

**2024 Annual inspection Under
Coal Combustion Residuals Rule
Orlando Utilities Commission
Stanton Energy Center
Orange County, Florida**

May 24, 2024



Ardaman & Associates, Inc.

Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company

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May 24, 2024
File Number 23-13-0078

Orlando Utilities Commission
P.O. Box 3193
Orlando, FL 32802-2723

Attention: Mr. Tom Gaboian, P.E.
Senior Environmental Compliance Specialist

Subject: 2024 Annual Landfill Inspection under Coal Combustion Residuals (CCR) Rule,
Stanton Energy Center, Orange County, Florida

Gentlemen/Ladies:

As requested by Orlando Utilities Commission (OUC), Ardaman & Associates, Inc. —a Tetra Tech Company (TT-AAI) has completed the 2024 annual landfill inspection at the Stanton Energy Center on March 8, 2024. The objectives of our inspection were to satisfy the requirements in 40 CFR §257.84 of the Coal Combustion Residuals (CCR) Rule promulgated by the United States Environmental Protection Agency (EPA) on April 17, 2015, and to identify any items that need immediate corrective actions or long-term attention. In association with the 2024 annual landfill inspection, TT-AAI has reviewed the CCR Rule requirements, historical information in our project files, and the 2023 landfill operation data provided by OUC.

The focus of our annual inspection was on the lined Cells 1 and 2 of the horizontal expansion of the closed 90-acre original landfill, which has also been referred to as the original combustion waste storage area (original CWSA). At the time of our inspection, Cells 1 and 2 were the active CCR disposal units at the Stanton Energy Center. Cell 1 has almost been filled to capacity, with closure construction activities scheduled to begin in mid-2024. Cell 2 was activated on April 28, 2022 and currently has approximately 16 acres of the landfill bottom and slope covered with waste materials. Cell 2 is located immediately north of Cell 1 and will eventually be combined with Cell 1 to form a contiguous landfill unit. Construction of the proposed Cell 3, which is also part of the horizontal expansion, is uncertain at this time, depending on future waste disposal need at the Stanton Energy Center. Although the closed original CWSA and its closed vertical expansion on top are exempt from the CCR Rule requirements, these landfill units as well as other facilities were also inspected insofar as they may affect the operation and safety of Cells 1 and 2.

The 2024 inspection constituted the ninth annual inspection since waste materials were first placed into Cell 1 on May 28, 2015. The previous (i.e., the eighth) annual inspection was documented in a TT-AAI report titled “2023 Landfill Inspection under Coal Combustion Residuals (CCR) Rule, Orlando Utilities Commission, Stanton Energy Center, Orange County, Florida,” dated May 26, 2023 and updated July 31, 2023. This report provides the background information on the history and design of Cells 1 and 2, and documents our findings and recommendations from the ninth annual landfill inspection and associated landfill operation data review required by the CCR Rule.

Inspection Requirements under CCR Rule

As stated in 40 CFR §257.84(b)(1), the goal of the annual inspections is “... *to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards.*” The CCR Rule further stated that the annual inspections must be performed by a qualified professional engineer and must, at a minimum, include the following efforts:

- (i) *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 (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and*
- (ii) *A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.*

Per 40 CFR §257.84(b)(2), the qualified professional engineer must prepare an inspection report to address the following items:

- (i) *Any changes in geometry of the structure since the previous annual inspection;*
- (ii) *The approximate volume of CCR contained in the unit at the time of the inspection;*
- (iii) *Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and*
- (iv) *Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.*

According to the CCR Rule, a qualified professional engineer is defined as “*an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.*”

Waste Disposal Area

The Stanton Energy Center is in southeastern Orange County, Florida, in the vicinity of the Econlockhatchee River, about 12 miles southeast of downtown Orlando, and 6 miles northeast of Orlando International Airport. The site is located within Sections 13, 14, 23, and 24 of Township 23 South, Range 31 East, and Sections 7, 8, and 19 of Township 23 South, Range 32 East. The address of the Stanton Energy Center is 5100 South Alafaya Trail, Orlando, Florida 32831. The entire facility encompasses an area of approximately 3,280 acres.

The designated CCR disposal area at the Stanton Energy Center, which has been referred to as the Combustion Waste Storage Area (CWSA), is located on the west side of the facility. It occupies an area of approximately 250 acres. Landfilling of waste materials has occurred within the closed 90-acre original CWSA, the closed vertical expansion on top of the original CWSA,

and the currently active Cells 1 and 2 of the horizontal expansion to the west of the original CWSA. The horizontal expansion consists of the existing Cells 1 and 2 and, if needs to be constructed, the future Cell 3.

Cells 1 and 2 each consists of approximately 30 acres of base area and approximately 8 acres of slope area on the west side of the closed original CWSA (i.e., Cells 1 and 2 piggyback on the west slope of the closed original CWSA). Cell 2 is located immediately north of Cell 1 and will eventually piggyback on the north slope of Cell 1 (i.e., Cells 1 and 2 will eventually be combined to form a contiguous landfill unit). The bottom liner system for Cell 2 was connected to the bottom liner system for Cell 1 to form a continuous bottom liner system for the two landfill cells. A January 18, 2024 aerial imagery that shows the layout of the entire 250-acre CWSA, which includes the 90-acre footprint area of the closed original CWSA, the closed vertical expansion, and Cells 1 and 2 of the horizontal expansion, is presented in Figure 1. Close-up aerial photographs of Cells 1 and 2 from a February 21, 2024 flight performed by WSP USA Environment & Infrastructure, Inc. (WSP) are displayed in Figures 2 and 3, respectively.

Coal combustion residuals and other power plant wastes have been landfilled on-site since the start of commercial operation of the first power generating unit (i.e., Unit 1) in 1987. The 90-acre original CWSA and its vertical expansion ceased to receive CCR wastes on August 28, 2015, corresponding to 52 days before the October 19, 2015 deadline for a CCR landfill to be exempt from the CCR rule requirements. Closure of the 90-acre original CWSA and vertical expansion was completed on March 11, 2016, corresponding to 196 days after the landfill units ceased to receive CCR wastes. The Construction Completion Report for the closure of the original CWSA was submitted by TT-AAI on March 12, 2016, and was approved by the Florida Department of Environmental Protection (FDEP) in a letter dated April 18, 2016.

From October 19, 2015 (i.e., the effective date of the CCR Rule) through April 27, 2022, Cell 1 was the only active CCR landfill unit at the Stanton Energy Center. Cell 2 was activated on April 28, 2022. On March 8, 2024 (i.e., the date of our 2024 inspection), Cell 1 was almost filled to capacity, and Cell 2 was covered by waste materials in approximately 16 acres of the bottom and slope areas within the two southern subcells. OUC has planned to begin closure construction activities for the top area and the south and west side slopes (i.e., the exterior slopes of the horizontal expansion) of Cell 1 in mid-2024.

Relevant Information

In association with the 2024 landfill inspection, TT-AAI has reviewed the following relevant information, either in our project files or provided by OUC:

- Conditions of Certification for the Stanton Energy Center (PA 81-14M) dated August 30, 2017.
- Design and construction documents for Cells 1 and 2.
- CCR Fugitive Dust Control Plan for the CCR disposal area, prepared by OUC and dated October 2, 2015.
- Run-on and Run-off Control System Plan for Cells 1 and 2, prepared by TT-AAI and dated January 26, 2024.
- Conceptual Closure Plan for Cell 2, prepared by TT-AAI and dated February 7, 2024.

- Landfill Operation and Maintenance Plan for Cell 1, prepared by TT-AAI and dated February 3, 2017.
- Demonstration for Compliance with “Unstable Areas” Requirement in CCR Rule for Cell 1, prepared by TT-AAI and dated January 11, 2019.
- 2023 Annual Landfill Inspection Report for Cells 1 and 2, prepared by TT-AAI dated May 26, 2023 and updated July 31, 2023.
- Topographic surveys performed by MIKON on September 18, 2022 and September 9, 2023.
- Topographic and waste quantity surveys completed by WSP (formerly Wood) on December 18, 2023 and February 21, 2024.
- Aerial imagery obtained by WSP on February 21, 2024.
- On-site rainfall records for 2023 and from January 1 through March 8 of 2024.
- Daily dust control logs for 2023.
- Monthly waste quantity records for 2023.
- Weekly landfill inspection reports for 2023.
- Report of FDEP landfill inspection performed on September 26, 2023.

Cell 1 Design

Because Cell 1 was designed and constructed prior to the effective date (i.e., October 19, 2015) of the CCR Rule, it was not subject to the design criteria for new landfills contained in 40 CFR §257.70. However, it was designed to comply with applicable requirements of Chapter 62-701 of the Florida Administrative Code (F.A.C.), which governs the design, construction, and operation of solid waste management facilities in Florida.

The bottom liner and leachate collection system for the approximately 30-acre base area of Cell 1 was designed to have the following components in descending order:

- A 2-foot thick layer of drainage sand with a minimum saturated hydraulic conductivity of 1.0×10^{-4} cm/sec to provide protection for the liners and drainage for the leachate.
- A geocomposite to provide conveyance for the leachate and to limit the leachate head on the primary geomembrane liner.
- A 60-mil thick textured HDPE geomembrane liner to serve as the primary leakage barrier.
- A geocomposite or geonet to detect and convey leachate that passes through any defects in the primary geomembrane liner and to limit the leachate head on the secondary geomembrane liner.

- A 60-mil thick textured HDPE geomembrane liner to serve as the secondary leakage barrier.
- A 6-inch thick layer of compacted soil subbase with a maximum saturated hydraulic conductivity of 1.0×10^{-5} cm/sec to preclude leakage of leachate through any defects in the secondary geomembrane liner.

The bottom liner and leachate collection system for the approximately 8-acre slope area on the east side of Cell 1 (i.e., the west slope of the original landfill) was designed to have the following components in descending order:

- A 2-foot thick layer of drainage sand with a minimum saturated hydraulic conductivity of 1.0×10^{-4} cm/sec to provide protection for the liners and drainage for the leachate.
- A geocomposite to provide conveyance for the leachate and to limit the leachate head on the slope liner.
- A 60-mil thick textured HDPE geomembrane liner to serve as the leakage barrier.

The bottom liner and leachate collection system for Cell 1 was constructed above a prepared soil subgrade. The objectives of the above designs were to preclude leakage of leachate from Cell 1 into groundwater and to limit the leachate head above the liner system.

Cell 2 Design

Cell 2 was designed and constructed after the effective date (i.e., October 19, 2015) of the CCR Rule, it is subject to the design criteria for new landfills contained in 40 CFR §257.70. Cell 2 was designed with a double-composite liner system that comprises two components, with the top component consisting of a single HDPE geomembrane liner and the bottom component consisting of a composite liner with an HDPE geomembrane liner in direct and uniform contact on top of a 12-inch thick compacted soil liner. In addition, the low point (i.e., the bottom elevation of the compacted soil liner beneath the leachate collection sump) of each of the four subcells in Cell 2 was designed above the seasonal high groundwater elevation. The Cell 2 bottom liner system was connected to the Cell 1 bottom liner system along the north containment dike of Cell 1.

The bottom liner system for Cell 2 was designed to have the following key components in descending order:

- A 2-foot thick layer of drainage sand with a minimum saturated hydraulic conductivity of 1.0×10^{-4} cm/sec to provide protection for the liners and drainage for the leachate.
- A geocomposite to provide conveyance for the leachate and to limit the leachate head on top of the primary liner.
- A 60-mil thick textured HDPE geomembrane liner to serve as the primary leakage barrier.
- A geocomposite or geonet to detect and convey any leachate that passes through any defects in the primary HDPE liner and to limit the leachate head on top of the secondary liner.
- A composite liner with a 60-mil HDPE geomembrane liner underlain by a 12-inch thick compacted soil liner with a maximum saturated hydraulic conductivity of 1.0×10^{-7} cm/sec.

- A prepared liner subgrade that is free of deleterious materials and meets the compaction requirements in the technical specifications.

The liner system on the west slope of the original CWSA was designed to have the following key components in descending order:

- A 2-foot thick layer of drainage sand with a minimum saturated hydraulic conductivity of 1.0×10^{-4} cm/sec to provide protection for the liners and drainage for the leachate.
- A double-sided geocomposite to provide conveyance for the leachate and to limit the leachate head on top of the slope liner.
- A 60-mil thick textured HDPE geomembrane liner to serve as the leakage barrier.
- A minimum 6-inch thick soil bedding layer to provide support for the HDPE geomembrane liner and separation from the underlying waste materials.

The bottom liner and leachate collection system for Cell 2 was constructed above a prepared soil subgrade. The objectives of the above designs were to preclude leakage of leachate from Cell 2 into groundwater and to limit the leachate head above the liner system.

Waste Materials

Fly ash and flue gas desulfurization (FGD) sludge are the predominant coal combustion wastes generated at the Stanton Energy Center. In addition, bottom ash and brine concentrator/crystallizer solids (BCCS) are also generated in significant quantities. The quantities and characteristics of fly ash, FGD sludge, and bottom ash may vary considerably, depending on energy production, and the ash and sulfur contents of the coal used for power generation.

Typically, the fly ash from Units 1 and 2 is sold, and fly ash containing 15 to 25 percent lime purchased from outside fluidized bed facilities is imported for mixing with the FGD sludge generated on-site. The residual lime in the imported fly ash catalyzes a pozzolanic reaction which stabilizes the waste material and causes it to set after deposition in the on-site landfill. This processed waste material, which has been referred to as "ProMat," comprises the primary coal combustion waste material disposed in the on-site landfill. When needed, fly ash generated on-site and free lime materials are also utilized.

The bottom ash is also sold in accordance with market demand. Any unsold bottom ash and the BCCS are disposed of in the on-site landfill. The on-site landfill also receives miscellaneous power plant wastes as well as construction and demolition debris generated at the Stanton Energy Center, sediments from the lined process water ponds at the facility, and minor quantities of wastes from other OUC facilities.

Topographic Surveys and Waste Quantities

Since activation of Cell 1 on May 28, 2015, OUC has retained surveyors to perform topographic surveys of the waste surface periodically to allow OUC to keep track of landfill geometries, waste volumes, and remaining storage life of the landfill cells. The following surveys were reviewed by TT-AAI as part of the 2024 annual landfill inspection under the CCR Rule:

- MIKON's surveys performed on September 18, 2022 and September 9, 2023.
- WSP's surveys based on imagery acquired on December 18, 2023 and February 21, 2024.

The elevations in MIKON's surveys were referenced to the National Geodetic Vertical Datum of 1929 (NGVD29), whereas the elevations in WSP's surveys were referenced to the North American Vertical Datum of 1988 (NAVD88). Results of the topographic surveys by MIKON, and the topographic and waste quantity surveys by WSP are included in Appendices 1 and 2, respectively.

The latest topographic survey of Cells 1 and 2, based on an aerial imagery acquired by WSP on February 21, 2024, is presented in Figure 4. Except for the access ramp, the waste materials that had been deposited on the slope area of Cell 1 (i.e., on the west slope of the closed original CWSA) reached elevations of approximately +166 to +172 feet (NAVD88). The waste surface within the base area of Cell 1 had reached typical elevations of approximately +168 to +170 feet (NAVD88). Cell 1 was designed to have a maximum final cover elevation of +175 feet (NAVD88), corresponding to a height of approximately 90 feet above natural grade. Cell 1 has a waste storage capacity of approximately 3.1 million cubic yards. The waste surface within the southern two subcells of Cell 2 had a maximum elevation of approximately +116 feet (NAVD88), corresponding to a waste thickness of approximately 20 feet.

Based on the topographic surveys performed on September 18, 2022 and September 9, 2023, MIKON reported approximately 2.73 and 3.07 million cubic yards of consumed airspace, respectively. The average airspace consumption rate between the two surveys was calculated to be approximately 0.35 million cubic yards per year. The overall average airspace consumption rate between May 28, 2015 (i.e., the date when wastes were first placed inside Cell 1) and September 9, 2023 (i.e., the date of MIKON's latest survey) was estimated to be 0.37 million cubic yards per year. Based on WSP's survey data, the overall average airspace consumption rate in Cell 1 between May 28, 2015 and December 18, 2023² was estimated to be 0.37 million cubic yards per year.

According to the waste records provided by OUC, approximately 2.31 million dry tons of ProMat were landfilled in Cells 1 and 2 between May 28, 2015 (i.e., the date when wastes were first placed inside Cell 1) and the end of 2023. Considering an in-place dry density of 72 lb/ft³, the ProMat would have consumed an airspace of approximately 2.37 million cubic yards in Cells 1 and 2 through the end of 2023. Based on the most recent topographic survey performed by WSP on February 21, 2024, the consumed airspace in Cells 1 and 2 was computed to be 3.21 million cubic yards. Accordingly, the total volume of other wastes, which included BCCS, sediment, and bottom ash, that had been disposed of in Cell 1 since May 28, 2015 was estimated to be on the order of 0.8 million cubic yards, corresponding to an overall average miscellaneous waste deposition rate on the order of 0.1 million cubic yard per year.

The storage capacity in Cell 1 (i.e., with the north slope at 3H:1V) is approximately 3.1 million cubic yards. Based on the latest topographic survey by WSP on February 21, 2024, approximately 3.0 million cubic yards of airspace in Cell 1 had been consumed, with a remaining airspace of approximately 0.1 million cubic yards. The combined storage capacity in Cells 1 and 2, with Cell 2 piggybacking on the north slope of Cell 1, is approximately 6.4 million cubic yards. Based on

² The latest topographic survey performed on February 21, 2024 was not used in computing the average airspace consumption rate since May 28, 2015 because the incremental waste volume was not provided and the heading for the table that showed available remaining volume was mis-labeled. Therefore, the topographic survey performed on December 18, 2023 was selected for the calculations.

the latest topographic survey by WSP on February 21, 2024, approximately 3.21 million cubic yards of airspace in Cells 1 and 2 had been consumed, with a remaining airspace of approximately 3.2 million cubic yards.

