note any change in conditions. Future remediation of the previously identified wet areas will be considered during closure design.
Erosion/Rutting	MM/OB	No evidence of erosion or rutting on the outside slopes of the berms was observed in 2024. Three weekly inspections in October, November, and December noted that rutting and potholes existed in the road surfaces located on top of the Fly Ash Pond berms or on the ramps to access the top of the berms. The lack of mentions in subsequent inspection reports indicate that they were adequately repaired in a timely manner. Two small potholes were observed near the southeast corner of the pond in the road on top of the berm during our 2024 annual site inspection. These should be repaired. Continued observation of the road surface on the top of the berms should continue in 2025, followed by maintenance when required to maintain a consistent vertical height of the perimeter berms.
Fencing	GC	Fencing is only adjacent to the Fly Ash Surface Impoundment on the north perimeter along Wakefield Road. The fencing is located within 50 to 100 feet of the toe of the berms. The fencing is in very good condition.

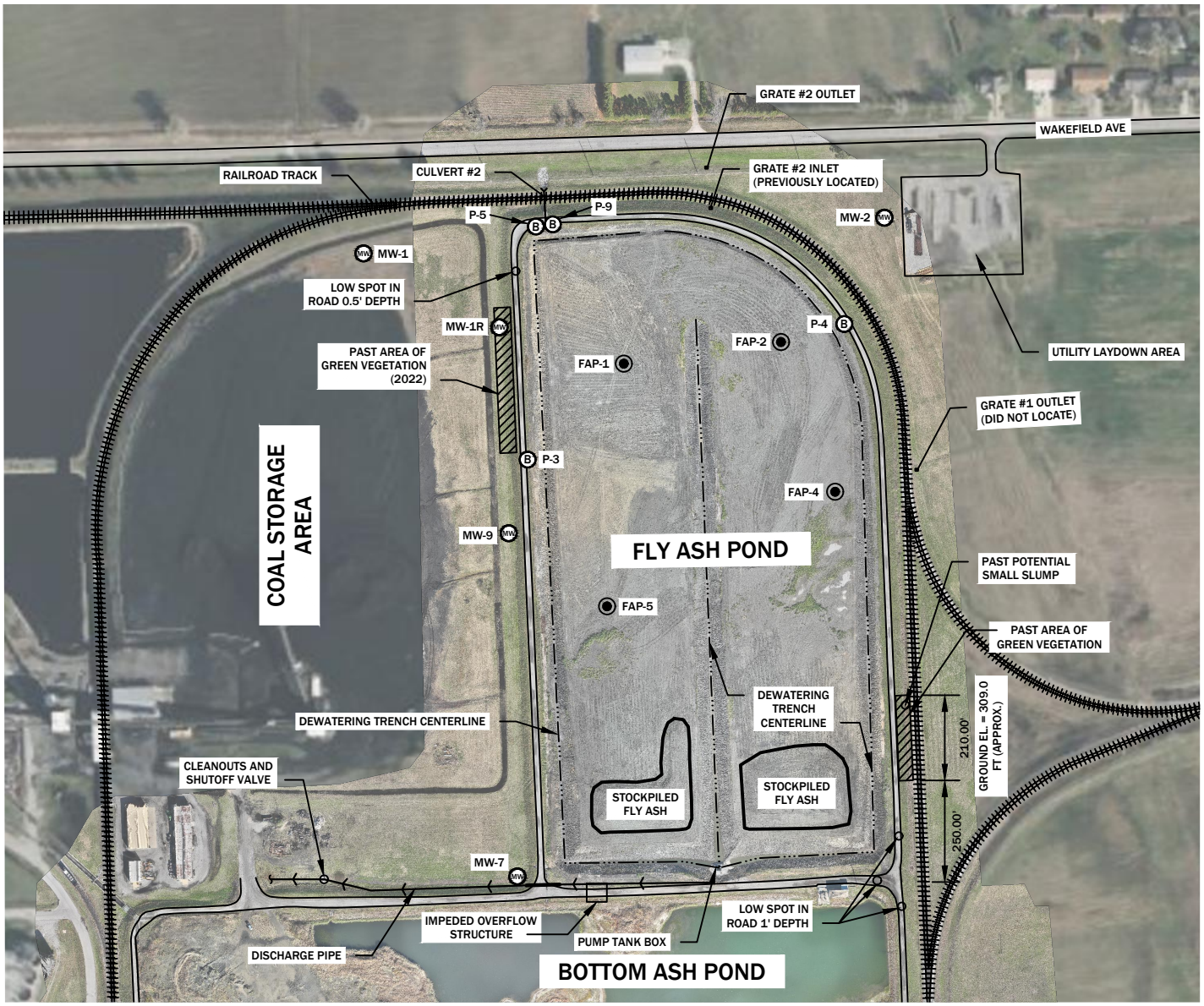
SIKESTON POWER STATION – FLY ASH POND
2024 ANNUAL INSPECTION CHECK SHEET

Earth Embankment		
Item	Condition Code	Comments
Vegetation	GC	Vegetation on exterior slopes was periodically cut and maintained during 2024 as observed during the November 2024 annual inspection and weekly inspection reports prepared by plant personnel. Keeping the exterior berm vegetation cut allows better visual observation of potential future erosion or slumping. NOTE that a specific vegetation requirement was removed from the federal CCR rules in 2016.
Sloughs/Slides/ Cracks	OB	During the October 13, 2023, inspection, a small mound of soil near the toe of the southeast slope of the berm, just inside of the railroad track, was observed. The mound of soil could possibly be a small slump of soil from the outer berm sideslope. This was not previously observed, likely due to the density of vegetation in previous annual inspections. Again, this area was not readily visible in the November 2024 annual inspection due to tall vegetation. This has been identified as an area for continued observation.
Animal Control	OB	No evidence of burrowing animals was noted in 2024 weekly and monthly inspection reports nor was any observed during the annual site inspection in November 2024. SBMU staff should continue to monitor for burrowing animals and attempt to remove such animals from the area.
