From:	SWD_Waste
To:	Loaiza, Betsy
Subject:	FW: Lena Road Landfill Annual Site Life Reporting Year 2023
Date:	Tuesday, May 2, 2023 11:32:04 AM
Attachments:	Lena Road Landfill Annual Site Life Reporting Year 2023.pdf

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From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Friday, April 28, 2023 12:58 PM
To: SWD_Waste <SWD_Waste@dep.state.fl.us>; Tafuni, Steven <Steven.Tafuni@FloridaDEP.gov>; Madden, Melissa <Melissa.Madden@FloridaDEP.gov>
Cc: Chris Collins <chris.collins@mymanatee.org>; Jacolyn Abdala <Jacolyn.abdala@mymanatee.org>; Stephen Whaley <stephen.whaley@mymanatee.org>; Anthony Detweiler <anthony.detweiler@mymanatee.org>; Sarah Metcalfe <sarah.metcalfe@mymanatee.org>; Al-Khalaf, Laila <LAl-Khalaf@scsengineers.com>
Subject: Lena Road Landfill Annual Site Life Reporting Year 2023

EXTERNAL MESSAGE
This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

In accordance with Permit No. 39884-021-SO-01, please find attached the Manatee County Lena Road Landfill Remaining Disposal Capacity and Site Life calculations for Reporting Year 2023.

Please let us know if you have any comments.

Thanks

Shane R. Fischer, P.E.
Vice President/Office Manager
SCS Engineers
3922 Coconut Palm Drive, Suite 102
Tampa, Florida 33619
(813) 804-6714 (W)
(813) 503-1044 (C)
sfischer@scsengineers.com

Driven by Client Success
www.scsengineers.com

April 28, 2023
File No. 09217088.28

Florida Department of Environmental Protection
Solid Waste Section, MS 4565
2600 Blair Stone Road
Tallahassee, Florida 32399

Subject: Remaining Disposal Capacity and Site Life – Reporting Year 2023
Lena Road Landfill - Manatee County
Permit No.: 39884-021-S0-01

Dear Mr. Jarmolowski:

On behalf of the Manatee County, Solid Waste Division (SWD), SCS Engineers (SCS) has prepared the remaining disposal capacity and site life estimate for the Lena Road Landfill, located in Manatee County, Florida in accordance with Rule 62-701.500(13)(c) and Section 2 - Specific Condition Part C.15.b of the facility's solid waste operation permit. As required by the Specific Condition an aerial topographic survey of the landfill was conducted on January 27, 2023 by Pickett & Associates, Inc. (Pickett) and was used in the preparation of the site life calculations. Please refer to Attachment A for a copy of the Pickett Survey.

Based on the attached calculations, there is roughly 9,038,169 CY of remaining capacity in Stage II which relates to approximately 17.8 years as of the survey date. The anticipated closure year is near mid-2040. Please refer to Attachment B for the remaining life and capacity calculations. If you have any questions regarding the information contained herein, please contact the undersigned at (813) 804-6714.

Sincerely,

Robert Curtis, P.E.
Project Director
SCS Engineers

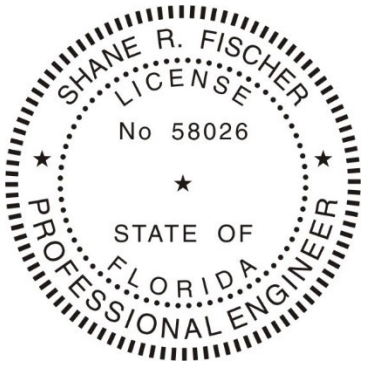
Shane R. Fischer, P.E.
Vice President/Office Manager
SCS Engineers

SRF/RBC:srf

cc: Christian Collins, Manatee County
Jacolyn Abdala, Manatee County
Stephen Whaley, Manatee County
Anthony Detweiler, Manatee County
Sarah Metcalfe, Manatee County

This item has been digitally signed and sealed by Shane R. Fischer, PE 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.



ATTACHMENT A

PICKETT AERIAL TOPOGRAPHIC SURVEY
FLOWN JANUARY 27, 2023

LiDAR SURVEY REPORT

Lena Road Landfill
LiDAR Topographic Survey
Manatee County, Florida

Prepared for:

SCS ENGINEERS
Environmental Consultants and Contractors

Pickett Project No.:	23-000-1898
Title/Type of Survey:	Airborne LiDAR Topographic Survey
Date of Survey:	Airborne LiDAR and imagery acquired 01/27/2023
Date of Report:	02/14/2023

NOTE: THIS REPORT AND ACCOMPANYING DIGITAL DATA, ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

PROJECT DESCRIPTION

Pickett and Associates, Inc. performed an aerial LiDAR topographic survey of the Lena Road Landfill for SCS Engineers. The surveyed site is located approximately 8 miles east of Bradenton, FL as shown in the image below. The goal of this project was to collect LiDAR data to produce map products with absolute horizontal accuracies of 0.3 foot RMSE (calculated as 1/10000 x

Altitude) or better and absolute vertical accuracies of 0.15 foot RMSE or better (typically 0.25 foot or better at the 95% confidence interval). Digital color imagery was also to be collected to produce an Ortho-mosaic with 3 inch per pixel GSD.

The LiDAR survey area (outlined in yellow above) is approximately 5.5 square miles, with a nominal buffer of 300 feet for the imagery area (outlined in blue above).

LiDAR and imagery were acquired on 01/27/2023 between 11:56am and 12:24pm EST.

METHODOLOGY:

Pickett and Associates, Inc. performed an airborne LiDAR survey of the project area using our Optech Galaxy T2000 LiDAR sensor and PhaseOne iXU-RS1000 digital camera (100MP).

Sensor parameters as planned for flight:

Flying Height LiDAR	3500’ AGL
Air speed	100 knots
Field of View	40° (±20°)
System PRF	600 kHz
Scan Frequency	89 Hz
Power	Medium
Roll compensator	On
Mean Point Density	15.03 pts/m^2 on a single pass
Flying Height Imagery	3500’ AGL
Camera focal length	70mm

DATUM:

HORIZONTAL:
Final coordinates are referenced to the West Zone of the Florida State Plane Coordinate System, North American Datum of 1983, Adjustment of 2011.

VERTICAL:
Final elevations are referenced to the National Geodetic Vertical Datum of 1929, Geoid 12B.

All data is delivered in U.S. Survey Feet.

Airborne data is based on the published values for the Continuously Operating Reference Station (CORS) “GSPS”, operated by the Florida Department of Transportation as part of the Florida Permanent Reference Network. Station “GSPS” has a dual-frequency GPS/GLONASS geodetic sensor.

Station “GSPS”
Name: Manatee
Latitude: 27° 29' 5.80621" N
Longitude: 82° 21' 4.31706" W
Height: -5.608m

LiDAR DATA PROCESSING:

Smoothed Best Estimate of Trajectory (SBET):
Using Applanix POSPac MMS, the initial trajectory of the aircraft was processed together with the static GPS/GLONASS data collected during flight to produce the SBET. Distance from base station reached a maximum of 11.25 km (7 mi). A minimum of 8 GPS, 5 GLONASS and 5 GALILEO satellites were in view and used for processing. The Positional Dilution of Precision (PDOP) did not exceed 1.6 during data acquisition. Resultant Position Error RMS values for north and east were 0.010 m or better, and for down were 0.025 m or better, during data acquisition.