It should be noted that waste generation rate and airspace consumption could vary, depending on energy production, facility maintenance activities, and the ash and sulfur contents of the coal used for power generation.

Fugitive Dust Control

A CCR Fugitive Dust Control Plan for the Stanton Energy Center was completed by OUC on October 2, 2015. The plan stipulates CCR fugitive dust control measures, which include spraying water, sweeping roadways, restricting vehicle travel speed, etc., to minimize waste materials from becoming airborne. It also describes procedures to log citizen complaints and to assess the effectiveness of the plan. Furthermore, the CCR Fugitive Dust Control Plan requires the outside contractor retained by OUC for waste processing and landfill operation to prepare daily logs to document any observed fugitive dust emissions and, if needed, to implement any corrective measures following the observations.

A summary of the daily logs that relate to mitigation measures for fugitive dust emissions for 2023 is included in Appendix 3. The daily logs indicated that water was applied to the landfill and roadways whenever fugitive dust release was observed.

Based on a review of the daily logs and observations on the date of our site visit, it is our professional opinion that no changes to the CCR Fugitive Dust Control Plan and fugitive dust control measures are necessary. Nevertheless, OUC should continue to monitor any fugitive dust emissions caused by generation and disposal of CCR wastes and periodically assess the effectiveness of any fugitive dust control measures.

On-Site Rainfall

In 2023, a total of 54.67 inches of rainfall was recorded by the rain gauge installed near the Makeup Water Pond, which is located on the east side of the Stanton Energy Center. The maximum daily rainfall in 2023 was 2.91 inches. The 2023 rainfall was 3.22 inches above the annual rainfall of 51.45 inches in a normal year, based on the historical rainfall data documented at the nearby Orlando International Airport Climatological Station for the 30-year period between 1991 and 2020. The 2023 annual rainfall recorded at Orlando International Airport was 52.41 inches, which is approximately 2 inches less than the total rainfall recorded by the rain gauge near the Makeup Water Pond.

As indicated previously, our visual inspection of the CCR landfill cells was performed on March 8, 2024. The rain gauge recorded total monthly rainfalls of 1.80 and 2.73 inches in January and February of 2024, respectively, with a total rainfall of 4.53 inches. The total normal year rainfall for these two months at the nearby Orlando International Airport Climatological Station was documented to be approximately 4.52 inches. Accordingly, the on-site rainfall from January 1 through February 29, 2024 was very close to normal. No rain occurred at the site on the date of our site visit or in the two days preceding our site visit. Only 0.19 inches of rain occurred in March prior to our site visit.

Landfill Leachate

Separate pumps and flow totalizers were installed for the leachate collection and leak detection systems in each of the four subcells (i.e., a total of eight pumps and flow totalizers) for Cell 1. Similar pumping and metering systems were also provided for the leachate collection and leak detection systems in each of the four subcells for Cell 2.

The pumps and flow meters for Cells 1 and 2 began working consistently in October 2023. The totalizer readings for the pumps from October 18, 2023 through January 19, 2024 were provided by OUC and reviewed by TT-AAI. The totalizer readings and calculated flow rates are included in Appendix 4. As shown, the average flow rates for the leachate collection systems in Cells 1 and 2 were approximately 26 and 91 gallons per minute (gpm), respectively. The average flow rates for the leak detection systems in Cells 1 and 2 were approximately 0.4 and 1.5 gpm, respectively. The average combined flow rate was 120 gpm or 0.17 million gallons per day (mgd).

When needed, OUC employed trailer-mounted auxiliary diesel pumps to aid in removing leachate from Cells 1 and 2 and discharge it to the CWSA Runoff Pond located east of the CWSA via an 8-inch diameter HDPE force main that was installed along the west and south sides of Cells 1 and 2. The pumps did not have flow totalizers but were provided with run-time meters. OUC recorded the total run-time for each pump at the beginning and end of 2023. Based on the data provided by OUC, the total run-time of the auxiliary diesel pumps in 2023 was approximately 2,300 hours.

Weekly Inspections

An employee of Eco Material Technologies, Inc. (the outside contractor retained by OUC for waste processing and landfill operation) inspected Cells 1 and 2 weekly in 2023. The weekly inspections covered the interior and exterior containment dike slopes, leachate collection and leak detection systems, water levels in Cells 1 and 2, drainage control structures, and wet detention pond. The inspections also included the control panels for the underdrain and leak detection pumps for the CWSA Runoff Pond, which receives leachate from Cells 1 and 2.

Summaries of the weekly inspection reports for 2023 are included in Appendix 5. The following items were noted from our review of the weekly inspection reports:

- No significant erosion or washouts of the interior and exterior slopes of the containment dikes around Cells 1 and 2 were observed.
- Erosion of the piggyback slope of Cell 2 with exposure of the liner following Hurricane Ian was noted in the October 10, 2022 and following inspection reports. The liner and overlying geocomposite were repaired and the protective soil cover was restored before May 31, 2023, with sodding of the repaired areas completed on June 26, 2023.
- High water levels³ were reported in the December 18 and 25, 2023 inspection reports.
- The following items pertain to Cell 1 sump pumps:

³ When high water levels occurred, auxiliary pumps were used to remove leachate and discharge it into the 8-inch diameter HDPE force main.

- Panel 1 was off and Panels 2, 3, and 4 were in Auto mode from the January 3, 2023 inspection through the May 15, 2023 inspection. During the May 22, 2023 inspection, Panel 2 was also off.
- All four control panels for the Cell 1 sump pumps were tagged out from the May 29, 2023 inspection through the September 11, 2023 inspection.
- Panel 1 was off and Panels 2, 3, and 4 were in Auto mode during the September 18, 2023 inspection, and Panels 1, 2, and 4 were off and Panel 3 was in Hand mode for the September 25, 2023 inspection.
- For the October 2 through October 16, 2023 inspections. Panel 1 and some of the leak detection pumps were off. For the October 23 through November 13, 2023 inspections, all pumps were operating in Auto mode except the Panel 3 leak detection pump, which was off.
- The uninterruptible power source (UPS) for Panel 1 was bypassed during the December 4, 11, and 25, 2023 inspections.
- All pumps were off because of high water levels during the December 18, 2023 inspections.
- The following items pertain to Cell 2 sump pumps:
 - Panel 1 was off, Panel 2 was out of service, and Panels 3 and 4 were in Auto mode during the January 3 through March 6, 2023 inspections.
 - Panel 1 was off and Panels 2, 3, and 4 were in Auto mode during the March 27 through July 17, 2023 inspections. Panel 2 recorded a UPS fault during the July 10, 2023 inspection.
 - Panels 1 and 2 were off, Panels 3, and 4 were in Auto mode, and external auxiliary pumps were in use during the July 24 through August 28, 2023 inspections.
 - Panels 1 and 2 were off, the transformers for Panels 3, and 4 were tripped, and external auxiliary pumps were in use during the September 4, 2023 inspection.
 - The breaker at the transformer was thrown, and there was no power during the September 11, 2023 inspection.
 - Panel 1 was off, Panel 2 was in Auto mode, and Panels 3, and 4 were in Hand mode during the September 18, 2023 inspection.
 - Panels 1, 2, 3, and 4 were in Auto mode during the September 25, October 9, and October 16, 2023 inspections.
 - Panels 1 and 4 were in Auto mode and the Panel 2 and 3 leachate pumps were on or in Auto mode and the leak detection pumps were off during the November 6 and 13, 2023 inspections.

- Panels 1, 2 and 3 were in Auto mode and the Panel 4 leachate pump was in Hand mode during the November 20 through December 4, 2023 inspections.
- All pumps were off because of high water levels during the December 18, 2023 inspections.
- In the December 25, 2023 inspection report, Panel 1 has a high panel temperature and bad level indicator, the Panel 3 leak detection pump failed to start, Panel 4 has a bad level indicator the trailer-mounted auxiliary diesel pump is off because the hose is kinked.
- Erosion of the side slope of Cell 2 were noted in the November 20, November 27, December 4, and December 11, 2023 inspection reports.
- The following items pertain to the wet detention pond:
 - Minor erosion in the southeast corner of the wet detention pond was noted in all but one of the weekly inspection reports through December 11, 2023.
 - The inlet and outlet structures were in good conditions with minimal or minor encroachment by vegetation noted in the weekly inspection reports between June 5 and November 13, 2023.
- The following items pertain to the CWSA Runoff Pond:
 - The CWSA Runoff Pond underdrain and leak detection pump stations were operated in "Auto" mode throughout 2023.
 - Alarms and UPS faults were reported for the CWSA Runoff Pond underdrain and leak detection pump stations.
 - The groundwater removal system pump designated P4 was noted as having a bad level sensor/probe or bad level readings in the weekly inspection reports from May 1 through September 11, 2023.

FDEP Inspection

A landfill inspection performed by Mr. Michael Eckoff of the FDEP Central District on September 26, 2023 indicated that all applicable inspection checklist items were satisfactory. A copy of the FDEP inspection report is included in Appendix 6.

Annual Inspection

The ninth annual inspection of the CCR landfill cells at the Stanton Energy Center was conducted by Messrs. Francis K. Cheung, P.E., and Jeyisanker Mathiyaparanam, P.E., of TT-AAI on March 8, 2024. The inspection included observing the conditions of Cells 1 and 2 as well as the conditions of the closed original CWSA, the closed vertical expansion, and other facilities that support landfill operation. Our landfill inspection was conducted on foot between 11 am and 1 pm. At the time of our site visit, the weather was mostly cloudy with an air temperature of approximately 78°F when we arrived at the site and 83°F near the end of our inspection. No rain occurred at the site on the date of our landfill inspection.

We began the landfills inspection by observing Cells 1 and 2 from the top of the closed vertical expansion, at an elevation of approximately +175 feet (NAVD88). Our observations indicated that the waste materials on the slope area of Cell 1 (i.e., the west slope of the closed original CWSA) were close to the top of the closed vertical expansion. The waste surface above the base area of Cell 1 was observed to be highest in the northwestern region, with the waste surface at approximately 5 feet below the top of the vertical expansion. Waste materials were also observed on the south side of the bottom and slope areas of Cell 2.

After observing the general conditions of Cells 1 and 2 from the top of the closed vertical expansion, we walked down the landfill slope at the southeastern corner of Cell 1 and observed the waste limit along the southern boundary of the slope area of Cell 1. From there, we walked clockwise on the containment dike crest along the south and west sides of Cell 1, along the west side of Cell 2, and then along the north side of Cell 2 to observe the conditions of Cells 1 and 2, the containment and perimeter dikes, the stormwater drainage ditch between the containment and perimeter dikes, and the leachate pumping stations on the containment dike crest. After inspection of Cells 1 and 2, we proceeded to inspect the wet detention pond and other supporting facilities.

Along the southern boundary of the slope area of Cell 1 that adjoins the closed original CWSA, all waste materials were observed to be inside the lined area. However, some waste materials or runoff sediments may be above the liner anchor trench on the inside slope of the containment dike along the west side of Cell 1 during our landfill inspection on March 8, 2024, but the issue was confirmed to have been properly rectified before our follow-up site visit on May 22, 2024.

During our site visit on March 8, 2024, two Caterpillar® articulated dump trucks were transporting waste materials into Cell 1, but no equipment was operating inside Cell 1 or Cell 2. The dump trucks entered and exited Cell 1 using the West Haul Road, which is a limerock road that runs along the west side of the closed original CWSA and the east side of the horizontal expansion.

At the time of our site visit, the power supply lights for all four leachate control panels for Cell 1 were on. Except for Sump 2, all other pumps for all other three sumps in Cell 1 were running. The alarm light on the electrical panel for Sump 1 was blinking which indicated that the pumping system for Sump 1 may be running outside the established operating range, even though the pump was removing leachate. For Cell 2, the power supply lights for all four leachate control panels were on and all pumps were running. The alarm lights for Sumps 1, 2, and 4 were blinking, which indicated that the pumping systems in these sumps may be running outside the established operating range.

Two trailer-mounted auxiliary diesel pumps were observed on the crest road of the west containment dike near the southwestern corner of Cell 2, with the pump intakes placed in Subcells 1 and 2 of Cell 2. The auxiliary pumps were not operating at the time of our site visit.

The outside slope of the containment dike, and the inside and outside slopes of the perimeter dike, were generally in a good condition except for some localized spots with sparse grass cover. Based on our visual observations, flow should occur freely through the stormwater drainage ditch and box culverts that were constructed between the containment and perimeter dikes along the west side of Cells 1 and 2 and the south side of Cell 1. The two inlets on the south side of Cell 1, which are connected to pipes draining into the wet detention pond near its northwestern corner, were also in a good condition.

Both the East and West Haul Roads were in good conditions, with minimal rutting and depression. The roads were approximately 50 feet wide, which should be sufficient for two-way traffic by articulated dump trucks. No debris or waste materials were observed in the drainage ditches on both sides of the haul roads.

During our site inspection, TT-AAI observed three groundwater monitoring or water level observation wells near Cell 1. These three wells are designated MW-A, MW-9R, and MW-10. Each of these wells was provided with a concrete pad and a metal protective casing. MW-A is located near the southeastern corner of Cell 1. MW-10 is located south of Cell 1 and near the northwestern corner of the wet detention pond. MW-9R is located west of and near the southwestern corner of Cell 1. All three wells appeared to be in good conditions without any visible damages.

Selected photographs taken during our landfill inspection on March 8, 2024 are included in Appendix 7.

Summary

Below is a summary of key observations and findings from our 2024 landfill inspection and review of the landfill operation data provided by OUC:

- The entire base and slope areas of Cell 1 were covered with waste materials.
- The waste materials on the slope area of Cell 1 (i.e., on the west slope of the closed original CWSA) had typical elevations of approximately +166 to +172 feet (NAVD88).
- The waste surface within the base area of Cell 1 had typical elevations of approximately +168 to +170 feet (NAVD88).
- Cell 1 was designed to have a maximum final cover elevation of +175 feet (NAVD88), corresponding to a height of approximately 90 feet above natural grade.
- Closure of Cell 1 is scheduled to begin in mid-2024.
- Approximately 16 acres of the base and slope areas in the southern two subcells in Cell 2 were covered with waste materials, with a maximum elevation of approximately +116 feet (NAVD88), corresponding to a waste thickness of approximately 20 feet.
- All waste materials were properly contained inside the lined areas of Cells 1 and 2.
- The combined storage capacity in Cells 1 and 2, with Cell 2 piggybacking on the north slope of Cell 1, is approximately 6.4 million cubic yards.
- Based on the latest topographic survey performed on February 21, 2024, the consumed airspace in Cells 1 and 2 was approximately 3.21 million cubic yards, and the remaining airspace in Cell 1 was approximately 0.1 million cubic yards.
- The overall average waste generation rate since May 28, 2015 (i.e., the date when wastes were first placed inside Cell 1) was estimated to be on the order of 0.37 million cubic yards per year.

- The most recent waste generation rate was estimated to be on the order of 0.35 million cubic yards per year.
- The overall average miscellaneous waste deposition rate was estimated to be on the order of 0.1 million cubic yard per year.
- No signs of actual or potential structural weakness, and no conditions that are disrupting or have the potential to disrupt the operation and safety of Cells 1 and 2.
- The 2024 annual inspection did not reveal any outstanding major items or issues that require immediate corrective measures.

Recommendations

Below are our recommendations for continued landfill operation at the Stanton Energy Center:

- Cell 1 should be filled to capacity and properly graded before closure construction activities begin.
- A sufficient number of auxiliary diesel pumps should be used to remove any accumulated leachate in Cells 1 and 2 and discharge it to the CWSA Runoff Pond whenever the leachate pumping system is out of service or cannot handle the leachate flow.
- The daily leachate quantities generated in Cells 1 and 2, including leachate quantities removed by the auxiliary pumps, should be measured and documented.
- OUC or its landfill contractor should continue to inspect Cells 1 and 2 as well as related facilities weekly and after heavy storm events or prolonged periods of wet weather, using the revised weekly landfill inspection form dated February 9, 2024.
- The landfill slope should be maintained no steeper than 3H:1V from crest to toe.

Recordkeeping and Future Inspection

OUC should be cognizant of the following recordkeeping requirements: (i) the annual CCR landfill inspection report must be placed in the written operating record at the facility as stipulated in 40 CFR § 257.105(g)(9); (ii) the State Director⁴ must be notified of the availability of the report as stipulated in 40 CFR § 257.106(g)(7); and (iii) the report must be posted on the OUC website as stipulated in 40 CFR § 257.107(g)(7).

As stipulated in 40 CFR §257.84(b)(4), the schedule for the next annual CCR landfill inspection is as follows:

⁴ In the CCR Rule, the State Director refers to “the chief administrative officer of the lead state agency responsible for implementing the state program regulating disposal in CCR landfills, CCR surface impoundments, and all lateral expansions of a CCR unit.”

"... In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by § 257.105(g)(9)."

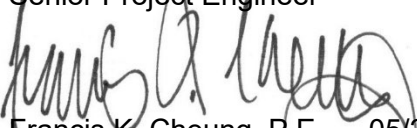
TT-AAI interprets this to mean that the next annual CCR landfill inspection should be completed and the inspection report should be placed in the operating record at the Stanton Energy Center within one year of the date that the report is officially placed in the operating record. Accordingly, we recommend the next annual inspection of Cells 1 and 2 be performed in early 2025.

TT-AAI appreciates the opportunity of providing services to OUC. If you have any questions or need additional information, please contact us.

