

**2018 LANDFILL CELL
LINER AND LEACHATE COLLECTION
CONSTRUCTION CERTIFICATION**

January 2022

Prepared for:



H.W. Pirkey Power Plant
2400 FM 3251
Hallsville, Texas 75650

Prepared by:



Akron Consulting, LLC
431 N Center St.
Longview, Texas 75601
TBPE Firm # 14014

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- Site Location Map
 - Plant and CCR Unit Map
 - Site Layout Map
 - 2018 Landfill Cell Details
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Introduction and Purpose

The H.W. Pirkey Power Plant, operated by Southwestern Electric Power Company (SWEPCO), a unit of American Electric Power (AEP), recently completed construction of a new +/-4 acre lateral expansion of their CCR landfill, generally referred to as the 2018 Landfill Cell. As required in section 40 CFR 257.70 (f), the purpose of this report is to certify that the composite liner and the leachate collection and removal system were constructed in accordance with the requirements of § 257.70 for the 2018 Landfill Cell.

Facility Location Description

SWEPCO owns and operates a coal-fired power plant (H.W. Pirkey Power Plant), which is located approximately 5.9 miles southeast of Hallsville in Harrison County, Texas. The power plant produces up to 700 Megawatts (MW) of electrical power utilizing local lignite from the Sabine Mining Company. The existing landfill is used for disposal of scrubber sludge, fly ash, bottom ash, and other byproducts from the coal-fired power plant. The waste materials are considered non-hazardous. A Site Location Map, as well as a Plant and CCR Unit Map have been included for reference at the end of this report.

2018 Landfill Cell Design Criteria for New CCR Lateral Expansion: (§ 257.70)

The existing Pirkey Landfill consists of several cells that have been constructed periodically over the last thirty plus years. Several of the cells have already been capped, and the most recent cell was constructed in 2015 (please refer to the Site Layout Map for the capped and active area locations). As per § 257.70, all new CCR landfills and any lateral expansions must be designed, constructed, operated, and maintained with a composite liner system and a leachate collection and removal system. The details of this system have been described in more detail below and illustrated on the last page of this document, entitled 2018 Landfill Cell Details.

Composite Liner System Requirements: § 257.70 (b) (1-4)

The composite liner system for the 2018 Landfill Cell consists of an upper and lower component. The upper component consists of a 60 mil HDPE geomembrane, and the lower component consists of a 2-foot compacted clay liner system with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The upper component was installed in direct and uniform contact with the lower component. The composite liner system also meets all the requirements as outlined in § 257.70 (b) (1-4).

Leachate Collection and Removal System § 257.70 (d) (1-3) (Not Installed for Lined Area to the South)

The leachate collection and removal system was installed for the 2018 Landfill Cell. This leachate system consists of a minimum 2-foot thick leachate drainage layer above the 60-mil HPDE liner to maintain less than a 30 cm depth of leachate over the liner. The purpose of this system is to collect and remove the leachate from the landfill during the active life and post-closure care period. The leachate system was constructed of materials that are chemically resistant to the CCR and of sufficient strength to prevent collapse from the future overlying waste. Leachate pipes, also made from HDPE material, were installed in the low areas of the liner system to remove the leachate from the leachate drainage layer. The trenches around these leachate pipes were backfilled with coarse aggregate and wrapped with filter fabric to minimize clogging. Chimney drains were also installed into the leachate piping to better drain the landfill during its active life. Therefore, the leachate collection and removal system meets all the requirements as outlined in § 257.70 (d) (1-3). This system was not installed on the lined area to the south of the 2018 Landfill Cell due to current ash projections. Consequently, this area is not included as part of this certification.

Summary

SWEPCO owns and operates a landfill at the H.W. Pirkey Power Plant and recently constructed the 2018 Landfill Cell. As outlined in this report, the liner and leachate collection and removal system were constructed in accordance with the requirements of § 257.70 for the 2018 Landfill Cell.

Certification

By means of this certification, I attest that (i) this report was prepared by me or under my direct supervision, (ii) I am a duly Licensed Professional Engineer in the State of Texas, and (iii) to the best of my knowledge, information and belief, the composite liner and the leachate collection and removal system for the 2018 Landfill Cell meets the requirements as set forth in 40 CFR 257.70.