Calibrated Point Cloud:
The range files and SBET were processed using Optech's LiDAR Mapping Suite to create a georeferenced, calibrated point cloud. Initial relative height differences were reported to be 0.03 m or better in the resultant point cloud data for hard surfaces and open areas.

Survey Control and LiDAR Accuracy:
The point cloud was compared to the horizontal and vertical coordinates for seven (7) photo-identifiable points and 25 vertical QC points, all on hard surfaces, and as field-surveyed by Pickett.

Survey control coordinates are based on field surveys using Real Time Kinematic (RTK) A Trimble Rover with multiple occupations on each point was used for redundancy. Local check ties were made to National Geodetic Survey (NGS) Control I75 84 A20 (PID AG8417). Based on redundant measurements to this point, the expected horizontal and vertical positional precision for this survey is _0.10_ feet.

These points were used to refine the vertical accuracy of the overall dataset, with statistical results shown below. For horizontal accuracy, the control points were compared to the location of the PID points, which are seen in the TIN view of intensity data.

No. Points	Average Z Error	$RMSE_z$ of Sample	Absolute Vertical Accuracy (95% Confidence Level)
32	0.000'	0.059'	0.115'

All control points are listed in Exhibit 'A'.

Final overall point density of the LiDAR point cloud within the area to be feature-coded is 3.14 points per square foot (33.8 points per square meter).

Feature-Coding and Planimetrics:
The point cloud was used to generate a digital surface terrain model and 1-foot contours of the project area. Planimetrics of visible man-made features and Hydro-enforced breaklines were also produced.

Orthometric Imagery:
Aerial imagery was acquired at an altitude of 3000 feet to create orthometric imagery with a Ground Sample Distance (GSD) of 3 inches per pixel. The imagery was compared to the PID points and found to be within 2 pixels (0.5 foot).

DELIVERABLES:

- AutoCAD Civil3D drawing file (*.dwg format)
  - Digital surface
  - Contours, 1-foot interval
  - Spot Heights
  - Planimetrics of visible man-made features
  - Hydro-enforced breaklines (water courses greater than 20 feet wide)
- Ortho-mosaic, 3” GSD (*.ecw or *.tif format)
- This Certified Survey Report

January 27, 2023

Aerial Survey Date

Craig Emrick, P.S.M.
Florida Registration No. 6451
Pickett and Associates, LLC.
Florida Registration No. LB 364

Exhibit 'A' - Survey Control

Point	Easting	Northing	Elevation	Description
T-1	509165.88	1141545.95	33.96	Aerial Cross Target
PID-1	511092.73	1138428.30	38.90	SE Corner of Stop Bar
PID-2	513590.75	1138562.79	40.93	Center of Manhole Cover
PID-3	513482.01	1144105.55	38.32	Corner of Concrete Base
PID-4	512336.06	1144330.78	39.12	Corner of Concrete Base
PID-5	508797.91	1146038.75	22.80	Corner of Sidewalk
PID-6	514071.03	1145790.59	30.64	Corner of Sidewalk
8014	509135.43	1141516.52	34.53	Vertical QC
8015	509157.94	1141518.32	34.61	Vertical QC
8016	509179.19	1141518.91	34.68	Vertical QC
8017	509203.26	1141519.01	34.79	Vertical QC
8018	509226.43	1141519.06	34.89	Vertical QC
8028	511220.47	1138440.51	38.93	Vertical QC
8029	511130.98	1138440.83	38.92	Vertical QC
8030	511153.29	1138440.66	38.92	Vertical QC
8032	511197.78	1138440.56	38.96	Vertical QC
8036	511175.76	1138440.43	38.91	Vertical QC
8041	513576.39	1138642.32	43.74	Vertical QC
8042	513581.94	1138668.11	43.92	Vertical QC
8043	513583.23	1138695.43	43.95	Vertical QC
8050	513563.88	1138617.93	43.63	Vertical QC
8054	513583.35	1138724.35	43.89	Vertical QC
8056	513603.37	1143009.94	40.79	Vertical QC
8057	513603.21	1142983.54	40.83	Vertical QC
8058	513603.21	1142959.85	40.99	Vertical QC
8059	513602.86	1142935.99	40.96	Vertical QC
8065	513602.81	1143036.81	40.78	Vertical QC
8070	512383.85	1144186.22	39.71	Vertical QC
8071	512383.86	1144210.03	39.73	Vertical QC
8072	512383.95	1144233.72	39.76	Vertical QC
8073	512383.55	1144255.04	39.78	Vertical QC
8074	512385.84	1144276.19	39.78	Vertical QC

PLOTTED:Friday, March 03, 2023

SURVEYOR's NOTES:

1.) North, the grid, and the coordinates shown hereon are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83, 2011 adjustment.

2.) Elevations are to National Geodetic Vertical Datum of 1929.

3.) This topographic survey was prepared using photogrammetric and LiDAR methods. See the attached report for map accuracy and surveyor's signature and seal.

4.) Flight Date: 1/27/23

LEGEND:

SYMBOLS AND INFORMATIVE LABELS NOT TO SCALE

- PT# TARGET NUMBER
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- LIGHT POLE
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- TREE
- PALM TREE
- BUSH
- × 120.1 SPOT ELEVATION
- CATCH BASIN

GOLF FEATURES
- T TEE
- G GREEN
- S SAND TRAP
- F FAIRWAY
- D DRIVING RANGE
- PG PRACTICE GREEN

THESE FEATURES ARE TO SCALE

- BACK OF CURB LINE
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- CONCRETE
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- FENCE
- GUARDRAIL
- WALL (CENTERLINE)
- VEGETATION LINE (0.5 LTSCALE)
- HEDGE/BRUSHLINE (LTSCALE .3)
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- RAILROAD RAIL
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- TOP OF BANK
- TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
- CONTOUR MINOR
- CONTOUR OBSCURED
- UNDERGROUND DRAINAGE

GRAPHIC & INTENDED DISPLAY SCALE

(IN FEET)
1 inch = 100 feet.

NORTH

ACCURACY STATEMENT: The following stated plus or minus tolerances encompass a minimum of 95% of the difference between photogrammetrically measured values and ground truth of all well-identified features. Mapped features meet or exceed the Florida Standards of Practice.

VERTICAL: Contours have been measured to an estimated vertical positional accuracy of 0.5'. Spot elevations and well-identified features have been measured to an estimated vertical positional accuracy of 0.25'

HORIZONTAL: Well-identified features have been measured to an estimated horizontal positional accuracy of 1.66'.

MAP PLOTTING: This map is intended to be displayed at a scale of 1" = 50' (1:600) or smaller.

MEASUREMENT METHODS: This map is limited to those features visible on aerial imagery.