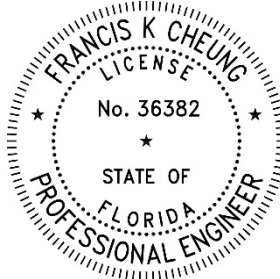
Very truly yours,
ARDAMAN & ASSOCIATES, INC. - A Tetra Tech Company
Certificate of Authorization Number 5950



Jeyisanker Mathiyaparanam, P.E.
Senior Project Engineer



Francis K. Cheung, P.E. 05/24/24
Senior Consultant
Florida License No. 36382



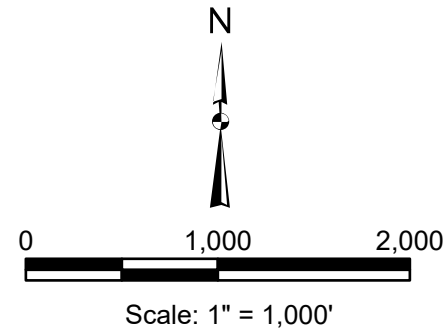
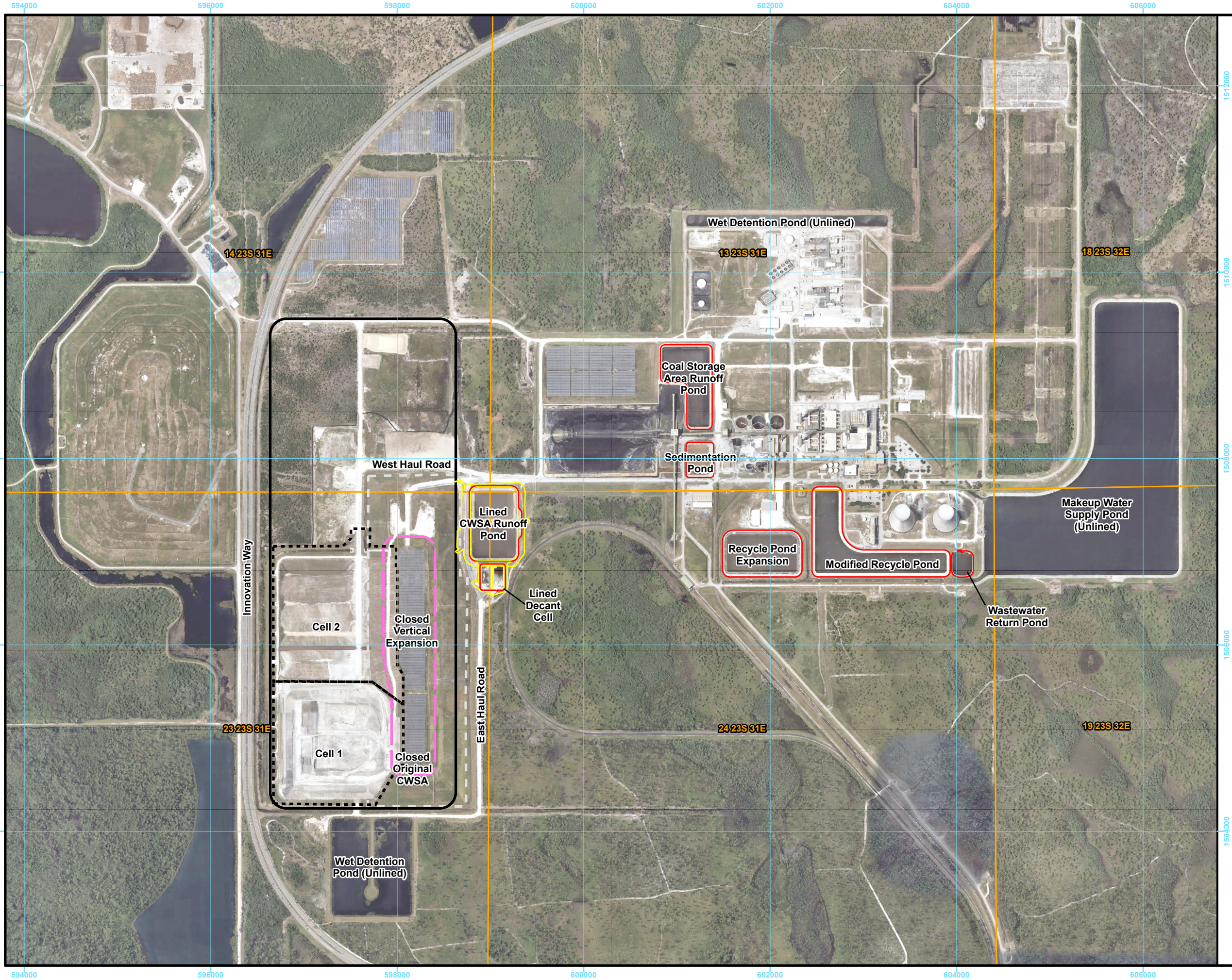
Enclosures

Francis K Cheung Digitally signed by Francis K Cheung
Date: 2024.05.24 09:43:07 -04'00'

This item has been digitally signed and sealed by Francis K. Cheung, P.E., on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

W:\Projects\2021\21-13-0044_OUC\ArcGIS\ArcLayouts\2024\0408\Site Plan\Site Plan.aprx



IMAGERY SOURCE:
GOOGLE EARTH, JANUARY 18, 2024

- Legend**
- Cell Boundary
 - 250-Acre Area
 - Closed Vertical Expansion
 - Original CWSA Limits
 - PLSS



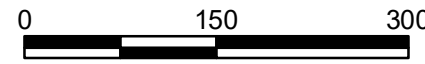
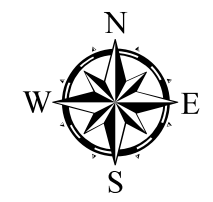
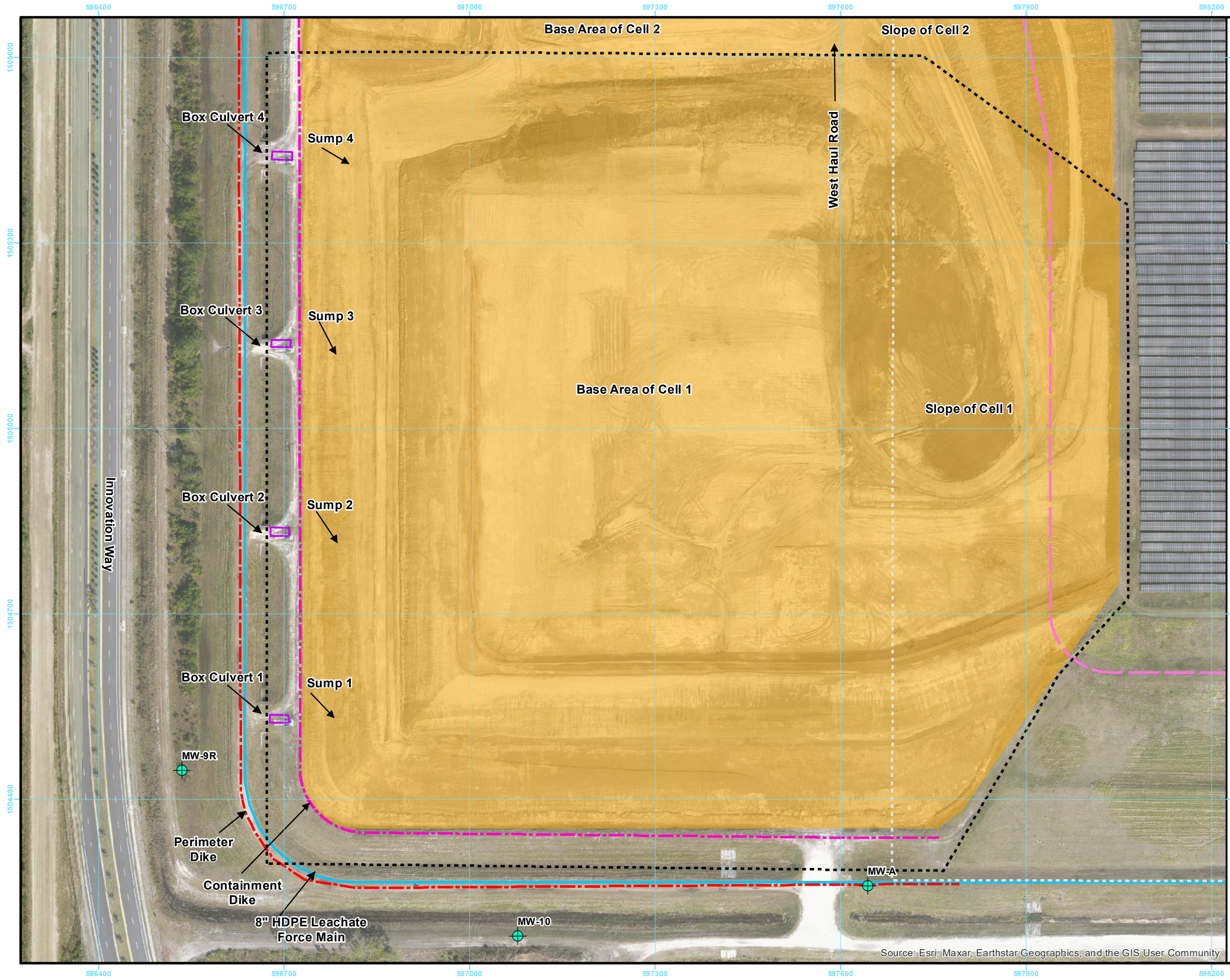
SITE PLAN

Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company

**2024 ANNUAL INSPECTION OF
CCR LANDFILL AT
STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA**

DRAWN BY: ACV	CHECKED BY: JM	DATE: 4/11/24
FILE NO: 23-13-0060	APPROVED BY: FKC	FIGURE: 1

W:\Projects\2022\22-13-0042\MXD\Annotated Aerial Photograph.mxd



Scale: 1" = 150'

IMAGERY SOURCE:
WSP USA ENVIRONMENTAL
& INFRASTRUCTURE,
FEBRUARY 21, 2024

Legend

- Monitor Well/Piezometer
- Pump Station Control Panel
- Cell 1 Boundary
- Liner Limit
- Closed Vertical Expansion
- Original CWSA Limits
- Containment Dike Centerline
- Perimeter Dike Centerline L
- Leachate Force Main



AERIAL PHOTOGRAPH OF CELL 1

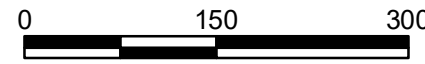
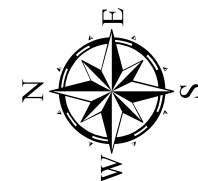
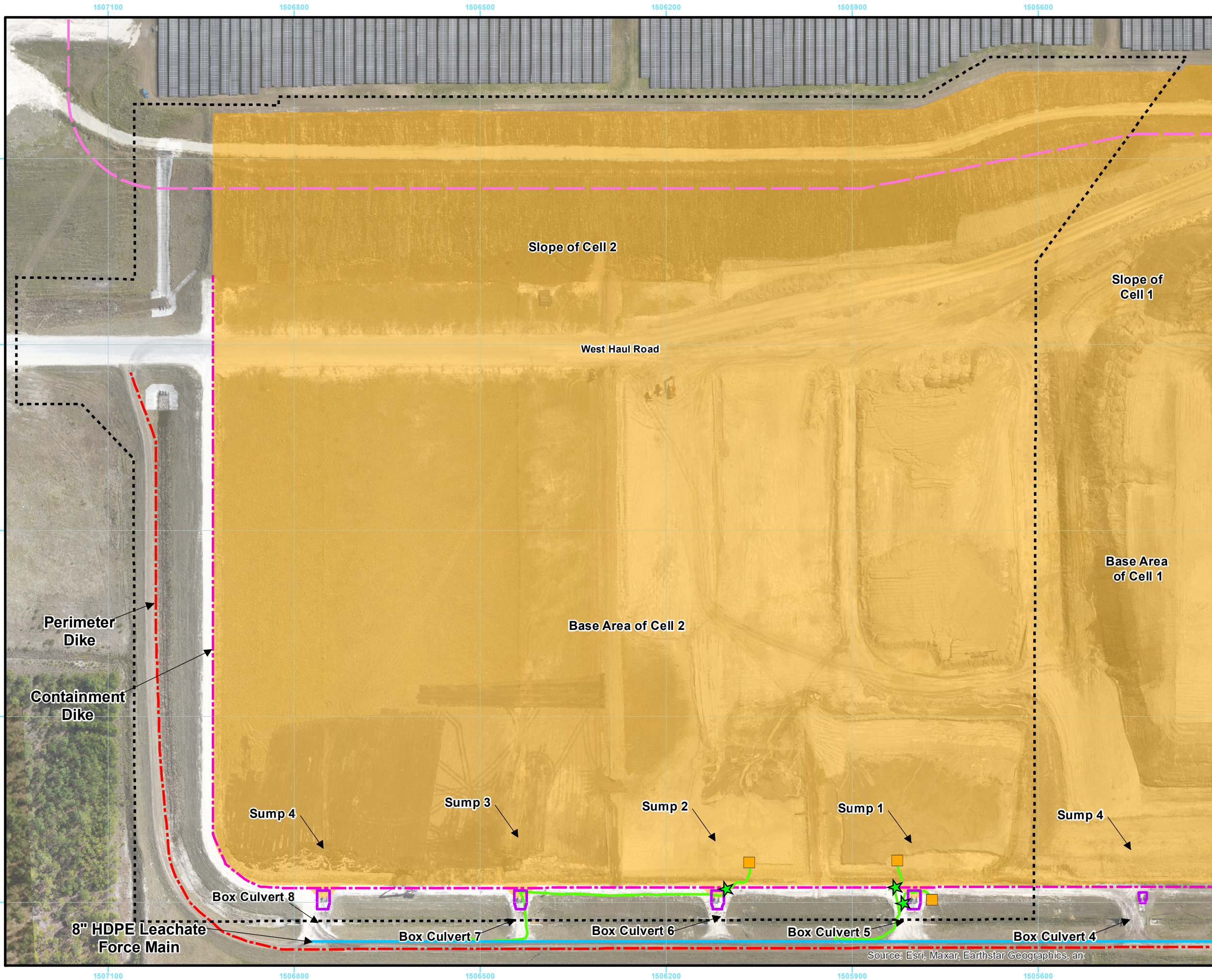


**2024 ANNUAL INSPECTION OF
CCR LANDFILL AT
STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA**

DRAWN BY: ACV	CHECKED BY: JM	DATE: 04/12/2024
FILE NO. 23-13-0078	APPROVED BY: FKC	FIGURE: 2

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

W:\Projects\2022\22-13-0042\MMXD\Annotated Aerial Photograph Cell 2_AV.mxd



Scale: 1" = 150'

IMAGERY SOURCE:
WSP USA ENVIRONMENTAL
& INFRASTRUCTURE,
FEBRUARY 21, 2024

Legend

- Pump Station Control Panel
- Intake Line
- Auxiliary Pump
- Pipe Line
- Cell 2 Boundary
- Liner Limit
- Closed Vertical Expansion
- Containment Dike Centerline
- Perimeter Dike Centerline
- Leachate Force Main



AERIAL PHOTOGRAPH OF CELL 2

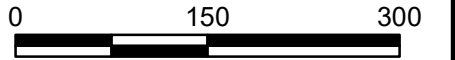
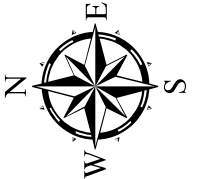
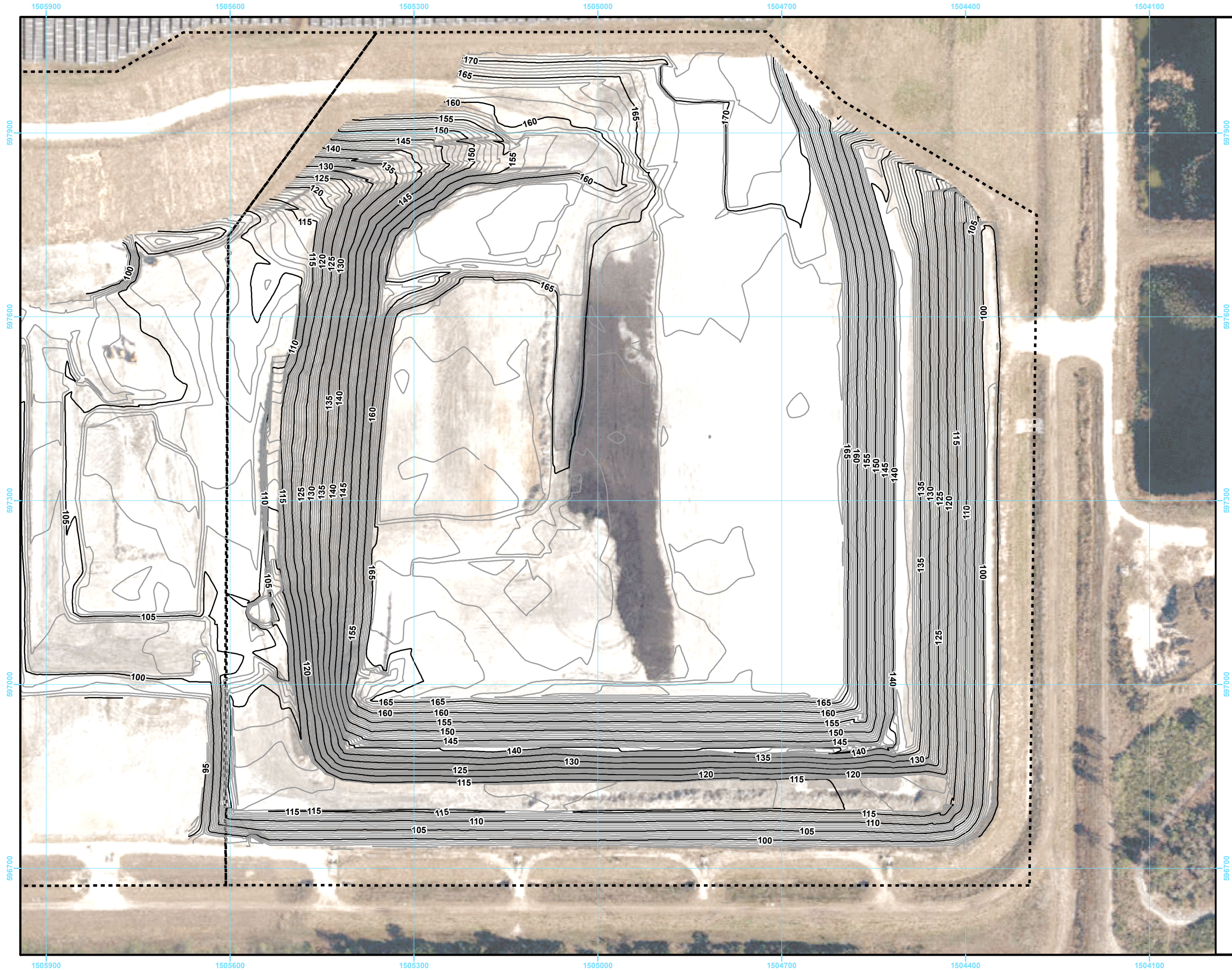