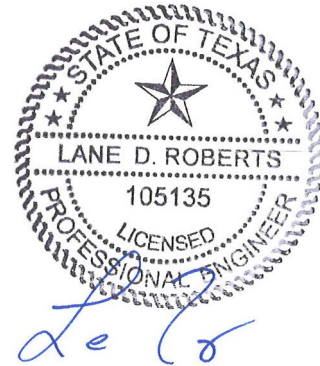
Lane Roberts

Printed Name of Registered Professional Engineer

Lane Roberts

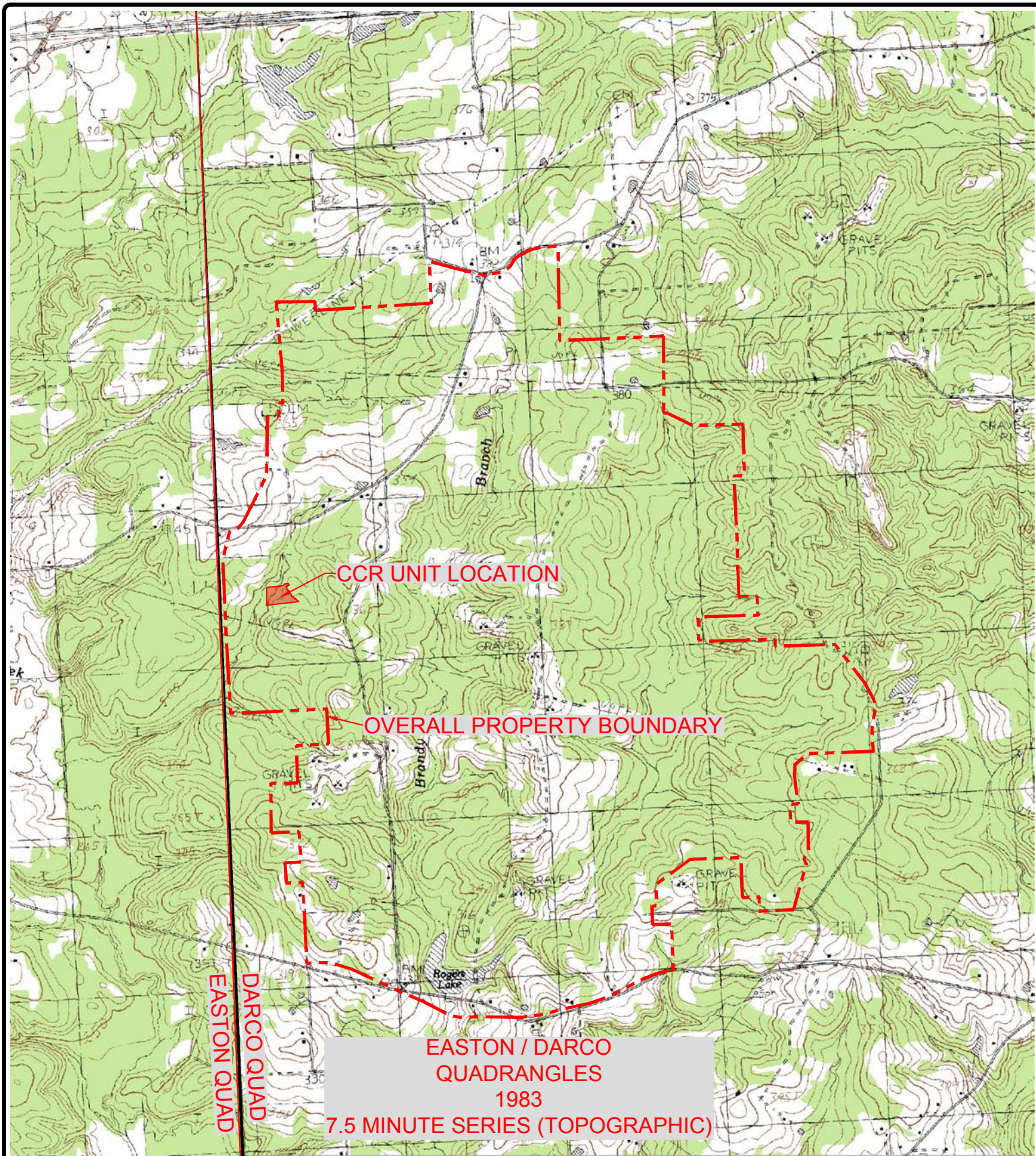
Signature

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Akron Consulting, LLC 431 N Center St. Longview, TX 75601 (903) 236-9744	14014
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Firm Information	TBPE Firm #

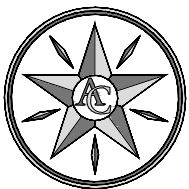


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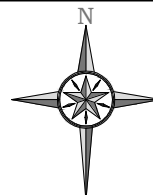
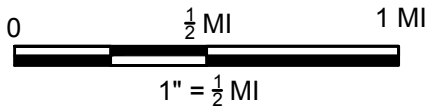
CCR UNIT LOCATION