LIMITATIONS: This mapping should be used for preliminary design work only and should not replace an actual field survey where the required accuracy is greater than the accuracy stated in this report. No responsibility is assumed for areas outside the contracted scope.

LD 75.50

DRAWING No. 23-000-1898

PROJECT No.

No. 1 of 13

TOPOGRAPHIC SURVEY

LENA ROAD LANDFILL
LOCATED IN SECTIONS 1,6,&31
TOWNSHIP 34&35 SOUTH, RANGE 18&19 EAST
PREPARED FOR: SCS ENGINEERS

PICKETT

PICKETT AND ASSOCIATES, LLC
3710 AIRPORT COMMERCE PARK DR
LAKELAND FLORIDA, 33811
PHONE: (863)-533-9095
FAX: (863)-534-1464
LICENSED BUSINESS No. LB364

HORIZ. SCALE: 1"=100'	EDITED BY:	DRAWN BY:	CHECKED BY:	DRAWING NAME
CONTOUR INTERVAL: 1'	AC	PL&DT	DT	23-000-1898.DWG

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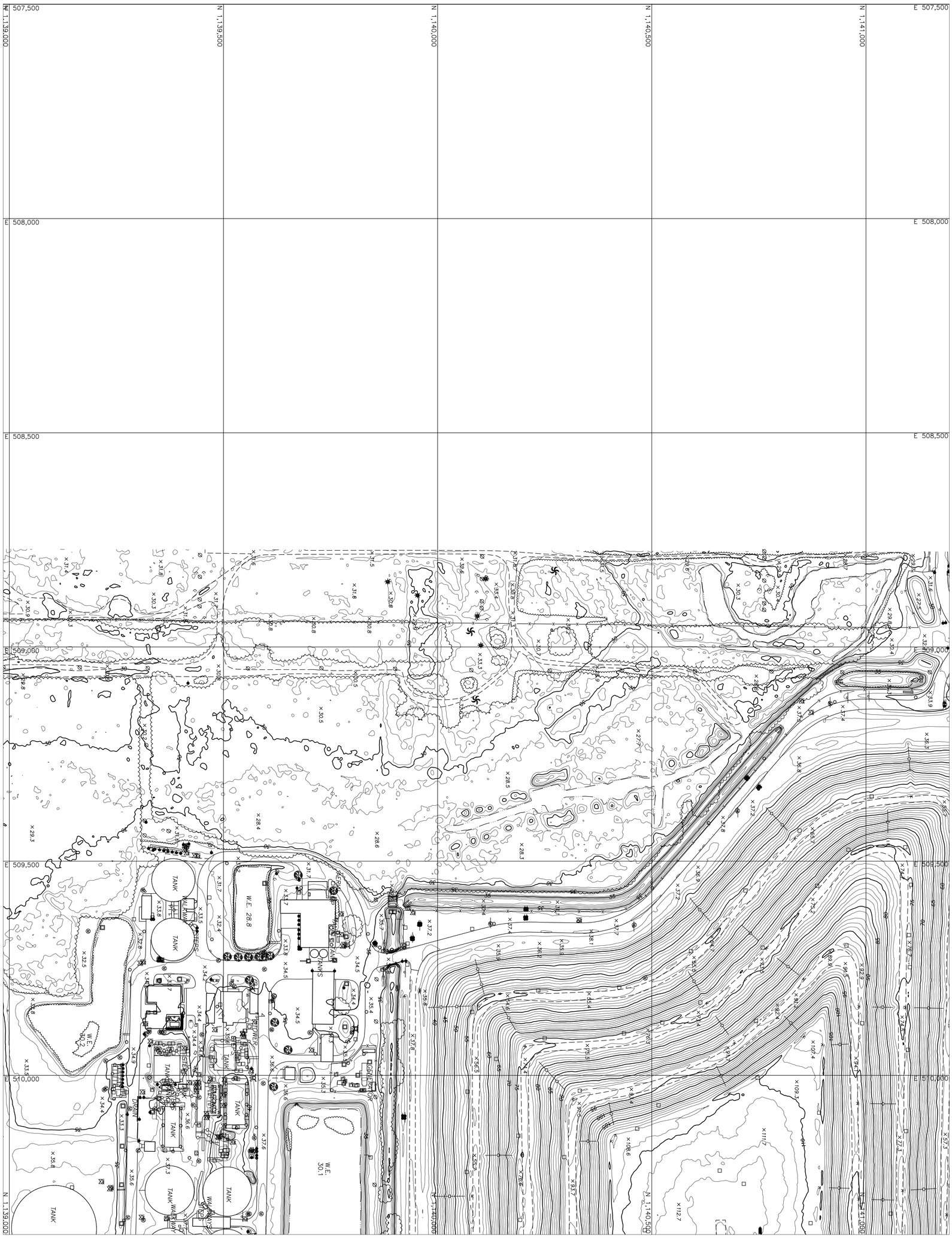
1/27/23
SURVEY DATE

DOUG TIMOTHY, PSM
FLORIDA REGISTRATION NO. 6855
PICKETT AND ASSOCIATES, LLC

No.	DATE	APPROVED	REVISION
O.R.	3/3/23	DAT	FIRST ISSUE

PLOTTED:Friday, March 03, 2023



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4.) Flight Date: 1/27/23

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GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