2024 ANNUAL INSPECTION OF
CCR LANDFILL AT
STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: ACV	CHECKED BY: JM	DATE: 4/11/2024
FILE NO. 23-13-0078	APPROVED BY: FKC	FIGURE: 3

Source: Esri, Maxar, Earthstar Geographics, and

W:\Projects\2022\22-13-0042\MXD\Topography Cell 1 2022\124.mxd



Scale: 1" = 150'

SOURCE: TOPOGRAPHIC SURVEY
BY WSP USA ENVIRONMENT &
INFRASTRUCTURE, INC.,
FEBRUARY 21, 2024

Legend

- 5' Contour
- 1' Contour
- Cell Boundaries



04/13/2023
SURVEY OF TOP OF WASTE



2023 ANNUAL INSPECTION OF
CCR LANDFILL AT
STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: ACV	CHECKED BY: JM	DATE: 6/29/23
FILE NO. 22-13-0042	APPROVED BY: FKC	FIGURE: 4

Appendix 1

MIKON Topographic Surveys on September 18, 2022 and September 9, 2023

September 30, 2022

Mr. Brian Moore
Orlando Utilities Commission
Orlando, Florida

RE: Stanton Energy Center
Ash Landfill

<bmoore@ouc.com>

Dear Mr. Moore:

We have completed the volume determinations of the horizontal expansion of the Fly Ash Landfill at the Stanton Energy Center. The volume of the horizontal area is reported as total volume referenced to base. Total volume includes active and capped (if any) areas. The results are as follows:

VOLUMES

Date of Survey: September 18, 2022

Area	Reference Datum	Type of Volume	Fill (cy)	Cut (cy)
Horizontal	Base ¹	Total	2,725,130	27

¹ Base model developed by MIKON Corporation from survey data obtained September 2013 and the surface of adjacent cell to the east surveyed in 2014 and 2021.

Should you have any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us. We appreciate the opportunity to provide our services to Orlando Utilities.

Respectfully submitted,

MIKON Corporation

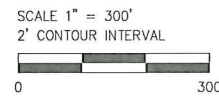
Bryan W. Davis

Brian J. Kramer

BWD/BJK:js

Attachments: Landfill Topography Drawing and AutoCAD File

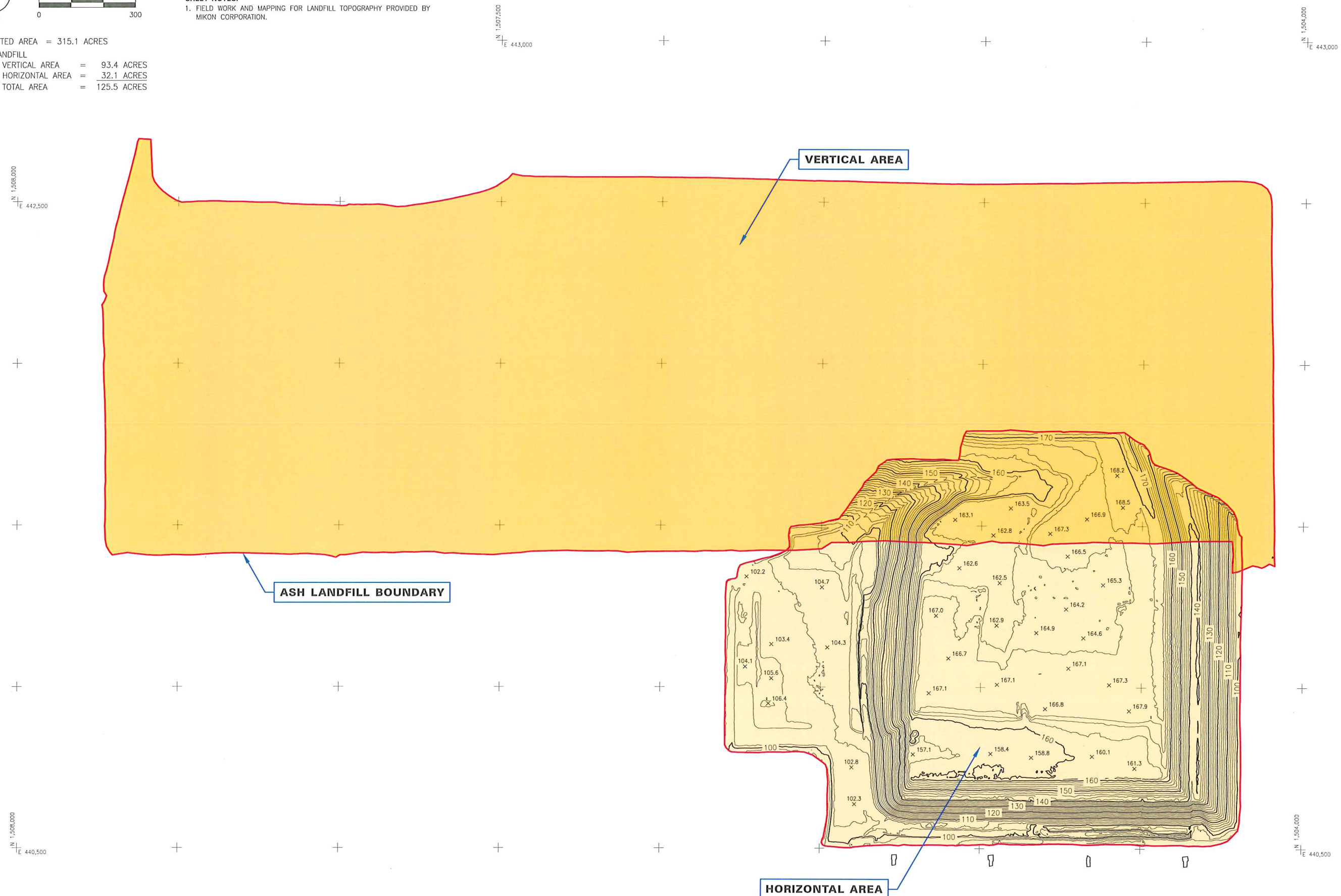




ASH LANDFILL			
	VERTICAL AREA	=	93.4 ACRES
	HORIZONTAL AREA	=	<u>32.1 ACRES</u>
	TOTAL AREA	=	125.5 ACRES

SHEET NOTES:

1. FIELD WORK AND MAPPING FOR LANDFILL TOPOGRAPHY PROVIDED BY MIKON CORPORATION.



MIKON CORPORATION
4414 SOUTH 40TH STREET, Suite B
ST. JOSEPH, MISSOURI 64503
816-364-2890 fax: 816-364-2126
email: mikon@mikoncorp.com

DRAWN BY: DHS	CHECKED BY: BJK
---------------	-----------------

ORLANDO UTILITIES COMMISSION

STANTON ENERGY CENTER

ASH
LANDFILL
TOPOGRAPHY

DATE: 09/28/22

SHEET 1 of 1

September 27, 2023

Mr. Stuart Cason
Orlando Utilities Commission
Orlando, Florida

RE: Stanton Energy Center
Ash Landfill

<scason@ouc.com>

Dear Mr. Cason:

We have completed the volume determinations of the horizontal expansion of the Fly Ash Landfill at the Stanton Energy Center. The volume of the horizontal area is reported as total volume referenced to base. Total volume includes active and capped (if any) areas. The results are as follows:

VOLUMES

Date of Survey: September 9, 2023

Area	Reference Datum	Type of Volume	Fill (cy)	Cut (cy)
Horizontal	Base ¹	Total	3,070,079	150

¹ Base model developed by MIKON Corporation from survey data obtained September 2013 and the surface of adjacent cell to the east surveyed in 2014 and 2021.

Should you have any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us. We appreciate the opportunity to provide our services to Orlando Utilities.

Respectfully submitted,

MIKON Corporation

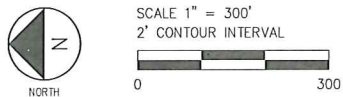
Bryan W. Davis

Brian J. Kramer

BWD/BJK:js

Attachments: Landfill Topography Drawing and AutoCAD File





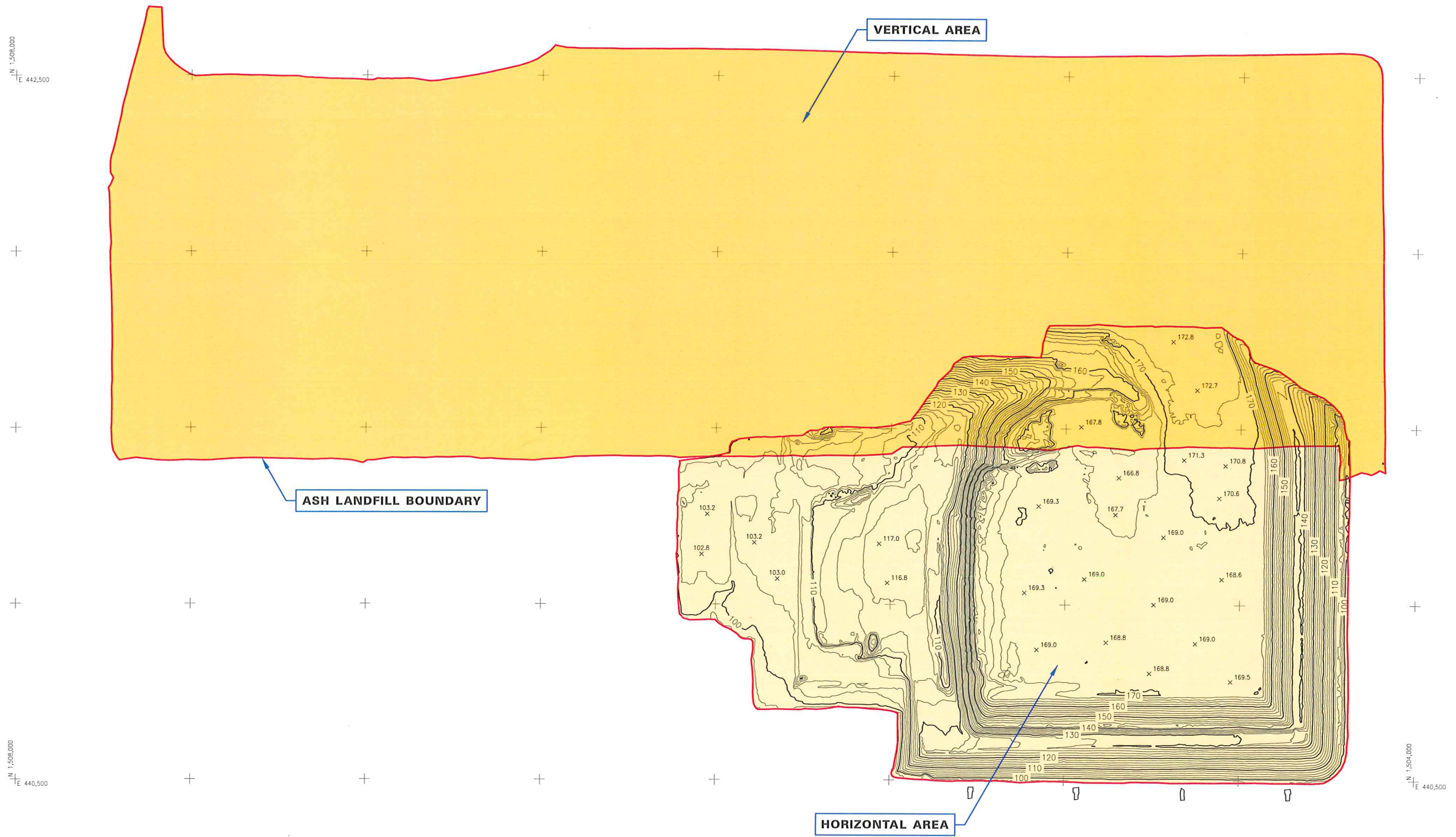
DATE OF SURVEY: SEPTEMBER 9, 2023

SHEET NOTES:
1. FIELD WORK AND MAPPING FOR LANDFILL TOPOGRAPHY PROVIDED BY MIKON CORPORATION.

PERMITTED AREA = 315.1 ACRES

ASH LANDFILL

VERTICAL AREA	=	93.4 ACRES
HORIZONTAL AREA	=	37.3 ACRES
TOTAL AREA	=	130.7 ACRES



ORLANDO UTILITIES COMMISSION

STANTON ENERGY CENTER

ASH LANDFILL TOPOGRAPHY

MIKON CORPORATION
4414 SOUTH 40th STREET, Suite B
ST. JOSEPH, MISSOURI 64503
816-364-2890 fax: 816-364-2126
email: mikon@mikoncorp.com

FILE NAME: STANTON_LF_09_23
DRAWN BY: DHS
CHECKED BY: BJR

Appendix 2

Topographic and Waste Quantity Surveys by WSP As of December 18, 2023 and February 21, 2024

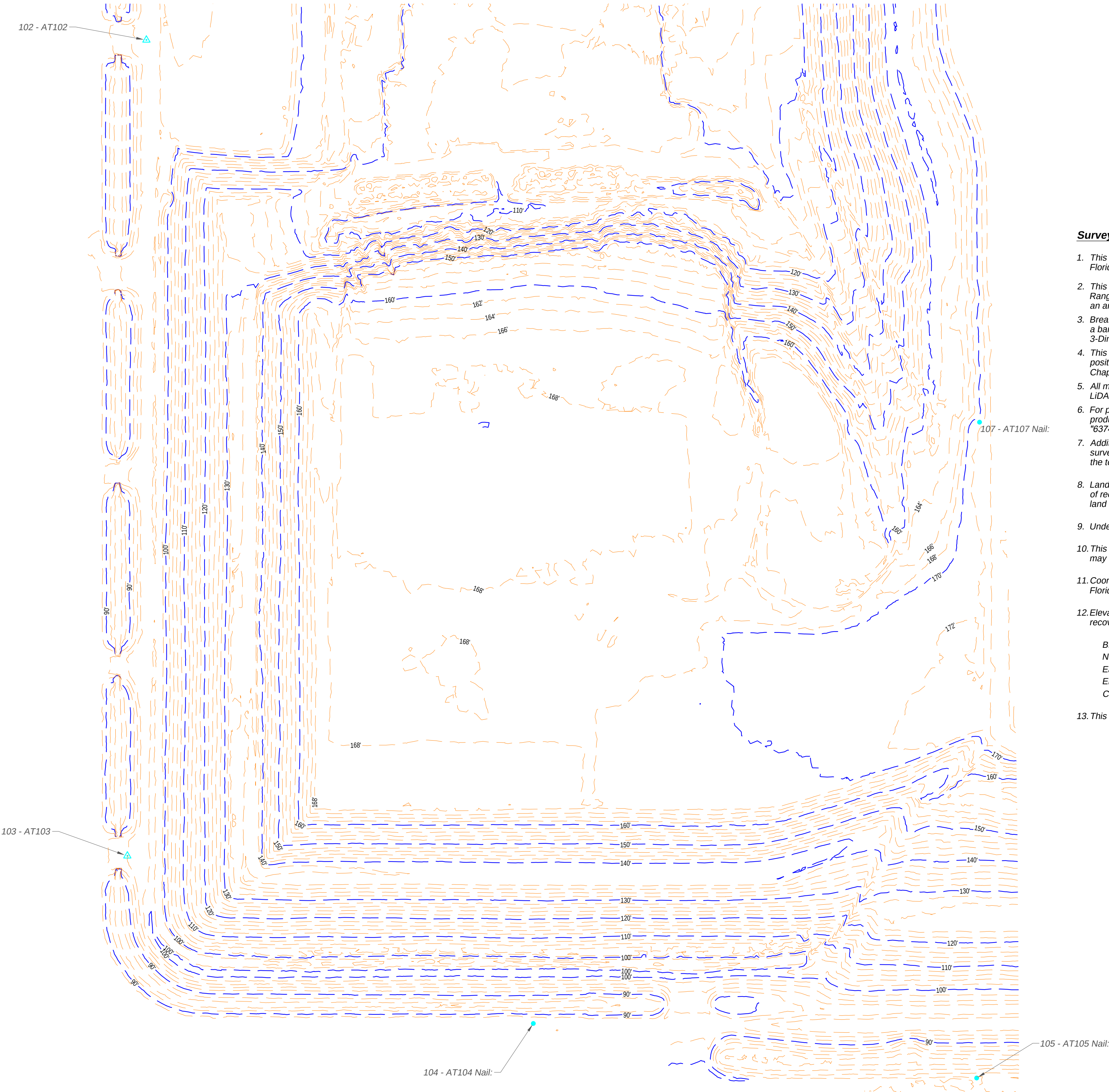
Map of Topographic / Quantity Survey
of
Horizontal Expansion of Combustion Waste Storage Area - Cell 1
Located in
Curtis H. Stanton Energy Center
Orange County, Florida