OVERALL PROPERTY BOUNDARY

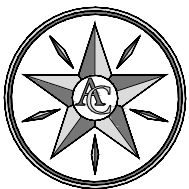
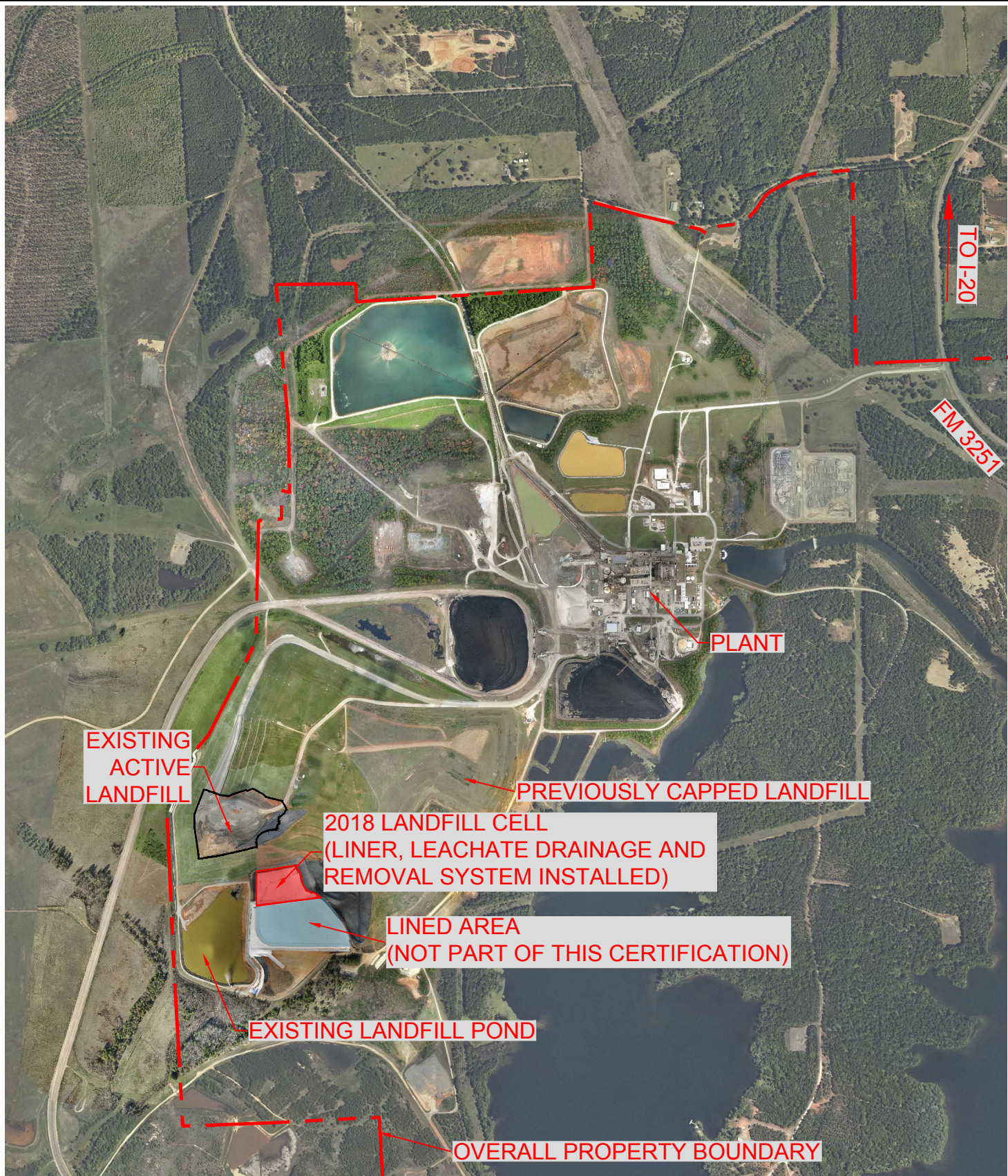
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QUADRANGLES
1983
7.5 MINUTE SERIES (TOPOGRAPHIC)



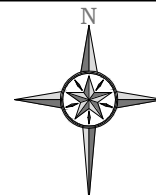
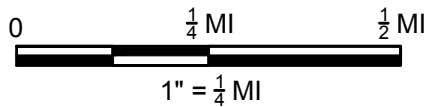
AKRON CONSULTING, LLC.
431 N. CENTER ST.
LONGVIEW, TX 75601
TBPE Firm Reg. # 14014
(O) 903-236-9744
(F) 903-236-9745
www.akron-consulting.com