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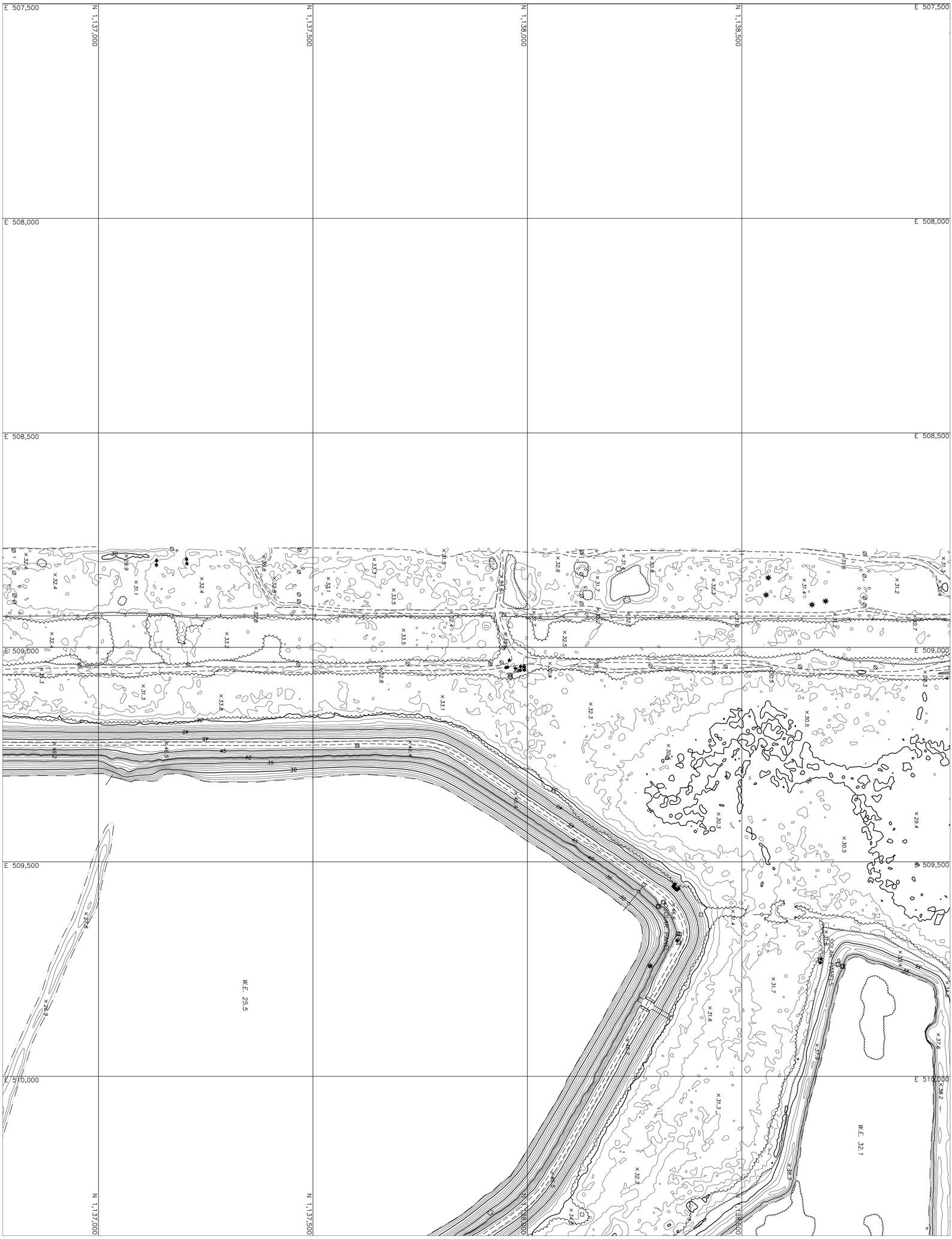
LD 7530

DRAWING No. 23-000-1898

PROJECT No.

PLOTTED: Friday, March 03, 2023



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4	3	2	1
9	8	7	6	5
13	12	11	10

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No. 3 of 13

PICKETT

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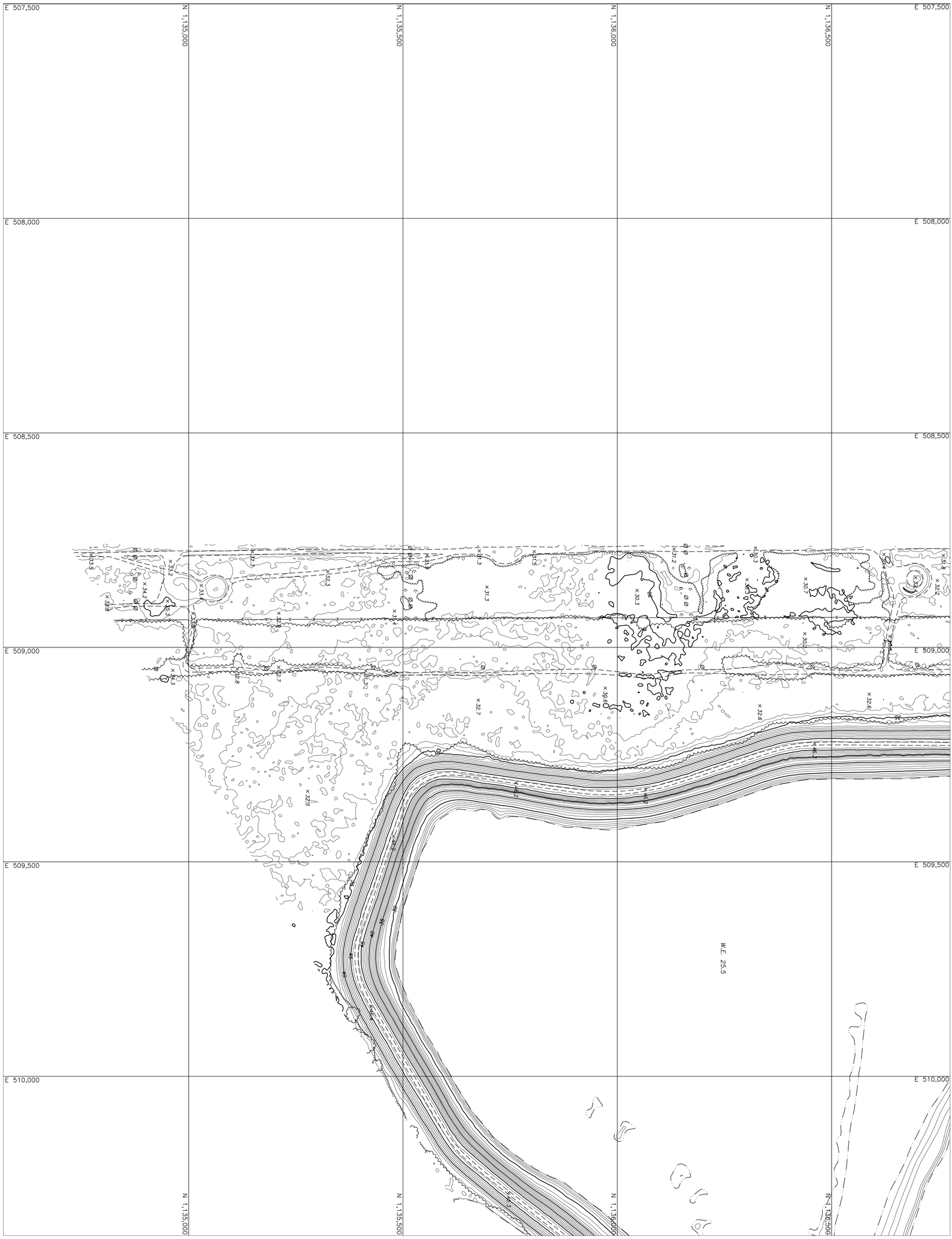

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O.R.	3/3/23	DAT	FIRST ISSUE

PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 4 OF 13

PLOTTED: Friday, March 03, 2023

SURVEYOR'S NOTES:

1.) North, the grid, and the coordinates shown hereon are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83, 2011 adjustment

2.) Elevations are to National Geodetic Vertical Datum of 1929.

3.) This topographic survey was prepared using photogrammetric and LiDAR methods. See the attached report for map accuracy and surveyor's signature and seal.