HISTORICAL QUANTITY DATA

SURFACE	FILL (CY)	CUT (CY)	NET FILL (CY)
JAN 2015	34,493.11	1,246.77	33,246.34
JAN 2016	90,582.32	59.63	90,522.69
FEB 2016	51,492.27	1,617.08	49,875.19
MAR 2016	50,521.00	415.20	50,105.80
APR 2016	42,996.09	107.39	42,888.70
MAY 2016	30,746.55	1,315.06	29,431.49
JUN 2016	24,725.26	1,318.89	23,406.37
JUL 2016	23,903.85	720.50	23,183.35
AUG 2016	45,680.73	552.65	45,128.08
SEP 2016	35,277.68	2,717.19	32,560.49
OCT 2016	41,091.95	373.75	40,718.20
NOV 2016	26,769.78	584.59	26,185.19
DEC 2016	39,511.03	71.13	39,439.90
JAN 2017	49,129.26	638.02	48,491.24
FEB 2017	20,414.90	543.32	19,871.58
MAR 2017	18,828.76	75.46	18,753.30
APR 2017	74,873.83	10,370.50	64,503.33
MAY 2017	69,893.77	7,856.80	62,036.97
JUN 2017	36,933.97	1,137.68	35,796.29
JUL 2017	30,986.22	1,659.06	29,327.16
AUG 2017	30,516.37	1,725.25	28,791.12
SEP 2017	37,960.57	2,102.78	35,857.79
OCT 2017	22,549.35	2,232.30	20,317.05
NOV 2017	48,815.96	3,263.68	45,552.28
JAN 2018	77,758.64	36,162.39	41,596.25
FEB 2018	38,056.88	4,604.22	33,452.66
APR 2018	69,275.99	58,750.94	10,525.05
MAY 2018	95,418.82	57,003.63	38,415.19
JUL 2018	177,218.68	54,596.31	122,622.37
JAN 2019	214,742.47	11,673.48	203,068.99
FEB 2019	62,388.98	27,949.34	34,439.64
APR 2019	61,464.19	53,646.10	7,818.09
AUG 2019	156,554.09	10,818.11	145,735.98
OCT 2019	87,009.81	3,936.58	83,073.23
APR 2020	171,029.52	2,389.84	168,639.68
MAY 2020	44,781.15	11,250.01	33,531.14
SEP 2020	160,224.99	21,340.37	138,884.62
APR 2021	228,567.12	7,220.07	221,347.05
JAN 2022	272,695.46	6,566.70	266,128.76
MAY 2022	110,016.03	4,916.45	105,099.58
MAY 2023	258,985.35	31,338.73	227,646.62
AUG 2023	129794.89	5,598.08	124,196.81
DEC 2023	109,860.76	20,387.29	89,473.47

DECEMBER 2023 QUANTITY DATA

SURFACE	FILL (CY)	CUT (CY)	NET FILL (CY)
AVAILABLE VOLUME REMAINING FROM DECEMBER 2023 SURVEY TO TOP OF WASTE FINAL DESIGN TEMPLATE	176,387.71	52,349.54	124,038.17



Surveyor's Notes / Report:

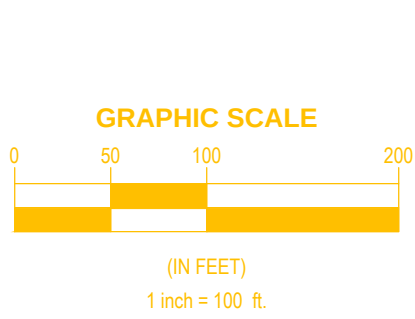
- This map of Topographic / Quantity Survey is not valid without the signature and the original raised seal of the signing Florida licensed Surveyor and Mapper.
- This Topographic / Quantity Survey was compiled utilizing aerial Photogrammetric Mapping and Light Detecting and Ranging (LiDAR) technology for the purpose of determining and mapping elevations and subsequent contour lines over an area identified by the client.
- Break-lines were collected from color digital aerial photography captured during the flight mission. These were draped to a bare earth surface model created from the LiDAR data while simultaneously viewing the conventional photography in 3-Dimensions on a softcopy workstation.
- This map is intended to be displayed at a scale of 1"=100' or smaller. Contour interval is one (1) foot. The expected positional accuracy of well-defined and identified surveyed positions complies with Florida Administrative Code Rule Chapter 63-17, Standards of Practice.
- All map features contained herein represents actual visible site conditions existing at the time of aerial photography and LiDAR captured simultaneously December 19, 2023.
- For purposes of clarity all spot elevations and other related topographic data may not be depicted hereon. The work product is intended to be a digital product deliverable. This data is available in electronic format in WSP file "6374181079" and other related digital files and has been furnished to the client.
- Additions or deletions to this topographic survey are prohibited without written consent of the signing Florida licensed surveyor and mapper. The signing party is not responsible for additions, deletion or manipulation of the data contained in the topographic survey map or associated digital file.
- Lands shown hereon were not abstracted by the Surveyor for rights-of-way, easements, ownership or other instruments of record. No title opinion or abstract of matters affecting title or boundary to the subject property or those of adjoining land owners has been provided to the Surveyor for review.
- Underground improvements such as foundations and utilities were not located.
- This survey does not address the identification or location of jurisdictional wetlands or sovereign lands, if any, that may lie within or adjacent to the lands surveyed.
- Coordinates shown hereon are relative to the Florida State Plane Coordinate System, Transverse Mercator projection, Florida East Zone (FL E 0901), US Survey Foot, North American Datum of 1983/2011 Adjustment.
- Elevations shown hereon are relative to the North American Vertical Datum of 1988 (NAVD88) based on the following recovered or reset benchmarks:

BM#12
Northing: 1504267.68
Easting: 597404.25
Elevation: 92.96'
CM 4"x4" No ID

BM#14
Northing: 1507740.55
Easting: 600838.18
Elevation: 81.04'
CM with 3" Brass Disk HVM4.
- This Map of Topographic / Quantity Survey is certified to: ORLANDO UTILITIES COMMISSION

DRAFT
2/8/2024

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201



Legend

CM = Concrete Monument
CY = Cubic Yards
SF = Square Feet

Prepared by:

WSP
WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.
550 Northlake Boulevard, Suite 1000
Altamonte Springs, FL 32701 USA
Phone: (407) 522-7570
www.wsp.com
Certificate of Authorization Number LB-0007632

Field survey last day in field: 12/19/2023

Prepared for:



ORLANDO UTILITIES COMMISSION
5971 Perishing Avenue
Orlando, Florida 32822
Phone: 407-364-4077

Date

Revision

Date

Revision

Dwg. Date: 2/9/2024

Photo Date: N/A

Drawn by: JSP

Checked by: RMJ

County: Orange County, Florida

Field Books: 6374181079

Dwg Name: 20231219 - Quantities_v2.dwg

Project Title:

Map of Topographic / Quantity Survey

Horizontal Expansion of Combustion Waste Storage Area - Cell 1

Curtis H. Stanton Energy Center

Orange County, Florida

Sheet No.

1 of 1

Orange County, Florida

Appendix 3

Summary of Fugitive Dust Daily Logs for 2023

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
01/03/2023	YES	YES	YES	NO	
01/04/2023	YES	YES	YES	NO	
01/05/2023	YES	YES	YES	NO	
01/06/2023	YES	YES	YES	NO	
01/09/2023	YES	YES	YES	NO	
01/10/2023	YES	YES	YES	NO	
01/11/2023	YES	YES	YES	NO	
01/12/2023	YES	YES	YES	NO	
01/16/2023	YES	YES	YES	NO	
01/17/2023	YES	YES	YES	NO	
01/18/2023	YES	YES	YES	NO	
01/19/2023	YES	YES	YES	NO	
01/23/2023	YES	YES	YES	NO	
01/24/2023	YES	YES	YES	NO	
01/25/2023	YES	YES	YES	NO	
01/26/2023	YES	YES	YES	NO	
01/27/2023	YES	YES	YES	NO	
01/30/2023	YES	YES	YES	NO	
01/31/2023	YES	YES	YES	NO	
02/01/2023	YES	YES	YES	NO	
02/03/2023	YES	YES	YES	NO	
02/06/2023	YES	YES	YES	NO	
02/07/2023	YES	YES	YES	NO	
02/08/2023	YES	YES	YES	NO	
02/09/2023	YES	YES	YES	NO	
02/10/2023	YES	YES	YES	NO	
02/13/2023	YES	YES	YES	NO	
02/14/2023	YES	YES	YES	NO	
02/15/2023	YES	YES	YES	NO	
02/16/2023	YES	YES	YES	NO	
02/17/2023	YES	YES	YES	NO	
02/20/2023	YES	YES	YES	NO	
02/21/2023	YES	YES	YES	NO	
02/22/2023	YES	YES	YES	NO	
02/23/2023	YES	YES	YES	NO	
02/27/2023	YES	YES	YES	NO	
02/28/2023	YES	YES	YES	NO	
03/01/2023	YES	YES	YES	NO	
03/02/2023	YES	YES	YES	NO	
03/03/2023	YES	YES	YES	NO	
03/06/2023	YES	YES	YES	NO	
03/07/2023	YES	YES	YES	NO	
03/08/2023	YES	YES	YES	NO	
03/09/2023	YES	YES	YES	NO	

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
03/10/2023	YES	YES	YES	NO	
03/13/2023	YES	YES	YES	NO	
03/14/2023	YES	YES	YES	NO	
03/15/2023	YES	YES	YES	NO	
03/16/2023	YES	YES	YES	NO	
03/17/2023	YES	YES	YES	NO	
03/20/2023	YES	YES	YES	NO	
03/21/2023	YES	YES	YES	NO	
03/22/2023	YES	YES	YES	NO	
03/23/2023	YES	YES	YES	NO	
03/24/2023	YES	YES	YES	NO	
03/27/2023					
03/28/2023					
03/29/2023					
03/30/2023					
03/31/2023					
04/03/2023					
04/04/2023					
04/05/2023					
04/06/2023	YES	YES	YES	NO	
04/07/2023	YES	YES	YES	NO	
04/10/2023	YES	YES	YES	NO	
04/11/2023	YES	YES	YES	NO	
04/12/2023	YES	YES	YES	NO	
04/13/2023	YES	YES	YES	NO	
04/14/2023	YES	YES	YES	NO	
04/17/2023	YES	YES	YES	NO	
04/18/2023	YES	YES	YES	NO	
04/19/2023	YES	YES	YES	NO	
04/20/2023	YES	YES	YES	NO	
04/21/2023	YES	YES	YES	NO	
04/24/2023	YES	YES	YES	NO	
04/25/2023	YES	YES	YES	NO	
04/26/2023	YES	YES	YES	NO	
04/27/2023	YES	YES	YES	NO	
04/28/2023	YES	YES	YES	NO	
05/01/2023	YES	YES	YES	NO	
05/02/2023	YES	YES	YES	NO	
05/03/2023	YES	YES	YES	NO	
05/04/2023	YES	YES	YES	NO	
05/05/2023	YES	YES	YES	NO	
05/08/2023	YES	YES	YES	NO	
05/09/2023	YES	YES	YES	NO	
05/10/2023	YES	YES	YES	NO	

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
05/11/2023	YES	YES	YES	NO	
05/12/2023	YES	YES	YES	NO	
05/15/2023	YES	YES	YES	NO	
05/16/2023	YES	YES	YES	NO	
05/17/2023	YES	YES	YES	NO	
05/18/2023	YES	YES	YES	NO	
05/19/2023	YES	YES	YES	NO	
05/22/2023	YES	YES	YES	NO	
05/23/2023	YES	YES	YES	NO	
05/24/2023	YES	YES	YES	NO	
05/25/2023	YES	YES	YES	NO	
05/26/2023	YES	YES	YES	NO	
05/30/2023	YES	YES	YES	NO	
05/31/2023	YES	YES	YES	NO	
06/01/2023	YES	YES	YES	NO	"
06/02/2023	YES	YES	YES	NO	
06/05/2023	YES	YES	YES	NO	
06/06/2023	YES	YES	YES	NO	
06/07/2023	YES	YES	YES	NO	
06/08/2023	YES	YES	YES	NO	
06/09/2023	YES	YES	YES	NO	
06/12/2023	YES	YES	YES	NO	
06/13/2023	YES	YES	YES	NO	
06/14/2023	YES	YES	YES	NO	
06/15/2023	YES	YES	YES	NO	
06/16/2023	YES	YES	YES	NO	
06/19/2023	YES	YES	YES	NO	
06/20/2023	YES	YES	YES	NO	
06/21/2023	YES	YES	YES	NO	
06/22/2023	YES	YES	YES	NO	
06/23/2023	YES	YES	YES	NO	
06/26/2023	YES	YES	YES	NO	
06/27/2023	YES	YES	YES	NO	
06/28/2023	YES	YES	YES	NO	
06/29/2023	YES	YES	YES	NO	
06/30/2023	YES	YES	YES	NO	
07/03/2023	YES	YES	YES	NO	
07/04/2023	YES	YES	YES	NO	
07/05/2023	YES	YES	YES	NO	
07/06/2023	YES	YES	YES	NO	
07/07/2023	YES	YES	YES	NO	
07/10/2023	YES	YES	YES	NO	
07/11/2023	YES	YES	YES	NO	
07/12/2023	YES	YES	YES	NO	

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
07/13/2023	YES	YES	YES	NO	
07/14/2023	YES	YES	YES	NO	
07/17/2023	YES	YES	YES	NO	
07/18/2023	YES	YES	YES	NO	
07/19/2023	YES	YES	YES	NO	
07/20/2023	YES	YES	YES	NO	
07/21/2023	YES	YES	YES	NO	
07/24/2023	YES	YES	YES	NO	
07/25/2023	YES	YES	YES	NO	
07/26/2023	YES	YES	YES	NO	
07/27/2023	YES	YES	YES	NO	
07/28/2023	YES	YES	YES	NO	
07/31/2023	YES	YES	YES	NO	
08/01/2023	YES	YES	YES	NO	
08/02/2023	YES	YES	YES	NO	
08/03/2023	YES	YES	YES	NO	
08/04/2023	YES	YES	YES	NO	
08/07/2023	YES	YES	YES	NO	
08/08/2023	YES	YES	YES	NO	
08/09/2023	YES	YES	YES	NO	
08/10/2023	YES	YES	YES	NO	
08/11/2023	YES	YES	YES	NO	
08/14/2023	YES	YES	YES	NO	
08/15/2023	YES	YES	YES	NO	
08/16/2023	YES	YES	YES	NO	
08/17/2023	YES	YES	YES	NO	
08/18/2023	YES	YES	YES	NO	
08/21/2023	YES	YES	YES	NO	
08/22/2023	YES	YES	YES	NO	
08/24/2023	YES	YES	YES	NO	
08/25/2023	YES	YES	YES	NO	
08/28/2023	YES	YES	YES	NO	
08/29/2023	YES	YES	YES	NO	
08/30/2023	NO	NO	NO	NO	Hurricane
08/31/2023	YES	YES	YES	NO	
09/04/2023	YES	YES	YES	NO	
09/05/2023	YES	YES	YES	NO	
09/06/2023	YES	YES	YES	NO	
09/07/2023	YES	YES	YES	NO	
09/08/2023	YES	YES	YES	NO	
09/11/2023	YES	YES	YES	NO	
09/12/2023	YES	YES	YES	NO	
09/13/2023	YES	YES	YES	NO	
09/14/2023	YES	YES	YES	NO	

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
09/15/2023	YES	YES	YES	NO	
09/18/2023	YES	YES	YES	NO	
09/19/2023	YES	YES	YES	NO	
09/20/2023	YES	YES	YES	NO	
09/21/2023	YES	YES	YES	NO	
09/22/2023	YES	YES	YES	NO	
09/25/2023	YES	YES	YES	NO	
09/26/2023	YES	YES	YES	NO	
09/27/2023	YES	YES	YES	NO	
09/28/2023	YES	YES	YES	NO	
09/29/2023	YES	YES	YES	NO	
10/02/2023	NO	NO	NO	NO	
10/03/2023	NO	NO	NO	NO	
10/04/2023	NO	NO	NO	NO	
10/05/2023	YES	YES	YES	NO	
10/06/2023	YES	YES	YES	NO	
10/09/2023	YES	YES	YES	NO	
10/10/2023	YES	YES	YES	NO	
10/11/2023	YES	YES	YES	NO	
10/12/2023	YES	YES	YES	NO	
10/13/2023	YES	YES	YES	NO	
10/16/2023	YES	YES	YES	NO	
10/17/2023	YES	YES	YES	NO	
10/18/2023	YES	YES	YES	NO	
10/19/2023	YES	YES	YES	NO	
10/20/2023	YES	YES	YES	NO	
10/23/2023	YES	YES	YES	NO	
10/24/2023	YES	YES	YES	NO	
10/25/2023	YES	YES	YES	NO	
10/26/2023	YES	YES	YES	NO	
10/27/2023	YES	YES	YES	NO	
10/30/2023	YES	YES	YES	NO	
10/31/2023	YES	YES	YES	NO	
11/01/2023	YES	YES	YES	NO	
11/02/2023	NO	NO	NO	NO	
11/03/2023	YES	YES	YES	NO	
11/06/2023	YES	YES	YES	NO	
11/07/2023	YES	YES	YES	NO	
11/08/2023	YES	YES	YES	NO	
11/09/2023	YES	YES	YES	NO	
11/10/2023	YES	YES	YES	NO	
11/13/2023	YES	YES	YES	NO	
11/14/2023	YES	YES	YES	NO	
11/15/2023	YES	YES	YES	NO	