Other	NONE	

Condition Codes:
- EC Emergency Condition – a serious safety condition exists that requires immediate action.
- IM Immediate Maintenance – an item that requires maintenance within about 30 days to ensure safety or operation.
- MM Minor Maintenance – item needing minor maintenance or repair within 6 months.
- OB Observation – condition requires regular observation to ensure that the condition does not become worse.
- GC Good Condition.
- NE No Evidence of a problem.
- NI Not Inspected. State reason in comments.

Additional Notes:

1. The location of observations on attached plan sheet (Figure 1).



NOTES:

1. MINOR MAINTENANCE ITEMS INCLUDE:
   a. TWO LOW SPOTS IN THE BERM ROAD: ONE NEAR SOUTHEAST CORNER; AND ONE NEAR NORTHWEST CORNER.
2. ITEMS RECOMMENDED FOR CONTINUED OBSERVATION INCLUDE:
   a. GREEN VEGETATION IN THE AREAS ALONG THE SOUTHEAST BERM AND NORTHWEST BERM INDICATES POSSIBLE SEEPAGE. CONTINUED OBSERVATION RECOMMENDED.
   b. PERIODIC WATER LEVEL READINGS IN THE FOUR (4) PIEZOMETERS INSTALLED WITHIN THE POND IN CCR MATERIALS.
3. ITEMS IDENTIFIED DURING THE ANNUAL INSPECTION WHICH DO NOT REQUIRE MAINTENANCE:
   a. THE IMPEDED OVERFLOW STRUCTURE BETWEEN THE BOTTOM ASH POND AND THE FLY ASH POND.
   b. PERMANENTLY CLOSED DISCHARGE STRUCTURE.
4. PIEZOMETER LOCATIONS APPROXIMATED WITH HANDHELD GPS.
5. GRATE #1 INLET NOT IDENTIFIED.
6. IN 2024, THE PONDED CCR WAS GRADED TO PROMOTE CCR DEWATERING AND IMPROVE STROMWATER COLLECTION AND REMOVAL IN PREPARATION FOR CLOSURE.

LEGEND:

- PIEZOMETER — FAP-5
- MONITORING WELLS — MW-1
- FLUSH MOUNT PIEZOMETER (GEOTECHNOLOGY (2011)) — P-3
- PAST AREA OF GREEN VEGETATION
- DEWATERING TRENCH CENTERLINE
- DISCHARGE PIPE

N

SCALE: 1" = 400'
0 200' 400'

FIGURE 1
FLY ASH POND
2024 ANNUAL INSPECTION

SIKESTON POWER STATION

GREDELL ENGINEERING RESOURCES
CIVIL • GEOTECHNICAL • ENVIRONMENTAL • GEOLOGY • EARTH SCIENCES
1505 East High Street
Jefferson City, Missouri
Telephone: (573) 659-9078
Facsimile: (573) 659-9079
MO CORP. ENGINEERING LICENSE NO. E-2001001669-D

DATE	SCALE	PROJECT NAME	REVISION
01/2025	1" = 400'	SIKESTON - ANNUAL INSPECTION	N/A
DRAWN	APPROVED	FILE NAME	SHEET #
CM	TG	2024_ANNUAL_INSPECTION_FAP	1 OF 1

ORIGINAL SHEET SIZE: 8.5" X 11"
PRINTED ON: 1/21/25 BY: cm
FILE PATH AND FILENAME: O:\CADDFiles\SIKESTON\ANNUAL INSPECTIONS\DRAWINGS\2024_Annual_Inspection_FAP.dwg