4.) Flight Date: 1/27/23

LEGEND:

SYMBOLS AND INFORMATIVE LABELS NOT TO SCALE

- PT# TARGET NUMBER
- N NORTHING
- E EASTING
- EL ELEVATION
- UTILITY POLE
- LIGHT POLE
- TRAFFIC LIGHT
- SIGN
- POST
- FLAG POLE
- MAILBOX
- GUY ANCHOR
- UNKNOWN VALVE
- ELECTRIC RISER
- MISCELLANEOUS
- CULVERT
- WETLAND AREA
- MANHOLE
- FIRE HYDRANT
- TREE
- PALM TREE
- BUSH
- × 120.1 SPOT ELEVATION
- CATCH BASIN

GOLF FEATURES
- T TEE
- G GREEN
- S SAND TRAP
- F FAIRWAY
- D DRIVING RANGE
- PG PRACTICE GREEN

THESE FEATURES ARE TO SCALE
- BACK OF CURB LINE
- ASPHALT
- CONCRETE
- DIRT DRIVE/ROAD
- FENCE
- GUARDRAIL
- WALL (CENTERLINE)
- VEGETATION LINE (0.5 LTSCALE)
- HEDGE/BRUSHLINE (LTSCALE .3)
- ABOVE GROUND
- RAILROAD RAIL
- SHORELINE
- SWAMPLINE
- MISCELLANEOUS
- OVERHEAD WIRE
- TOP OF BANK
- TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
- CONTOUR MINOR
- CONTOUR OBSCURED
- UNDERGROUND DRAINAGE

4	3	2	1
5	6	7	8
13	12	11	10

NORTH

GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 feet.

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TOPOGRAPHIC SURVEY

LENA ROAD LANDFILL
LOCATED IN SECTIONS 1,6,&31
TOWNSHIP 34&35 SOUTH, RANGE 18&19 EAST
PREPARED FOR: SCS ENGINEERS

PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 5 of 13

PICKETT
PICKETT AND ASSOCIATES, LLC
3710 AIRPORT COMMERCE PARK DR
LAKELAND FLORIDA, 33811
PHONE: (863)-533-9095
FAX: (863)-534-1464
LICENSED BUSINESS No. LB364

HORIZ. SCALE: 1"=100'	EDITED BY:	DRAWN BY:	CHECKED BY:	DRAWING NAME
CONTOUR INTERVAL: 1'	AC	PL&DT	DT	23-000-1898.DWG

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- PT TARGET NUMBER
- N NORTHING
- E EASTING
- EL ELEVATION
- UTILITY POLE
- LIGHT POLE
- TRAFFIC LIGHT
- SIGN
- POST
- FLAG POLE
- MAILBOX
- GUY ANCHOR
- UNKNOWN VALVE
- ELECTRIC RISER
- MISCELLANEOUS
- CULVERT
- WETLAND AREA
- MANHOLE
- FIRE HYDRANT
- TREE
- PALM TREE
- BUSH
- ×120.1 SPOT ELEVATION
- CATCH BASIN

GOLF FEATURES

- T TEE
- G GREEN
- S SAND TRAP
- F FAIRWAY
- D DRIVING RANGE
- PG PRACTICE GREEN

LEGEND:

THESE FEATURES ARE TO SCALE

- BACK OF CURB LINE
- ASPHALT
- CONCRETE
- DIRT DRIVE/ROAD
- FENCE
- GUARDRAIL
- WALL (CENTERLINE)
- VEGETATION LINE (0.5 LTSCALE)
- HEDGE/BRUSHLINE (LTSCALE .3)
- ABOVE GROUND
- RAILROAD RAIL
- SHORELINE
- SWAMPLINE
- MISCELLANEOUS
- OVERHEAD WIRE
- TOP OF BANK
- TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
- CONTOUR MINOR
- CONTOUR OBSCURED
- UNDERGROUND DRAINAGE

4	3	2	1
9	8	7	6	5
13	12	11	10

NORTH

GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

(IN FEET)
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LOCATED IN SECTIONS 1,6,&31
TOWNSHIP 34&35 SOUTH, RANGE 18&19 EAST
PREPARED FOR: SCS ENGINEERS

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PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 3 of 13

PLOTTED: Friday, March 03, 2023

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UTILITY POLE
LIGHT POLE
TRAFFIC LIGHT
SIGN
POST
FLAG POLE
MAILBOX
GUY ANCHOR
UNKNOWN VALVE
ELECTRIC RISER
MISCELLANEOUS
CULVERT
WETLAND AREA
MANHOLE
FIRE HYDRANT
TREE
PALM TREE
BUSH

× 120.1 SPOT ELEVATION
CATCH BASIN

GOLF FEATURES
T TEE
G GREEN
S SAND TRAP
F FAIRWAY
D DRIVING RANGE
PG PRACTICE GREEN

LEGEND:

THESE FEATURES ARE TO SCALE

BACK OF CURB LINE
ASPHALT
CONCRETE
DIRT DRIVE/ROAD
FENCE
GUARDRAIL
WALL (CENTERLINE)
VEGETATION LINE (0.5 LTSCALE)
HEDGE/BRUSHLINE (LTSCALE .3)
ABOVE GROUND
RAILROAD RAIL
SHORELINE
SWAMPLINE
MISCELLANEOUS
OVERHEAD WIRE
TOP OF BANK
TOE OF SLOPE
BREAKLINE
BUILDING
CONTOUR MAJOR
CONTOUR MINOR
CONTOUR OBSCURED
UNDERGROUND DRAINAGE

NORTH

GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

(IN FEET)
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PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 7 OF 13

PLOTTED: Friday, March 03, 2023

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- BUSH
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- CATCH BASIN

GOLF FEATURES
- T TEE
- G GREEN
- S SAND TRAP
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- D DRIVING RANGE
- PG PRACTICE GREEN

THESE FEATURES ARE TO SCALE

- BACK OF CURB LINE
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- FENCE
- GUARDRAIL
- WALL (CENTERLINE)
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- HEDGE/BRUSHLINE (LTSCALE .3)
- ABOVE GROUND
- RAILROAD RAIL
- SHORELINE
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4	3	2	1
9	8	7	6	5
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NORTH

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100 0 50 100 200 400

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LENA ROAD LANDFILL
LOCATED IN SECTIONS 1,6,&31
TOWNSHIP 34&35 SOUTH, RANGE 18&19 EAST
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PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 8 of 13

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- TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
- CONTOUR MINOR
- CONTOUR OBSCURED
- UNDERGROUND DRAINAGE