Date	Dust Observed Roadways or Landfill?	Water Applied to Landfill?	Water Applied to Roadways?	Sweeper Truck Operated on Roadways?	If Dust, Why Was Sweeper or Water Truck Not Used?
11/16/2023	YES	YES	YES	NO	
11/17/2023	YES	YES	YES	NO	
11/20/2023	YES	YES	YES	NO	
11/21/2023	YES	YES	YES	NO	
11/22/2023	YES	YES	YES	NO	
11/27/2023	YES	YES	YES	NO	
11/28/2023	YES	YES	YES	NO	
11/29/2023	YES	YES	YES	NO	
11/30/2023	YES	YES	YES	NO	
12/01/2023	YES	YES	YES	NO	
12/04/2023	YES	YES	YES	NO	
12/05/2023	YES	YES	YES	NO	
12/06/2023	YES	YES	YES	NO	
12/07/2023	YES	YES	YES	NO	
12/08/2023	YES	YES	YES	NO	
12/18/2023	YES	NO	YES	NO	
12/19/2023	YES	NO	YES	NO	
12/20/2023	YES	NO	YES	NO	
12/21/2023	YES	NO	YES	NO	
12/26/2023	YES	NO	YES	NO	
12/27/2023	YES	NO	YES	NO	
12/28/2023	YES	NO	YES	NO	
12/29/2023	YES	NO	YES	NO	

Appendix 4

Leachate Pump Totalizer Readings and Calculated Flow Rates

Date	Landfill Cell 1 Totalizer Readings (gallons)								Landfill Cell 2 Totalizer Readings (gallons)								Average Daily Flow (gpm)					Total (Mgal/day)
	1WWC-PNL-601		1WWC-PNL-602		1WWC-PNL-603		1WWC-PNL-604		1WWC-PNL-605		1WWC-PNL-606		1WWC-PNL-607		1WWC-PNL-608		Cell 1		Cell 2		Total	
	1WWC-P-601A	1WWC-P-601B	1WWC-P-602A	1WWC-P-602B	1WWC-P-603A	1WWC-P-603B	1WWC-P-604A	1WWC-P-604B	1WWC-P-605A	1WWC-P-605B	1WWC-P-606A	1WWC-P-606B	1WWC-P-607A	1WWC-P-607B	1WWC-P-608A	1WWC-P-608B	Leachate Collection	Leak Detection	Leachate Collection	Leak Detection		
	Pump A	Pump A - LD	Pump B	Pump B - LD	Pump C	Pump C - LD	Pump D	Pump D - LD	Pump E	Pump E - LD	Pump F	Pump F - LD	Pump G	Pump G - LD	Pump H	Pump H - LD						
10/18/2023	6,647,745	170,177	4,045,322	1,500,946	6,197,545	695,782	6,189,155	129,816	16,863,176	8,508	19,723,810	66,863	—	—	—	—	—	—	—	—	—	—
10/19/2023	6,647,745	170,177	4,076,619	1,502,159	6,285,221	695,782	6,195,246	129,816	16,874,174	8,508	19,734,350	66,867	24,924,476	169,321	23,873,076	154,793	86.9	0.8	15.0	0.0	103	0.15
10/20/2023	6,647,745	170,177	4,093,540	1,503,434	6,329,337	695,782	6,199,011	129,816	16,880,236	8,508	19,739,610	66,867	24,928,338	169,321	23,882,694	154,793	45.0	0.9	7.9	0.0	53.7	0.08
10/21/2023	6,647,740	170,177	4,110,230	1,503,434	6,376,937	695,782	6,201,924	129,816	16,884,704	8,508	19,744,934	66,867	24,932,270	169,321	23,887,522	154,793	46.7	0.0	6.8	0.0	53.5	0.08
10/22/2023	6,647,745	170,177	4,126,656	1,503,434	6,424,728	695,782	6,203,879	129,816	16,890,520	8,508	19,750,306	66,867	24,936,236	169,321	23,892,252	154,793	46.0	0.0	7.8	0.0	53.7	0.08
10/23/2023	6,666,625	170,199	4,146,588	1,504,521	6,483,462	695,782	6,206,153	129,816	16,896,314	8,508	19,755,714	67,526	24,940,382	169,321	23,897,142	154,793	69.3	0.8	7.8	0.5	78.3	0.11
10/24/2023	6,706,031	170,199	4,155,151	1,504,521	6,514,402	695,782	6,207,502	129,816	16,900,572	8,508	19,761,150	67,529	24,944,390	169,321	23,902,184	154,793	55.7	0.0	6.7	0.0	62.5	0.09
10/25/2023	6,746,882	170,199	4,163,657	1,505,636	6,549,064	695,782	6,208,888	129,816	16,904,686	8,508	19,763,864	67,533	24,944,390	169,321	23,906,980	154,793	59.3	0.8	4.7	0.0	64.8	0.09
10/26/2023	6,783,350	170,210	4,170,790	1,505,640	6,580,160	695,790	6,210,370	129,820	16,908,730	8,508	19,766,600	67,540	24,948,480	169,321	23,906,990	154,800	52.9	0.0	4.7	0.0	57.6	0.08
10/27/2023	6,813,960	170,210	4,176,250	1,505,640	6,605,950	695,790	6,211,820	129,820	16,912,680	8,508	19,772,050	67,540	24,952,570	169,321	23,911,810	154,800	44.0	0.0	6.5	0.0	50.5	0.07
10/28/2023	6,813,960	170,210	4,176,250	1,505,640	6,605,950	695,790	6,211,820	129,820	16,912,680	8,508	19,772,050	67,540	24,952,570	169,321	23,911,810	154,800	0.0	0.0	0.0	0.0	0.0	0.00
10/29/2023	6,817,662	170,206	4,176,250	1,505,899	6,607,367	695,786	6,212,998	129,818	16,917,250	8,508	19,776,164	67,540	24,954,665	169,321	23,914,280	154,793	4.4	0.2	6.0	0.0	10.6	0.02
10/30/2023	6,821,363	170,203	4,176,249	1,506,158	6,608,784	695,782	6,214,175	129,816	16,921,820	8,508	19,780,278	67,540	24,956,760	169,321	23,916,750	154,793	4.4	0.2	6.0	0.0	10.6	0.02
10/31/2023	6,825,065	170,199	4,191,358	1,506,645	6,659,005	695,782	6,221,133	129,816	16,925,828	8,508	19,783,064	67,556	24,960,980	169,321	23,921,354	154,793	52.8	0.3	4.7	0.0	57.8	0.08
11/01/2023	6,840,494	170,199	4,203,333	1,506,645	6,702,922	695,782	6,222,555	129,816	16,929,752	8,508	19,785,852	67,556	24,960,980	169,321	23,921,354	154,793	50.5	0.0	4.7	0.0	55.2	0.08
11/02/2023	6,840,494	170,199	4,226,447	1,506,645	6,784,250	695,782	6,223,035	129,816	16,936,758	8,508	19,794,394	67,556	24,965,212	169,321	23,926,156	154,793	72.9	0.0	10.8	0.0	83.7	0.12
11/03/2023	6,840,494	170,199	4,238,458	1,506,645	6,821,627	695,782	6,223,513	129,816	16,940,884	8,508	19,797,270	67,556	24,969,458	169,321	23,926,156	154,793	34.6	0.0	4.9	0.0	39.5	0.06
11/04/2023	6,840,494	170,199	4,238,458	1,506,645	6,821,627	695,782	6,223,513	129,816	16,940,884	8,508	19,797,270	67,556	24,969,458	169,321	23,926,156	154,793	0.0	0.0	0.0	0.0	0.0	0.00
11/05/2023	6,842,381	170,199	4,251,238	1,507,698	6,858,772	695,782	6,224,926	129,816	16,945,386	8,508	19,800,126	67,556	24,969,458	169,321	23,926,156	154,793	37.0	0.7	5.1	0.0	42.8	0.06
11/06/2023	6,883,160	170,199	4,258,020	1,507,698	6,891,100	695,782	6,225,410	129,816	16,948,290	8,508	19,803,030	67,556	24,973,710	169,321	23,926,160	154,793	55.8	0.0	4.0	0.0	59.8	0.09
11/07/2023	6,911,840	170,199	4,261,930	1,507,698	6,925,850	695,782	6,225,850	129,816	16,952,460	8,508	19,805,910	67,556	24,973,710	169,321	23,930,790	154,793	47.1	0.0	4.9	0.0	52.0	0.07
11/08/2023	6,934,770	170,199	4,265,550	1,507,698	6,959,280	695,782	6,225,850	129,816	16,956,590	8,508	19,808,800	67,556	24,973,710	169,321	23,930,790	154,793	41.7	0.0	4.9	0.0	46.5	0.07
11/09/2023	6,953,520	170,199	4,268,630	1,507,698	6,991,770	695,782	6,225,850	129,816	16,959,390	8,508	19,811,720	67,556	24,978,000	169,321	23,934,020	154,793	37.7	0.0	4.0	0.0	41.7	0.06
11/10/2023	6,969,984	170,199	4,271,671	1,507,698	7,020,968	695,782	6,225,849	129,816	16,963,516	8,508	19,814,632	67,556	24,977,998	169,321	23,934,020	154,793	33.8	0.0	4.9	0.0	38.7	0.06
11/11/2023	6,983,192	170,199	4,274,450	1,508,781	7,046,225	695,782	6,225,849	129,816	16,966,186	8,508	19,817,548	67,556	24,977,998	169,321	23,934,020	154,793	28.6	0.8	3.9	0.0	33.3	0.05
11/12/2023	6,994,542	170,199	4,277,187	1,508,781	7,070,897	695,782	6,225,849	129,816	16,970,168	8,508	19,820,498											

Date	Landfill Cell 1 Totalizer Readings (gallons)								Landfill Cell 2 Totalizer Readings (gallons)								Average Daily Flow (gpm)					Total (Mgal/day)
	1WWC-PNL-601		1WWC-PNL-602		1WWC-PNL-603		1WWC-PNL-604		1WWC-PNL-605		1WWC-PNL-606		1WWC-PNL-607		1WWC-PNL-608		Cell 1		Cell 2		Total	
	1WWC-P-601A	1WWC-P-601B	1WWC-P-602A	1WWC-P-602B	1WWC-P-603A	1WWC-P-603B	1WWC-P-604A	1WWC-P-604B	1WWC-P-605A	1WWC-P-605B	1WWC-P-606A	1WWC-P-606B	1WWC-P-607A	1WWC-P-607B	1WWC-P-608A	1WWC-P-608B	Leachate Collection	Leak Detection	Leachate Collection	Leak Detection		
	Pump A	Pump A - LD	Pump B	Pump B - LD	Pump C	Pump C - LD	Pump D	Pump D - LD	Pump E	Pump E - LD	Pump F	Pump F - LD	Pump G	Pump G - LD	Pump H	Pump H - LD						
12/24/2023	7,395,520	170,213	4,484,780	1,523,930	7,500,100	703,217	6,514,410	143,819	18,566,210	82,100	22,082,380	152,750	26,841,960	169,321	25,758,226	201,730	62.9	0.0	221	9.9	294	0.42
12/25/2023	7,423,440	170,213	4,500,168	1,523,930	7,500,100	703,217	6,546,585	143,819	18,660,402	82,089	22,173,550	154,437	26,841,952	169,321	25,758,226	201,824	52.4	0.0	129	1.2	182	0.26
12/26/2023	7,423,491	170,213	4,500,230	1,523,930	7,500,100	703,217	6,546,585	143,819	18,660,402	82,089	22,173,550	154,437	26,841,952	169,321	25,758,226	201,824	0.1	0.0	0.0	0.0	0.1	0.00
12/27/2023	7,483,338	170,213	4,524,921	1,525,254	7,500,100	703,217	6,596,353	143,819	18,758,998	82,089	22,306,866	156,094	26,870,830	169,321	25,788,034	201,879	93.3	0.9	202	1.2	297	0.43
12/28/2023	7,501,261	170,213	4,534,136	1,525,254	7,500,100	703,217	6,617,034	143,819	18,794,094	82,089	22,361,107	156,094	27,040,786	169,321	25,960,888	201,879	33.2	0.0	300	0.0	333	0.48
12/29/2023	7,501,274	170,213	4,534,136	1,525,254	7,500,100	703,217	6,617,022	143,819	18,794,094	82,089	22,361,107	156,094	27,040,786	169,321	25,960,888	201,879	0.0	0.0	0.0	0.0	0.0	0.00
12/30/2023	7,501,274	170,213	4,534,136	1,525,254	7,500,100	703,217	6,617,022	143,819	18,794,094	82,089	22,361,168	156,094	27,040,847	169,321	25,960,950	201,879	0.0	0.0	0.1	0.0	0.1	0.00
12/31/2023	7,533,426	170,213	4,556,564	1,526,268	7,500,109	703,222	6,663,894	143,819	18,874,476	82,089	22,557,732	157,718	27,576,843	169,321	26,505,678	203,126	70.5	0.7	943	2.0	1,016	1.46
01/01/2024	7,542,387	170,213	4,562,968	1,526,268	7,500,109	703,222	6,676,560	143,819	18,893,138	82,089	22,588,960	159,301	27,757,140	169,321	26,688,533	203,126	19.5	0.0	287	1.1	307	0.44
01/02/2024	7,555,463	170,213	4,569,333	1,526,268	7,500,109	703,222	6,689,783	143,819	18,908,614	82,089	22,615,282	159,301	27,771,808	169,321	26,703,584	203,126	22.7	0.0	49.7	0.0	72.3	0.10
01/03/2024	7,565,304	170,213	4,576,267	1,527,604	7,500,109	703,222	6,702,872	143,819	18,922,460	82,089	22,638,903	159,301	27,771,840	169,321	26,703,584	203,135	20.7	0.9	26.0	0.0	47.7	0.07
01/04/2024	7,573,609	170,213	4,582,557	1,527,604	7,500,109	703,222	6,715,452	143,819	18,933,826	82,089	22,659,546	159,301	27,796,032	169,321	26,728,505	203,135	18.9	0.0	56.3	0.0	75.2	0.11
01/05/2024	7,577,527	170,213	4,588,118	1,527,604	7,500,109	703,222	6,726,418	143,819	18,943,900	82,089	22,677,092	159,301	27,958,629	169,321	26,904,333	203,135	14.2	0.0	254	0.0	268	0.39
01/06/2024	7,577,527	170,213	4,588,366	1,527,604	7,500,109	703,222	6,726,875	143,819	18,944,470	82,089	22,677,190	159,301	27,965,044	169,321	26,913,618	203,135	0.5	0.0	11.4	0.0	11.9	0.02
01/07/2024	7,577,527	170,213	4,588,366	1,527,604	7,500,109	703,222	6,726,875	143,819	18,944,572	82,089	22,677,190	159,301	27,965,044	169,321	26,913,618	203,135	0.0	0.0	0.1	0.0	0.1	0.00
01/08/2024	7,579,774	170,213	4,589,896	1,527,646	7,500,109	703,222	6,730,457	143,819	18,957,028	82,089	22,700,088	161,197	27,985,397	169,321	26,933,828	203,668	5.1	0.0	52.7	1.7	59.5	0.09
01/09/2024	7,591,813	170,213	4,599,325	1,528,706	7,500,109	703,222	6,752,882	143,819	18,979,800	82,089	22,741,380	161,197	28,114,225	169,321	27,092,134	203,669	30.5	0.7	244	0.0	275	0.40
01/10/2024	7,597,888	170,213	4,606,248	1,528,706	7,500,109	703,222	6,767,990	143,819	18,999,647	82,089	22,781,752	161,197	28,246,736	169,321	27,204,598	203,669	19.5	0.0	212	0.0	231	0.33
01/11/2024	7,601,887	170,213	4,611,946	1,528,706	7,500,109	703,222	6,781,438	143,819	19,016,728	82,089	22,812,532	161,197	28,359,650	169,321	27,310,594	203,669	16.1	0.0	185	0.0	201	0.29
01/12/2024	7,610,981	170,213	4,618,362	1,530,145	7,500,109	703,222	6,793,708	143,819	19,031,554	82,089	22,841,710	161,197	28,359,830	169,321	27,310,594	203,669	19.3	1.0	30.7	0.0	51.0	0.07
01/13/2024	7,618,328	170,213	4,625,325	1,530,145	7,500,109	703,222	6,806,958	143,819	19,044,868	82,089	22,863,424	162,863	28,366,706	169,321	27,316,416	203,669	19.1	0.0	33.1	1.2	53.4	0.08
01/14/2024	7,621,792	170,213	4,630,366	1,530,145	7,500,109	703,222	6,817,435	143,819	19,056,280	82,089	22,880,160	162,863	28,366,706	169,321	27,316,416	203,669	13.2	0.0	19.5	0.0	32.7	0.05
01/15/2024	7,626,822	170,213	4,636,426	1,530,145	7,500,109	703,222	6,829,289	143,819	19,068,476	82,089	22,896,236	162,863	28,394,001	169,321	27,344,042	203,669	15.9	0.0	57.8	0.0	73.7	0.11
01/16/2024	7,630,098	170,213	4,641,893	1,531,186	7,500,109	703,222	6,841,086	143,819	19,078,372	82,089	22,910,294	162,863	28,516,466	169,321	27,461,064	203,669	14.3	0.7	183	0.0	198	0.29
01/17/2024	7,630,098	170,213	4,641,893	1,531,186	7,500,109	703,222	6,841,086	143,819	19,078,372	82,089	22,910,294	162,863	28,516,466	169,321	27,461,064	203,669	0.0	0.0	0.0	0.0	0.0	0.00
01/18/2024	7,630,098	170,213	4,641,893	1,531,186	7,500,109	703,222	6,841,086	143,819	19,078,372	82,089	22,910,294	162,863	28,516,466	169,321	27,461,064	203,669	0.0	0.0	0.0	0.0	0.0	0.00
01/19/2024	7,630,098	170,213	4,641,893	1,531,186	7,500,109	703,222	6,841,086	143,819	19,078,372	82,089	22,910,294	162,863	28,516,466	169,321	27,461,064	203,669	0.0	0.0	0.0	0.0	0.0	0.00
Average (gpm)	7.3	0.0	4.4	0.2	9.6	0.1	4.8	0.1	16.4	0.5	23.5	0.7	26.8	0.0	26.8	0.4	26.4	0.4	91.4	1.5	120	16.04

No waste in subcell. Pumps discharged to stormwater ditches.

Appendix 5

Summary of Weekly Landfill Inspection Reports for 2023

Date of Inspection	Containment Dikes						Sumps at West End of CWSA			East End Landfill	Stormwater Wet Detention Pond		
	Exterior Slope Conditions			Interior Slope Conditions			Water Level	Pump Operations		Slope Condition	Slope Erosion	Inlet and Outlet Structure Condition	Vegetation
	North	West	South	North	West	South		Cell 1	Cell 2				
01/03/2023	Good	Minimal erosion	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion and liner exposure	Minor erosion SE side	Good	Good
01/09/2023	Good	Minor erosion	Good	Minor erosion	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion and liner exposure	Minimal erosion SE corner	Good	Good
01/16/2023	Good	Minor erosion	Good	Minor erosion	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion with liner exposure	Minor erosion SE corner	Good	Good
01/23/2023	Good	Minor erosion	Good	Minor erosion	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion and liner exposure	Minor erosion SE corner	Good	Good
01/30/2023	Good	Minimal erosion	Good	Minor erosion	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion with liner exposure	Minor erosion	Good	Good
02/06/2023	Good	Minor erosion	Good	Good	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion and liner exposure	Minor erosion SE corner	Good	Good
02/13/2023	Good	Minor erosion	Good	Good	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto: UPS bypass	Major erosion with liner exposure	Minor erosion on SE corner	Good	Good
02/27/2023	Minimal erosion	Minor erosion	Good	Good	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion with liner exposure	Minor erosion SE corner	Good	Good
03/06/2023	Minimal erosion	Minor erosion	Good	Good	Minor erosion	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 O/S, P3 and P4 Auto	Major erosion with liner exposure	Minor erosion SE corner	Good	Good
03/27/2023	Good	Minimal erosion	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Major washout and liner exposure	Minor washout SE corner	Good	Good
04/03/2023	Good	Minimal erosion	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Major erosion with liner exposure	Minor erosion SE corner	Good	Good
04/10/2023	Good	Minimal erosion	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Major erosion with liner exposure	Minor erosion SE corner	Good	Good
04/24/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Liner exposed for repairs from hurricane in four sections	Minor erosion SE corner	Good	Good
05/01/2023	Minimal erosion	Minimal erosion	Good	Minimal erosion	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Major erosion; liner exposed for repairs	Minor erosion SE corner	Good	Good
05/08/2023	Minimal erosion	Minimal erosion	Good	Minimal erosion	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Liner exposed for repairs from hurricane in four sections	Minor erosion SE corner	Good	Good
05/15/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Liner repair in progress	Minor erosion SE corner	Good	Good
05/22/2023	Good	Good	Good	Good	Good	Good	Good	P1 and P2 Off; P3, and P4 Auto	P1 Off; P2, P3, and P4 Auto	Liner repair finished	Minor erosion SE corner	Good	Good
05/29/2023	Good	Good	Good	Good	Good	Good	Good	All pumps Off for cleanout and inspection	P1 Off; P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Good
06/05/2023	Good	Good	Good	Good	Good	Good	Good	P1 through P4 tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good; liner repaired	Minor erosion SE corner	Good	Minimal
06/12/2023	Good	Good	Good	Good	Good	Good	Good	Pumps tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good; liner repair done	Minor erosion SE corner	Good	Minor
06/19/2023	Good	Good	Good	Good	Good	Good	Good	All pumps still tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good; liner repair done	Minor erosion SE corner	Good	Minor
06/26/2023	Good	Good	Good	Good	Good	Good	Good	All pumps still tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good; Sod replaced over liner repair	Minor erosion SE corner	Good	Minor

Date of Inspection	Containment Dikes						Sumps at West End of CWSA			East End Landfill	Stormwater Wet Detention Pond		
	Exterior Slope Conditions			Interior Slope Conditions			Water Level	Pump Operations		Slope Condition	Slope Erosion	Inlet and Outlet Structure Condition	Vegetation
	North	West	South	North	West	South		Cell 1	Cell 2				
07/03/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Minor
07/10/2023	Good	Good	Good	Good	Good	Good	Good	All pumps are tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto; P2 UPS Fault	Good	Minor erosion SE corner	Good	Minimal
07/17/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out for line cleanout	P1 Off; P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Minimal
07/24/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off; P3 and P4 Auto; external pump	Good	Minor slope erosion SE side	Good	Minimal
07/31/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off; P3 and P4 Auto; external pump	Good	Minor erosion SE corner	Good	Minimal
08/07/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off; P3 and P4 Auto; Using external pump	Good	Minor erosion SE corner	Good	Minimal
08/21/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off; P3 and P4 Auto; external pump	Good	Minor erosion SE corner	Good	Minor
08/28/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off; P3 and P4 Auto	Good	Minor erosion SE corner	Good	Minor
09/04/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	P1 and P2 Off, Using external pumps; P3 and P4 Transformer tripped	Good	Minor erosion SE corner	Good	Minor
09/11/2023	Good	Good	Good	Good	Good	Good	Good	All pumps tagged out	Breaker at transformer is thrown; no power	Good	Minor erosion SE corner	Good	Minor
09/18/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2, P3, and P4 Auto	P1 Off; P2 Auto; P3 and P4 Hand	Good	Minor erosion SE corner	Good	Minor
09/25/2023	Good	Good	Good	Good	Good	Good	Good	P1, P2, and P4 Off; P3 Hand	P1, P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Minor
10/02/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2 Auto; P3 Auto High pressure	P1 Auto High panel good temperature; P2 Auto	Good	Minor erosion SE corner	Good	Minor
10/09/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2 Auto; P3 Leachate Auto, Leak detection Off; P4 Leachate On	P1, P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Minor
10/16/2023	Good	Good	Good	Good	Good	Good	Good	P1 Off; P2 Auto; P3 Leachate On, Leak detection Off; P4 Leachate On	P1, P2, P3, and P4 Auto	Good	Minor erosion SE corner	Good	Minor
10/23/2023	Good	Good	Good	Good	Good	Good	Good	P1, P2, and P4 Auto; P3 Leachate On, Leak detection Off	P1 Auto; P2 Auto Leak detection High; P3 Auto Leak detection pump failed to start; P4 Auto High Panel Temp	Good	Minor erosion SE corner	Good	Minor

Date of Inspection	Containment Dikes						Sumps at West End of CWSA			East End Landfill	Stormwater Wet Detention Pond		
	Exterior Slope Conditions			Interior Slope Conditions			Water Level	Pump Operations		Slope Condition	Slope Erosion	Inlet and Outlet Structure Condition	Vegetation
	North	West	South	North	West	South		Cell 1	Cell 2				
10/30/2023	Good	Good	Good	Good	Good	Good	Good	P1, P2, and P4 Auto; P3 Leachate Auto, Leak detection Off	P1 Auto; P2 Leachate Auto Leak detection Off; P3 Leachate Auto Leak detection Off, common alarm; P4 Auto High Panel Temp	Good			
11/06/2023	Good	Good	Good	Good	Good	Good	Good	P1, P2, and P4 Auto; P3 Leachate Auto	P1 and P4 Auto; P2 and P3 Leachate Auto Leak detection Off	Good	Minor erosion SE corner	Good	Minor
11/13/2023	Good	Good	Good	Good	Good	Good	Good	P1, P2, and P4 Auto; P3 Leachate On Leak detection Off	P1 and P4 Auto; P2 and P3 Leachate On Leak detection Off	Good	Minor erosion SE corner	Good	Minor
11/20/2023	Good	Good	Good	Good	Minor erosion	Good	High	P1 UPS bypassed; P2 A/C not working; P3 and P4 Auto	P1, P2, and P3 Auto; P4 Leachate pump Hand	Erosion	Minor erosion SE corner	Good	Good
11/27/2023	Good	Good	Good	Good	Minor erosion		OK	P1 UPS bypassed; P2 A/C not working; P3 and P4 Auto	P1, P2, and P3 Auto; P4 Leachate pump Hand	Erosion, settling	Minor erosion SE corner	Good	Good
12/04/2023	Good	Good	Good	Minor erosion	Minor erosion	Good	Good	P1 UPS bypassed; P2 A/C not working; P3 and P4 Auto	P1, P2, and P3 Auto; P4 Leachate pump Hand	Major erosion	Minor erosion SE corner	Good	Good
12/11/2023	Good	Good	Good	Minor erosion	Minor erosion	Good	Good	P1 UPS bypassed; P2, P3, and P4 Auto	P1 Leak detection pump alarm; P2, P3, and P4 Leachate pump Hand	Material settlement	Minor erosion SE corner	Good	Good
12/18/2023	Good	Good	Good	Some erosion (minor)	Some erosion (minor)	None	High	All pumps off due to high water levels	All pumps off due to high water levels	Good	None	Good	Good
12/25/2023	Good	Good	Good	Some minor erosion	Some minor erosion	Some minor erosion	High	P1 UPS bypassed; P2 High Panel Temp; P3 Level alarm	P1 High Panel Temp and bad level indicator; P3 Leak detection pump failed to start; P4 Bad level indicator. Diesel pump off, hose kinked	Good	None	Good	Good

Notes:

UPS - Uninterruptible Power Supply

P - Panel

O/S - Out of Service

A/C - Air Conditioning

L/L - Low Level

Week of Inspection	CWSA Runoff Pond Pump Stations							
	Groundwater Pump Alarms		Groundwater Pump Operations		Leak Detection Pump Alarms		Leak Detection Pump Operations	
	P1	P4	P1	P4	P2	P3	P2	P3
01/03/2023	Yes - UPS Fault	Yes - Panel TL	Auto	Auto	Yes	Yes	Auto	Auto
01/09/2023	Yes - UPS Fault	Yes - L/L	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
01/16/2023	Yes - UPS Fault	Yes - L/L	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
01/23/2023	Yes - UPS Fault	Yes- L/L	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
01/30/2023	Yes - UPS Fault	Yes - L/L	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
02/06/2023	Yes - UPS Fault	Yes - L/L	Auto	Auto	Yes	No	Auto	Auto
02/13/2023	Yes	Yes	Auto	Auto	No	No	Auto	Auto
02/27/2023	Yes	Yes	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
03/06/2023	Yes - UPS Fault	Yes -L/L	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
03/27/2023	Yes	Yes Low Amps	Auto	Auto	Yes Panel H/T	Yes - UPS Fault	Auto	Auto
04/03/2023	Yes - L/L	Yes H/L	Auto	Auto	No	No	Auto	Auto
04/10/2023	Yes - L/L	Yes - H/L sensor	Auto	Auto	No	No	Auto	Auto
04/24/2023	Yes - L/L	Yes	Auto	Auto	Yes	No	Auto	Auto
05/01/2023	Yes - L/L	Yes - Bad level sensor	Auto	Auto	Yes	No	Auto	Auto
05/08/2023	Yes - L/L	Yes	Auto	Auto	Yes	No	Auto	Auto
05/15/2023	Yes - L/L	Yes - Bad level sensor	Auto	Auto	Yes	No	Auto	Auto
05/22/2023	Yes - L/L	Yes - Bad level reading	Auto	Auto	Yes	No	Auto	Auto
05/29/2023	Yes - L/L	Yes - Bad level reading	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
06/05/2023	Yes	Yes - Level probe issue	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
06/12/2023	Yes	Yes - Bad level reading	Auto	Auto	Yes - UPS Fault	No	Auto	Auto

Week of Inspection	CWSA Runoff Pond Pump Stations							
	Groundwater Pump Alarms		Groundwater Pump Operations		Leak Detection Pump Alarms		Leak Detection Pump Operations	
	P1	P4	P1	P4	P2	P3	P2	P3
06/19/2023	Yes	Yes - Bad level reading	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
06/26/2023	Yes	Yes	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
07/03/2023	Yes	Yes	Auto	Auto	Yes	No	Auto	Auto
07/10/2023	Yes	Yes - Level probe pulled	Auto	Auto	Yes - UPS Fault	No	Auto	Auto
07/17/2023	Yes - UPS Fault	Yes - Level probe bad	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
07/24/2023	Yes	Yes - Level indicator not reading	Auto	Auto	Yes - Panel hot; no A/C	No	Auto	Auto
07/31/2023	No	Yes - Bad level reading	Auto	Auto	Yes - A/C not running	No	Auto	Auto
08/07/2023	No	Yes - Bad level reading	Auto	Auto	Yes - A/C off	No	Auto	Auto
08/21/2023	No	Yes - Level probe issue	Auto	Auto	Yes - Panel High Temperature	Yes - UPS Fault	Auto	Auto
08/28/2023	No	Yes - Level probe issue	Auto	Auto	Yes - Panel High Temperature	Yes - UPS Fault	Auto	Auto
09/04/2023	Yes - Level probe issue	Yes - Level probe issue	Auto	Auto	Yes - High Temperature	No	Auto	Auto
09/11/2023	Yes - Level issue	Yes - Level issue	Auto	Auto	Yes - High Temperature	No	Auto	Auto
09/18/2023	Yes - Low Level	Yes - Low Level	Auto	Auto	No	No	Auto	Auto
09/25/2023	Yes - Low Level	Yes - Low Level	Auto	Auto	No	No	Auto	Auto
10/02/2023	Yes - Low Level	Yes - Low Level	Auto	Auto	Yes - UPS Fault	Yes - High Panel Temp	Auto	Auto
10/09/2023	No	Yes - Low Temp	Auto	Auto	No	Yes - Low Temp	Auto	Auto
10/16/2023	No	Yes - Low Temp	Auto	Auto	No	Yes - Low Temp	Auto	Auto

Week of Inspection	CWSA Runoff Pond Pump Stations							
	Groundwater Pump Alarms		Groundwater Pump Operations		Leak Detection Pump Alarms		Leak Detection Pump Operations	
	P1	P4	P1	P4	P2	P3	P2	P3
10/23/2023	Yes - Low Level	Yes - Panel Low Temp	Auto	Auto	No	Yes - Panel High Temp	Auto	Auto
10/30/2023	No	No	Auto	Auto	No	Yes - Panel High Temp	Auto	Auto
11/06/2023	No	Yes - Panel High Temp	Auto	Auto	No	Yes - Panel High Temp	Auto	Auto
11/13/2023	No	No	Auto	Auto	No	No	Auto	Auto
11/20/2023	Yes - UPS Fault	Yes	Auto	Auto	Yes - UPS Fault	Yes - UPS Fault	Auto	Auto
11/27/2023	No	No	Auto	Auto	No	No	Auto	Auto
12/04/2023	No	No	Auto	Auto	No	No	Auto	Auto
12/11/2023	Yes - UPS Fault	No	Auto	Auto	No	No	Auto	Auto
12/18/2023	–	–	–	–	–	–	–	–
12/25/2023	–	–	–	–	–	–	–	–

Notes:

UPS- Uninterruptible power supply

Appendix 6

FDEP Inspection Report



**Florida Department of
Environmental Protection
Inspection Checklist**

FACILITY INFORMATION:

Facility Name:	OUC STANTON ENERGY CENTER
On-site Inspection Start Date:	09/26/2023
On-site Inspection End Date:	09/26/2023
WACS No.:	97663
Facility Street Address:	5100 S. ALAFAYA TRAIL
City:	ORLANDO
County Name:	ORANGE
Zip:	32831

INSPECTION PARTICIPANTS:

(Include ALL Landfill and Department Personnel with Corresponding Titles)

Principal Inspector: Michael Eckoff, Inspector

Gary Mauzy, Environmental Compliance Specialist II; Richard Ludden, Lead

Other Participants: Laboratory Technician; Tom Gaboian, P.E., Sr. Environmental Compliance Specialist;

INSPECTION TYPE:

Routine Operation Inspection for Landfill - Coal Ash Monofill

ATTACHMENTS TO THE INSPECTION CHECKLIST:

This Cover Page to the Inspection Checklist may include any or all of the following attachments as appropriate.

Note: Checklist items with shaded boxes are for informational purposes only.

1.0 - SECTION 1.0 - FILE REVIEW

2.0 - SECTION 2.0 - LANDFILL OPERATION AND MAINTENANCE

Inspection Date: 09/26/2023

1.0 - SECTION 1.0 - FILE REVIEW**Requirements:**

The requirements listed in this section provide an opportunity for the Department's inspector to indicate the conditions found at the time of the inspection. A "Not Ok" response to a requirement indicates either a potential violation of the corresponding rule or an area of concern that requires more attention. Both potential violations and areas of concern are discussed further at the end of this inspection report.