4	3	2	1
14	8	7	6	5
13	12	11	10

NORTH

GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

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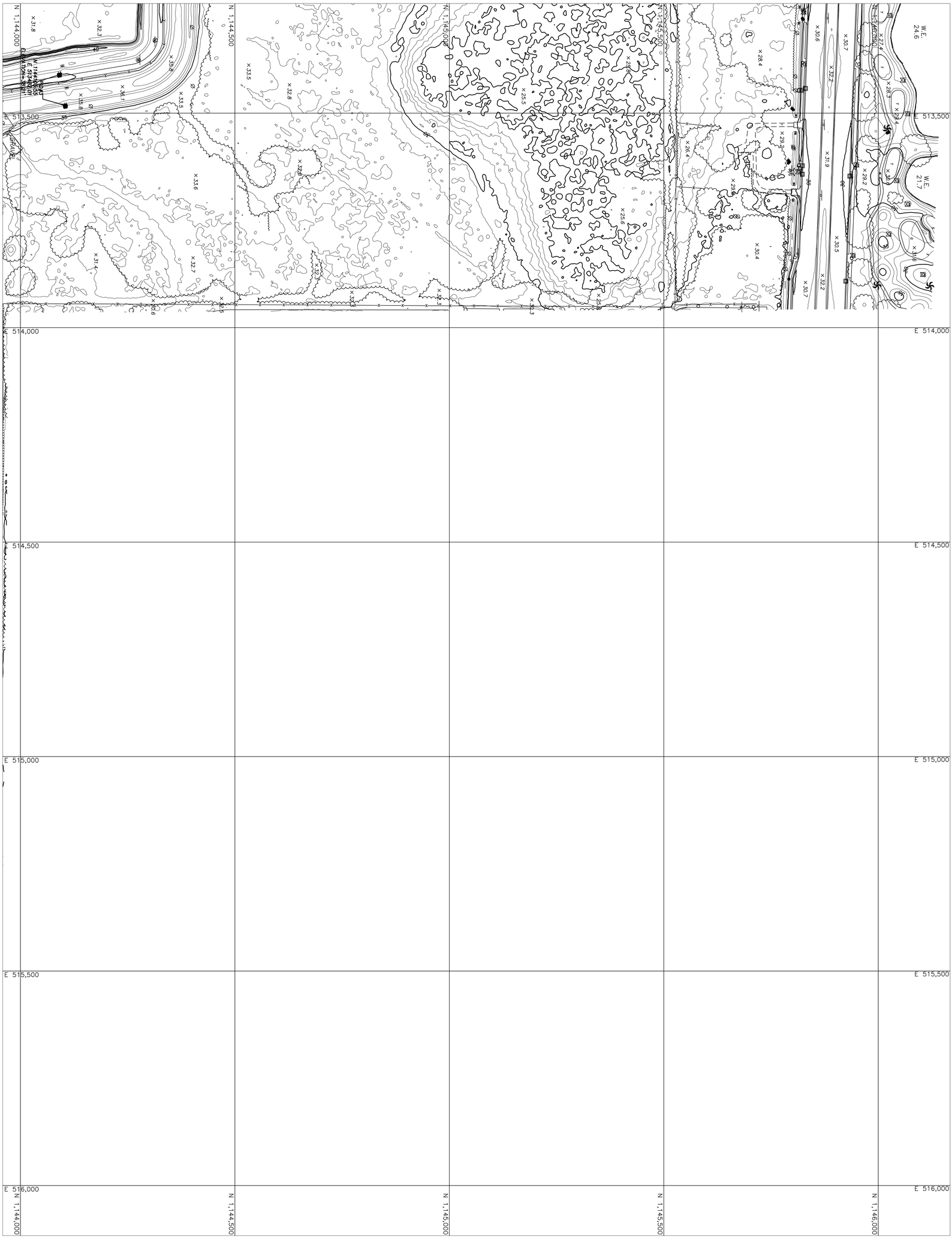
PROJECT No. 23-000-1898
DRAWING No. LD 7530
No. 9 of 13

PLOTTED: Friday, March 03, 2023



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GOLF FEATURES
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- PG PRACTICE GREEN

LEGEND:

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- RAILROAD RAIL
- SHORELINE
- SWAMPLINE
- MISCELLANEOUS
- OH OVERHEAD WIRE
- TOP TOP OF BANK
- TOE TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
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- CONTOUR OBSCURED
- DR UNDERGROUND DRAINAGE

4	3	2	1
10	9	7	6	5
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NORTH

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100 0 50 100 200 400

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TOPOGRAPHIC SURVEY

LENA ROAD LANDFILL
LOCATED IN SECTIONS 1,6,&31
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PROJECT No. 23-000-1898
DRAWING No. LD 7530
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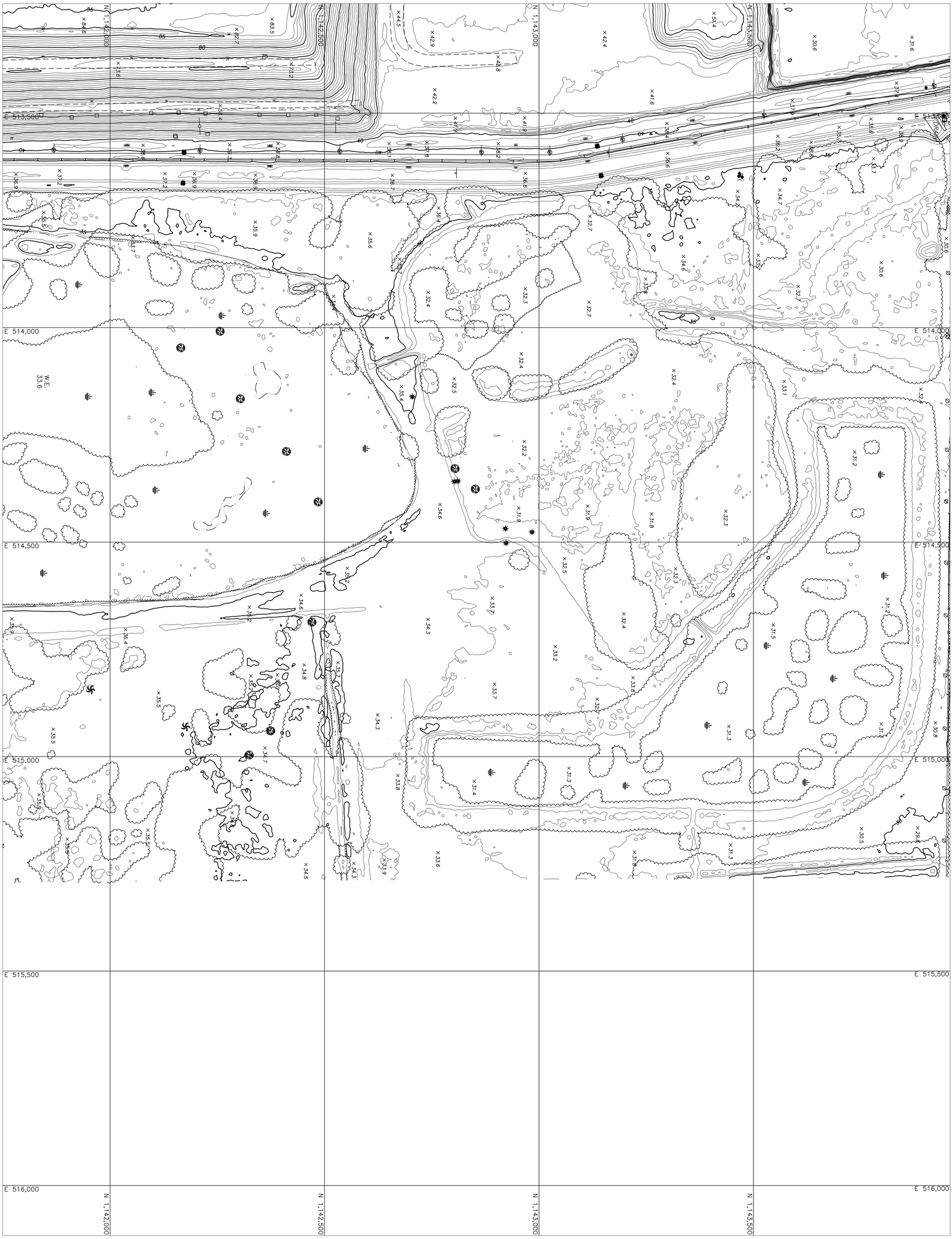

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No. 1 OF 13

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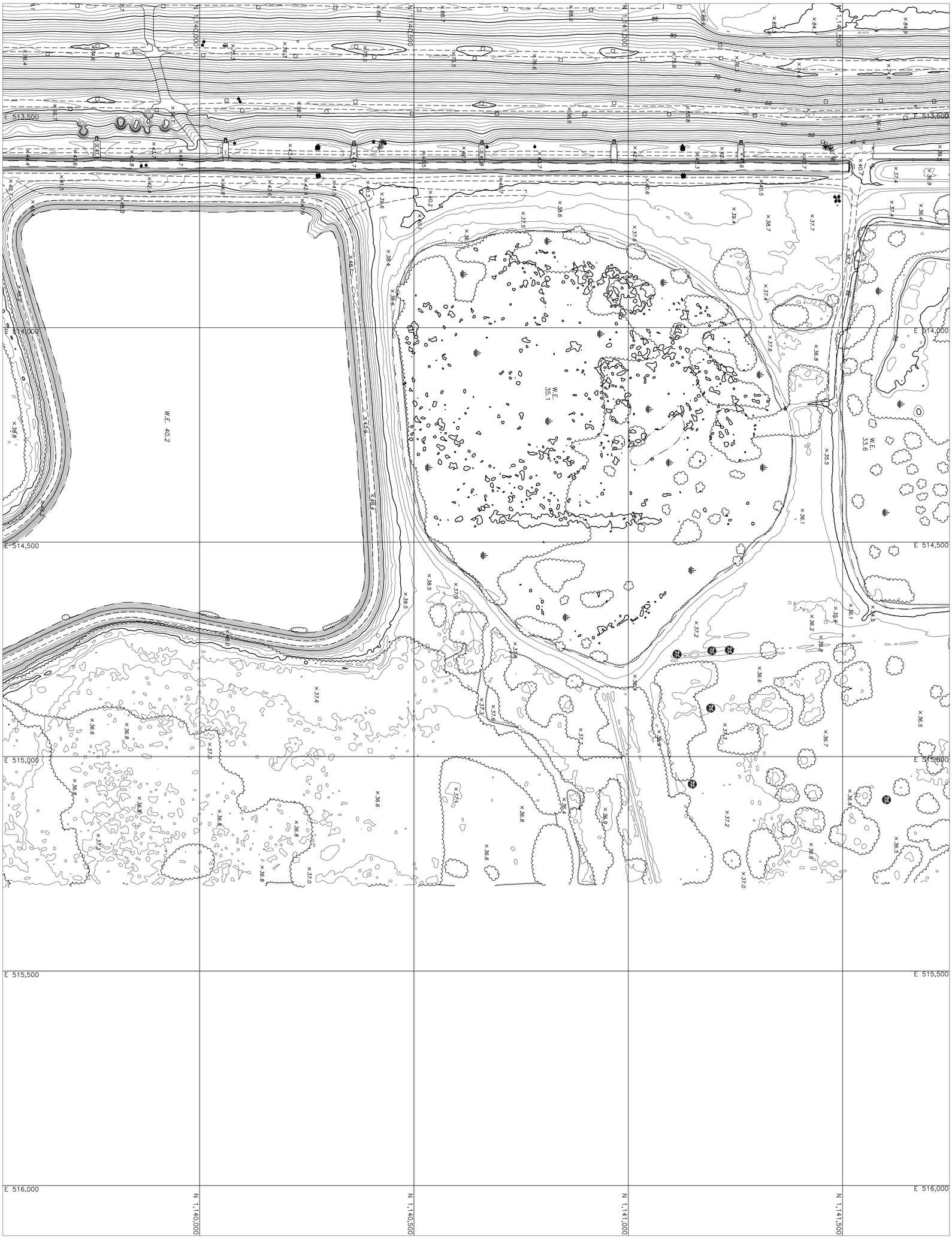

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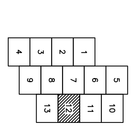
- PG PRACTICE GREEN

LEGEND:

THESE FEATURES ARE TO SCALE

- BACK OF CURB LINE
- ASPHALT
- CONCRETE
- DIRT DRIVE/ROAD
- FENCE
- GUARDRAIL
- WALL (CENTERLINE)
- VEGETATION LINE (0.5 LTSCALE)
- HEDGE/BRUSHLINE (LTSCALE .3)
- ABOVE GROUND
- RAILROAD RAIL
- SHORELINE
- SWAMPLINE
- MISCELLANEOUS
- OVERHEAD WIRE
- TOP OF BANK
- TOE OF SLOPE
- BREAKLINE
- BUILDING
- CONTOUR MAJOR
- CONTOUR MINOR
- CONTOUR OBSCURED
- UNDERGROUND DRAINAGE



NORTH

GRAPHIC & INTENDED DISPLAY SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 feet.

THIS MAP AND ATTACHED REPORT ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

SEE PAGE 1 FOR THE SIGNATURE AND THE ORIGINAL RAISED SEAL

PROJECT No.	DRAWING No.	Rev.
23-000-1898	LD 75.30	12 OF 13

TOPOGRAPHIC SURVEY

LENA ROAD LANDFILL
LOCATED IN SECTIONS 1,6,&31
TOWNSHIP 34&35 SOUTH, RANGE 18&19 EAST
PREPARED FOR: SCS ENGINEERS

PICKETT
PICKETT AND ASSOCIATES, LLC
3710 AIRPORT COMMERCE PARK DR
LAKELAND FLORIDA, 33811
PHONE: (863)-533-9095
FAX: (863)-534-1464
LICENSED BUSINESS No. LB364