Item No.	FILE REVIEW (Pre- or Post-Inspection, as appropriate.)	Ok	Not Ok	Unk	N/A
1.1	For landfills and C&D disposal facilities, does the facility have a current plan for the method and sequence of filling wastes? 62-701.500(2)(f) for landfills; 62-701.730(7)(a) for C&D debris sites	✓			
1.2	For landfills, are the following records being reported to the Department?(Check any that are Not OK) ☐ Waste reports (annually) 62-701.500(4) ☐ Annual estimate of remaining life 62-701.500(13)(c)	✓			
1.3	Is gas monitoring being performed as required by the permit? 62-701.500(9), 62-701.530(2)				✓
1.4	Are the results of the gas sampling reported to the Department quarterly? 62-701.530(2)(c)				✓
1.5	Is water quality sampling and testing performed according to standard procedures and at the required frequencies? 62-701.510(2) for landfills; 62-701.730(8) and 62-701.730(10) for C&D debris sites; 62-713.400(3) for stationary soil treatment facilities.	✓			
1.6	Do the results of the water quality testing suggest there may be adverse impacts to water quality from the operation of the solid waste facility? 62-701.510(3) and (4); 62-701.730(4)(c) and (10) for C&D debris sites; 62-713.400(3) for stationary soil treatment facilities.			✓	
1.7	For closed landfills and C&D disposal facilities with final elevations higher than 20 feet above grade, has a final survey report verifying the final elevations and contours of the facility been submitted to the Department? 62-701.600(6)(b), 62-701.730(9)(e)				✓
1.8	Is financial assurance adequate? 62-701.630 for landfills; 62-701.710(7)(a) and 62-701.710(1)(d)1. for waste processing facilities; 62-701.730(11)(a) for C&D debris facilities; 62-713.600(6)(a) for stationary soil treatment facilities; 62-711.500(3) for waste tire facilities. NOTE: The Solid Waste Financial Coordinator in Tallahassee can assist with this information.				✓
1.9	Are cost estimates current and adjusted every year? 62-701.630(4) for landfills; 62-701.710(7)(a) and 62-701.710(1)(d)1. for waste processing facilities; 62-701.730(11)(a) for C&D debris facilities; 62-713.600(6)(b) and 62-713.600(6)(c) for stationary soil treatment facilities; 62-711.500(3) for waste tire facilities.				✓
1.10	For C&D debris disposal and disposal with recycling facilities, is an Annual Report submitted to the Department for the disposal operation by February 1st of each year? 62-701.730(12)				✓
1.11	For C&D recycling facilities with no disposal, is an Annual Report for the recycling facility submitted to the Department by February 1st of each year? 62-701.710(8)(b)				✓
1.12	For compost facilities, has the compost product been sampled and analyzed every 20,000 tons or every 3 months (whichever is sooner)? 62-709.530(1)				✓
1.13	For compost facilities, has the annual report been submitted by June 1st? 62-709.530(3)				✓

Inspection Date: 09/26/2023

2.0 - SECTION 2.0 - LANDFILL OPERATION AND MAINTENANCE**Requirements:**

The requirements listed in this section provide an opportunity for the Department's inspector to indicate the conditions found at the time of the inspection. A "Not Ok" response to a requirement indicates either a potential violation of the corresponding rule or an area of concern that requires more attention. Both potential violations and areas of concern are discussed further at the end of this inspection report.

Item No.	SOLID WASTE PROHIBITIONS (unless "grandfathered" in, see 62-701.300 (18))	Ok	Not Ok	Unk	N/A
2.1.1	Unauthorized storage, processing, or disposal of solid waste except as authorized at a permitted solid waste management facility or other exempt facility. 62-701.300(1)(a)	✓			
2.1.2	Unauthorized disposal or storage prohibited, except yard trash, within 500 feet of a potable water well? 62-701.300(2)(b)	✓			
2.2	Unauthorized storage or disposal of yard trash prohibited within the minimum setbacks of (Check any that are Not OK) 62-701.300(12) ☐ 100 feet from potable water wells (except on-site)? ☐ 50 feet from water bodies?	✓			
2.3	Unauthorized disposal or storage prohibited in any natural or artificial body of water including ground water and wetlands? (Does not apply to standing water after a storm event.) 62-701.300(2)(d)	✓			
2.4	Unauthorized disposal or storage prohibited, except yard trash, within 200 feet of any natural or artificial body of water, including wetlands without permanent leachate controls, except impoundments or conveyances which are part of an on-site, permitted stormwater management system or on-site water bodies with no off-site discharge? 62-701.300(2)(e)	✓			
2.5	Unauthorized open burning of solid waste prohibited except in accordance with Department requirements? 62-701.300(3)	✓			
2.6	Are the following unauthorized wastes or special wastes properly controlled, managed and disposed? (Check any that are Not OK) ☐ Hazardous waste 62-701.300(4) ☐ Biomedical waste 62-701.300(6) ☐ Yard trash 62-701.300(8)(c) ☐ Whole waste tires 62-701.300(8)(e) ☐ Regulated asbestos waste 62-701.520(3), 62-701.730(19) ☐ Used oil and oily wastes, except as exempted 62-701.300(11) ☐ PCB wastes 62-701.300(5) ☐ Lead-acid batteries 62-701.300(8)(a) ☐ White goods 62-701.300(8)(d) ☐ Liquids 62-701.300(10) ☐ CCA treated wood 62-701.300(14) ☐ Biological waste - Disposal of dead animals due to disease 62-701.520(5)(a) ☐ Biological waste - Disposal of dead poultry and hatchery residue 62-701.520(5)(b) ☐ Biological waste - Disposal of captive wildlife, fish or marine mammals, and domestic animals that have not died due to disease 62-701.520(5)(c)	✓			
2.7	Are only permitted waste types disposed at facility? 62-701.340(2), 62-701.500(6)(a), 62-701.500(2)(c)	✓			

Inspection Date: 09/26/2023

2.6.5	Recommended guidance for Item 2.6 above. Facility was provided a copy of the Department's Disposal of Deceased Domestic Animals Guidance Document dated November 9, 2018. (Note: The Guidance Document is to provide direction regarding the disposal of deceased domestic animals pursuant to Chapter 62-701.520(5), F.A.C. and Chapter 823.041, F.S.) ☐ Yes ☐ No ☒ N/A				
Item No.	LANDFILL OPERATION AND MAINTENANCE	Ok	Not Ok	Unk	N/A
2.8	Is there a trained operator on-site at Class I and III landfills when receiving wastes? 62-701.500(1)				✓
2.9	Is there at least one trained spotter at each working face when receiving wastes at Class I and III landfills? 62-701.500(1)				✓
2.10	Are the following records or plans current and available on-site? (Check any that are Not OK) ☐ Training Plan 62-701.320(15)(a) ☐ Operating Plan 62-701.500(2) ☐ Waste weight records 62-701.500(4) ☐ Precipitation records 62-701.500(8)(g) ☐ Load-checking program records 62-701.500(6)(a) ☐ Training records 62-701.320(15)(a) ☐ Operation record 62-701.500(3) ☐ Quantity of leachate 62-701.500(8)(f)	✓			
2.11	Is the operation plan substantially followed? 62-701.500(2)	✓			
2.12	Is incoming waste weighed? 62-701.500(4)(a) and 62-701.500(2)(d)				✓
2.13	Is the method and sequence of filling waste according to plans? 62-701.500(2)(f)	✓			
2.14	Is access properly controlled to prevent unauthorized waste disposal? 62-701.500(5)	✓			
2.15	Is waste compacted as required? 62-701.500(7)(a)	✓			
2.16	Are the working face and side slopes above ground graded to a slope no greater than 3 feet horizontal to 1 foot vertical rise? 62-701.500(7)(c)	✓			
2.17	Is a narrow working face practiced? 62-701.500(7)(d)	✓			
2.18	Is the frequency, amount and quality of initial cover, as required? 62-701.500(7)(e)	✓			
2.19	Is the frequency, amount and quality of intermediate cover, as required? 62-701.500(7)(f)	✓			
2.20	Is litter controlled and are litter control devices maintained? 62-701.500(7)(i) and 62-701.500(11)(f)				✓
2.21	Is erosion control adequate? 62-701.500(7)(j)	✓			
2.22	Is the leachate collection and removal system maintained and operated as required? 62-701.500(2)(j), 62-701.500(8)(b) and 62-701.500(8)(h)	✓			
2.23	Is leachate disposed of or treated as required? 62-701.500(8)(b), 62-701.500(8)(c) and 62-701.500(8)(d)	✓			
2.24	If leachate recirculation is practiced at the facility, is it done in accordance with Department requirements and the Operation Plan? 62-701.400(5)				✓
2.25	Is gas controlled to not cause objectionable odors beyond the property boundary? 62-701.530(3)(b)				✓
2.26	Is gas controlled to not allow combustible gas concentrations to exceed specified limits? 62-701.530(3)(a)				✓
2.27	Are gas vents intact and functioning properly? 62-701.500(9), 62-701.530(1)(a)3				✓
2.28	Is mixing of leachate and stormwater prevented or minimized? 62-701.500(10), 62-701.400(9)(b)	✓			
2.29	Is stormwater management system maintained and operated as required? 62-701.500(10)	✓			
2.30	Is there sufficient operating equipment? 62-701.500(11)(a)	✓			
2.31	Is there sufficient reserve equipment (or other arrangements)? 62-701.500(11)(b)	✓			
2.32	Are communication facilities adequate? 62-701.500(11)(c)	✓			
2.33	Are approved dust control methods adequate? 62-701.500(11)(d)	✓			

Inspection Date: 09/26/2023

2.34	Are fire protection and fire fighting capabilities adequate and operational? 62-701.500(11)(e)	✓			
2.35	Are there required signs for operational directions and public information? 62-701.500(11)(g)				✓
2.36	Are all-weather access roads and inside perimeter roads properly maintained? 62-701.500(12)	✓			
2.37	Are groundwater wells intact and properly maintained? 62-701.510(2)(b), 62-701.620(8)			✓	
2.38	Are all additional specific conditions (not otherwise addressed above) in the permit, Department order, or certification, if any, being followed? 62-701.320(1), 403.161, F.S.	✓			

Inspection Date: 09/26/2023

Comments

Conditions of Certification PA 81-14M dated 8/30/2017.

Section 1.0-File Review

Item 1.2-The annual waste report is not required to be submitted. 2021 and 2022 annual estimates of remaining landfill capacity and life are posted in the annual inspections landfill documentation on the OUC CCR website (oucccr.com/inspections).

Item 1.5-1st semi-annual (SA) 2021 water quality monitoring report was received 9/17/2021. 2nd SA 2021 water quality monitoring report was received 1/24/2022. 1st SA 2022 water quality monitoring report was received 7/15/2022. 2nd SA 2022 water quality monitoring report was received 12/22/2022. 1st SA 2023 water quality monitoring report was received 8/17/2023.

Item 1.6-Water quality monitoring reports are reviewed as a separate function and not considered part of this inspection.

Section 2.0-Landfill Operation and Maintenance

Item 2.10-Waste records are compiled on a monthly basis. Precipitation amounts are recorded on a spreadsheet. Quantity of leachate is recorded daily from pump logs.

Item 2.13-Currently placing waste in Cells 1 and 2.

Item 2.16-The slope angles were not measured in order to verify they are no greater than three horizontal to one vertical (3:1), only a visual assessment was conducted.

Item 2.37-Groundwater wells were not inspected.

Item 2.38-Conditions of Certification PA 81-14M, Attachment F, number 24: Report 3-Second Semi-Annual Event 2020 through Second Semi-Annual Event 2022 was received 3/28/2023.

Inspection Date: 09/26/2023

Signed:

Michael Eckoff

PRINCIPAL INSPECTOR NAME

Michael Eckoff

PRINCIPAL INSPECTOR SIGNATURE

Inspector

PRINCIPAL INSPECTOR TITLE

DEP

09/26/2023

ORGANIZATION

DATE

Gary Mauzy

REPRESENTATIVE NAME

NO SIGNATURE REQUIRED

REPRESENTATIVE SIGNATURE

Environmental Compliance Specialist II

REPRESENTATIVE TITLE

Orlando Utilities Commission

ORGANIZATION

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

Richard Ludden

REPRESENTATIVE NAME

NO SIGNATURE REQUIRED

REPRESENTATIVE SIGNATURE

Lead Laboratory Technician

REPRESENTATIVE TITLE

Orlando Utilities Commission

ORGANIZATION

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

Tom Gaboian, P.E.

REPRESENTATIVE NAME

NO SIGNATURE REQUIRED

REPRESENTATIVE SIGNATURE

Sr. Environmental Compliance Specialist

REPRESENTATIVE TITLE

Orlando Utilities Commission

ORGANIZATION

Inspection Date: 09/26/2023

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

Report Approvers:

Approver: Viviana Useche **Inspection Approval Date:** 11/16/2023

Appendix 7

Selected Photographs from 2024 Annual Inspection



Waste Placed in Cell 2 and Northern Slope of Waste Mound in Cell 1, Looking West from Reverse Bench of Closed Vertical Expansion of Original CWSA



Cell 2, Looking Northwest from Reverse Bench of Closed Vertical Expansion of Original CWSA



Junction of Waste Mound in Cell 1 with Cell 2 and Reverse Bench of Closed Vertical Expansion of Original CWSA, Looking Southeast



Top of Waste in Cell 1 and Photovoltaic Solar Panels on Top of Closed Vertical Expansion of Original CWSA, Looking Northeast



Top of Waste in Cell 1, Looking West-Northwest from Reverse Bench
of Closed Vertical Expansion of Original CWSA



Top of Waste in Cell 1, Looking West from Reverse Bench
of Closed Vertical Expansion of Original CWSA



Wet Detention Pond, Looking Southwest from Bench
at Juncture with Closed Original CWSA



Southern Slope of Waste Mound, in Cell 1 Where It Abuts
Closed Original CWSA, Looking Northeast



Southern Slope of Waste Mound in Cell 1, Looking South



Discharge Structures for Wet Detention Pond, Looking South-Southwest



Fabriform with Discharge Pipes from Wet Detention Pond into Perimeter Stormwater Ditch, Looking North-Northwest from Perimeter Dike/Road



Perimeter Ditch and Culvert Under Access Ramp Crossing Ditch, Looking Northeast Toward Southern Slope of Waste Mound in Cell 1

Annual Inspection of CCR Landfill
OUC Stanton Energy Center



Perimeter Dike/Road and Ditch South of Cell 1, Looking West from
Access Road Crossing Ditch



Fabriform with Inlets to Wet Detention Pond in Perimeter Ditch in
Southwestern Part of Cell 1, Looking North



Monitoring Well MW-A on Southern Side of Cell 1



Box Culvert in Perimeter Ditch at Southwestern Corner of Cell 1, Looking North



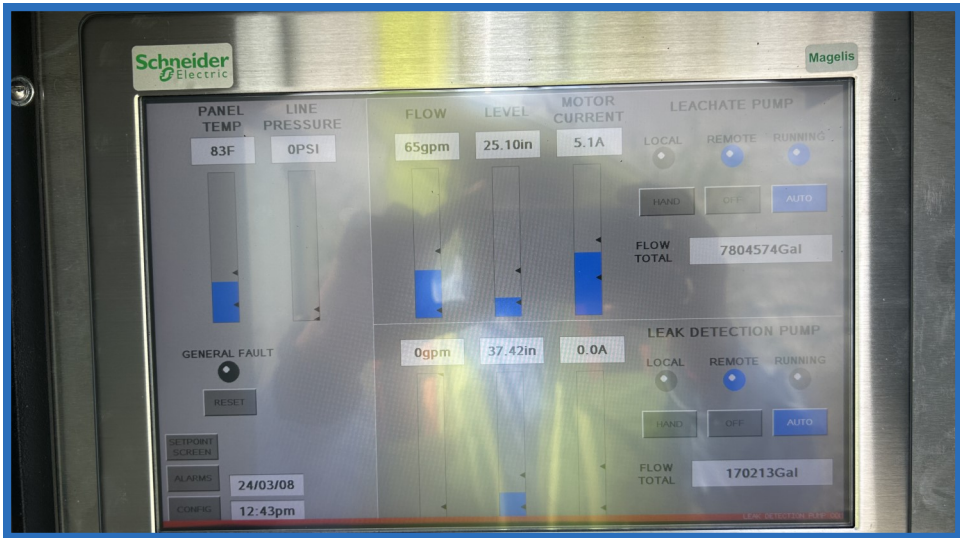
Leachate Pump Station for Cell 1, Sump #1



Leachate Flow Meter for Cell 1, Sump #1



Outside of Control Panel Cabinet for Cell 1, Sump #1



HMI Touch Screen for Panel Number 1WWC-PNL-601



Western Slope of Waste Mound in Cell 1, Looking North



Northern Slope and Northwestern Corner of Waste Mound in Cell 1,
and Waste in Subcell 1 of Cell 2, Looking Southeast



Waste Placed in Subcell 1 of Cell 2 and Diesel Auxiliary Pump
with Intake Deployed in Cell 2, Looking South-Southeast



Diesel Auxiliary Pump with Intake Deployed in Cell 2, Subcell 1, Looking East

Annual Inspection of CCR Landfill
OUC Stanton Energy Center



Diesel Auxiliary Pump with Connection to Leachate Force Main, Looking South



Connection of Discharge Pipelines from Auxiliary Pumps
to Leachate Force Main



Earthen Dike/Road Between Subcells 2 and 3 of Cell 2, Looking Southeast



Cell 2, Looking South from Perimeter Road



Containment Dike and Perimeter Ditch on North Side of Cell 2, Looking East



Concrete Flume and HDPE Culverts Draining into Perimeter Ditch on North Side of Cell 2, Looking East-Northeast



Articulated Dump Truck Hauling ProMat on Access Road through Cell 2, Looking West



Bench on Closed Vertical Expansion and Side Slope of Cell 2, Looking Southwest Toward Cell 1



CWSA Runoff Pond, Looking East



CWSA Runoff Pond North Compartment, Looking Northeast



**Divider Dike Between CWSA Runoff Pond North and South Compartments,
Looking East-Southeast**



**Divider Dike Between CWSA Runoff Pond North and South Compartments,
Looking East-Southeast**

Annual Inspection of CCR Landfill
OUC Stanton Energy Center



Outside of Control Panel Cabinet for CWSA Runoff Pond Pump 1



Meters, Gauges, Valves, and Cleanout Sump for CWSA Runoff Pond Pump