HORIZ. SCALE: 1"=100'	EDITED BY:	DRAWN BY:	CHECKED BY:	DRAWING NAME
CONTOUR INTERVAL: 1'	AC	PL&DT	DT	23-000-1898.DWG

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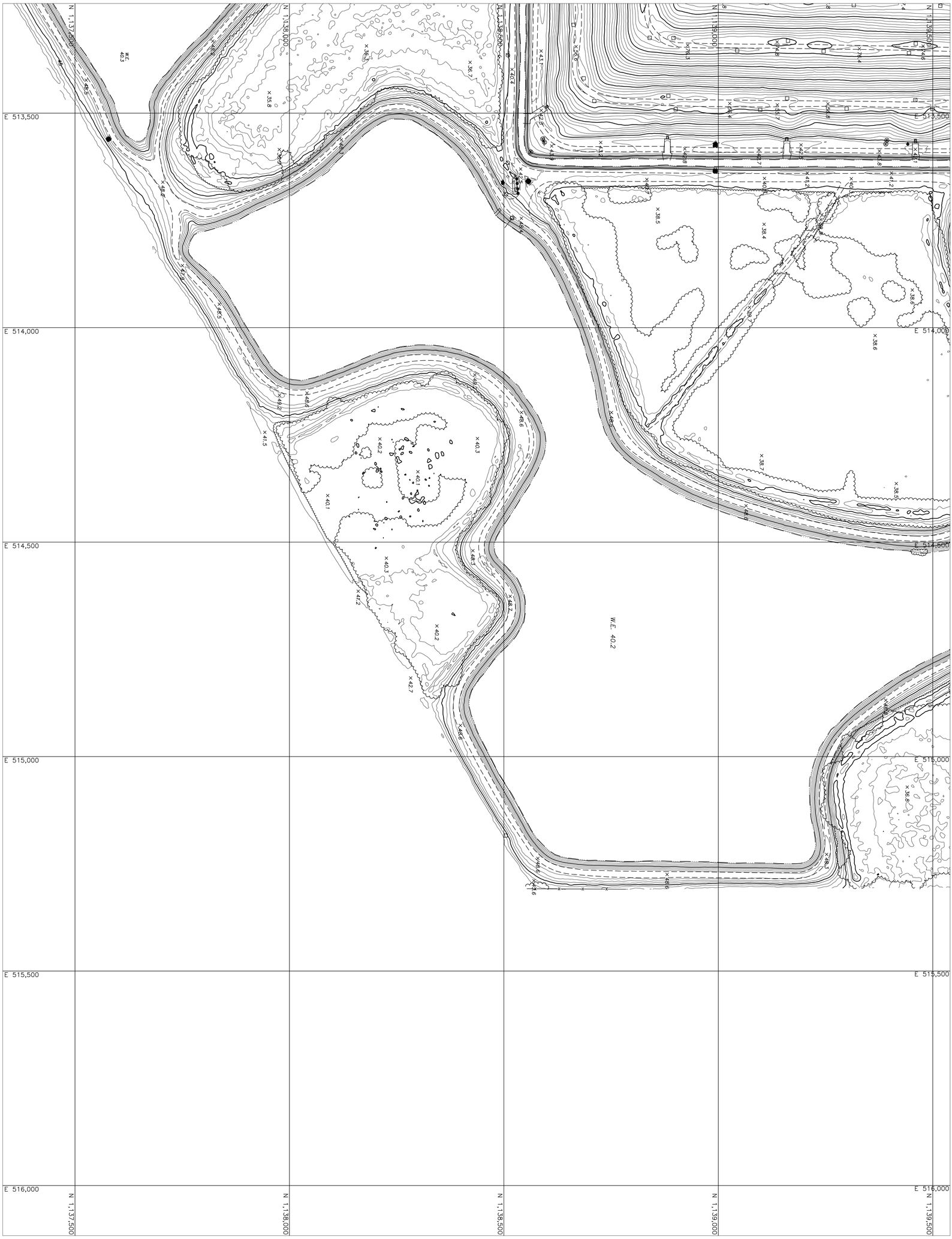
No.	DATE	APPROVED	REVISION
O.R.	3/3/23	DAT	FIRST ISSUE

PLOTTED: Friday, March 03, 2023



SURVEYOR's NOTES:

1.) North, the grid, and the coordinates shown hereon are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83, 2011 adjustment

2.) Elevations are to National Geodetic Vertical Datum of 1929.

3.) This topographic survey was prepared using photogrammetric and LiDAR methods. See the attached report for map accuracy and surveyor's signature and seal.

4.) Flight Date: 1/27/23

SYMBOLS AND INFORMATIVE LABELS NOT TO SCALE

PT# TARGET NUMBER
N NORTHING
E EASTING
EL ELEVATION
UTILITY POLE
LIGHT POLE
TRAFFIC LIGHT
SIGN
POST
FLAG POLE
MAILBOX
GUY ANCHOR
UNKNOWN VALVE
ELECTRIC RISER
MISCELLANEOUS
CULVERT
WETLAND AREA
MANHOLE
FIRE HYDRANT
TREE
PALM TREE
BUSH

× 120.1 SPOT ELEVATION
CATCH BASIN

GOLF FEATURES
T TEE
G GREEN
S SAND TRAP
F FAIRWAY
D DRIVING RANGE
PG PRACTICE GREEN

LEGEND:

THESE FEATURES ARE TO SCALE

BACK OF CURB LINE
ASPHALT
CONCRETE
DIRT DRIVE/ROAD
FENCE
GUARDRAIL
WALL (CENTERLINE)
VEGETATION LINE (0.5 LTSCALE)
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OVERHEAD WIRE
TOP OF BANK
TOE OF SLOPE
BREAKLINE
BUILDING
CONTOUR MAJOR
CONTOUR MINOR
CONTOUR OBSCURED
UNDERGROUND DRAINAGE

4	3	2	1
9	8	7	6	5
	12	11	10

NORTH

GRAPHIC & INTENDED DISPLAY SCALE

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PROJECT No. 23-000-1898
DRAWING No. LD 7530
Nov 13 of 13

ATTACHMENT B

REMAINING LIFE AND CAPACITY CALCULATIONS

SCS ENGINEERS

SHEET 1 OF 1

CLIENT	PROJECT	JOB NO.
Manatee County	Lena Road Landfill Site Life Calculations	09217088.28

SUBJECT	BY	DATE
Projected Remaining Capacity and Site Life - 5 Year Average	SRF	4/28/2023
Lena Road Landfill	CHECKED	DATE
	RBC	4/28/2023

Reporting Year	Historical Tonnages (Tons)[1]	Volume Used (CY)	Apparent Density (lbs/CY)
2019	292,722.41	480,380	1,218.71
2020	330,794.09	477,956	1,384.20
2021	300,284.89	510,892	1,175.53
2022	351,397.09	507,849	1,383.86
2023	381,174.26	563,853	1,352.03
	5-Year Average =	508,186	1,302.87

5-Year Average Density = 1,302.87 Lbs / CY

Volume Consumed

Between 1/31/22 and 1/27/23 = 563,853 CY

Average Volume Consumed (5-Year Average) = 508,186 CY

Remaining Volume For Waste Placement
(Final Closure Cap System Removed)

Remaining Volume as of 1/31/22 = 9,602,023 CY

Remaining Volume as of 1/27/23 = 9,602,023 CY - 563,853 CY = 9,038,169 CY

Remaining Capacity as of January 27, 2023

Remaining Years of Life From 1/27/23[3] = 9,038,169 / 508,186 = **17.8** **Years**

Year of Closure = 2040.8

Notes:

1 Waste received for this reporting year is the amount reported by Manatee County from scale data reports for full months, estimated by SCS for partial months.
2 Volume remaining based on calculating airspace between top of waste elevation and January 27, 2023 topographic survey using AutoCAD 3D.
3 Remaining life is calculated by dividing the average volume consumed per year into remaining volume for waste placement.