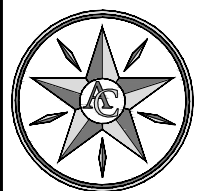
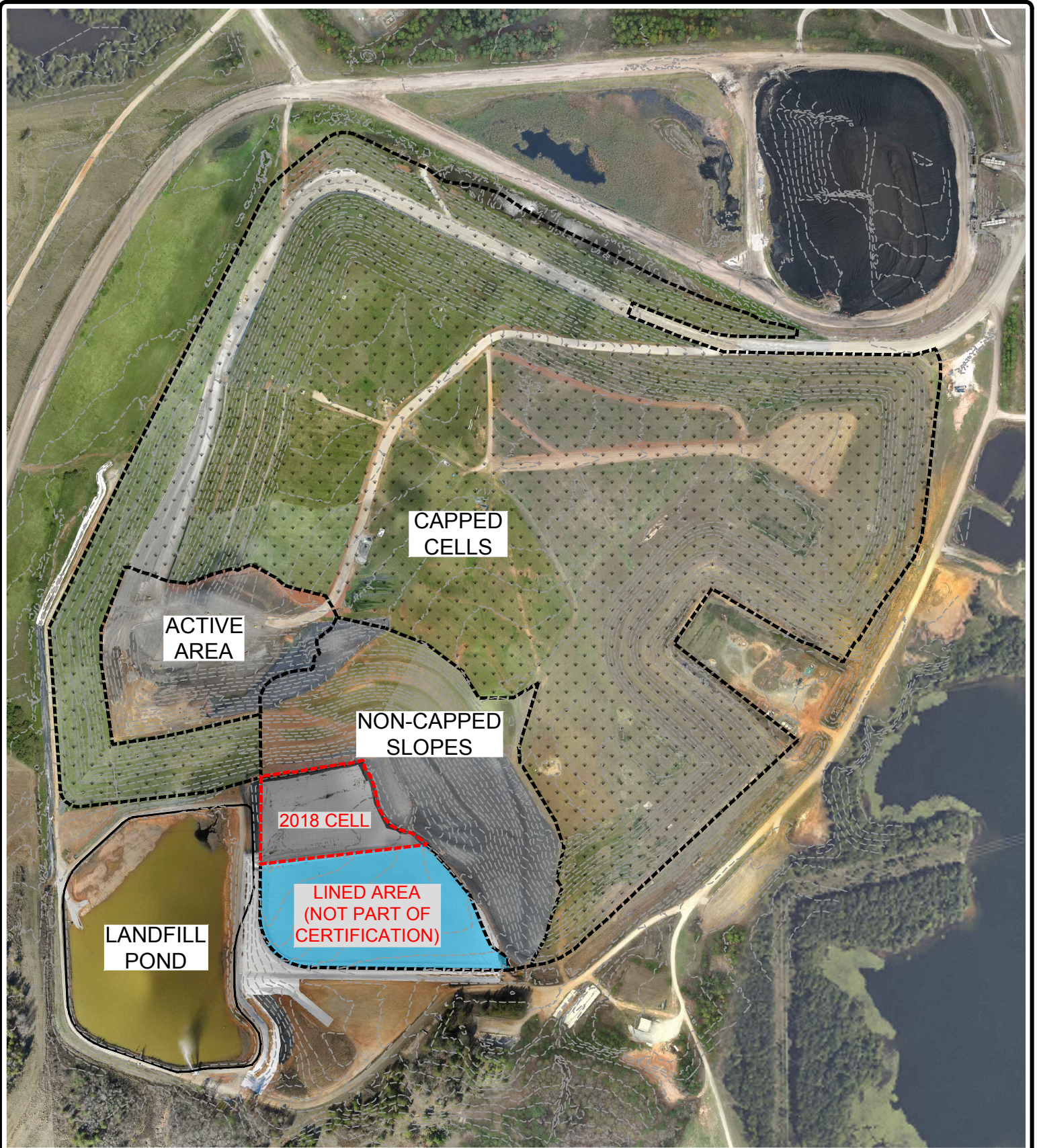
2018 LANDFILL
CELL
SITE LOCATION
MAP



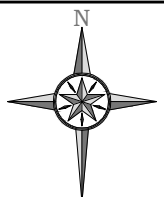
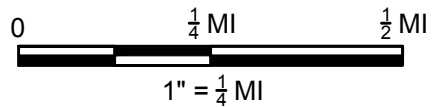
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 LONGVIEW, TX 75601
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 (F) 903-236-9745
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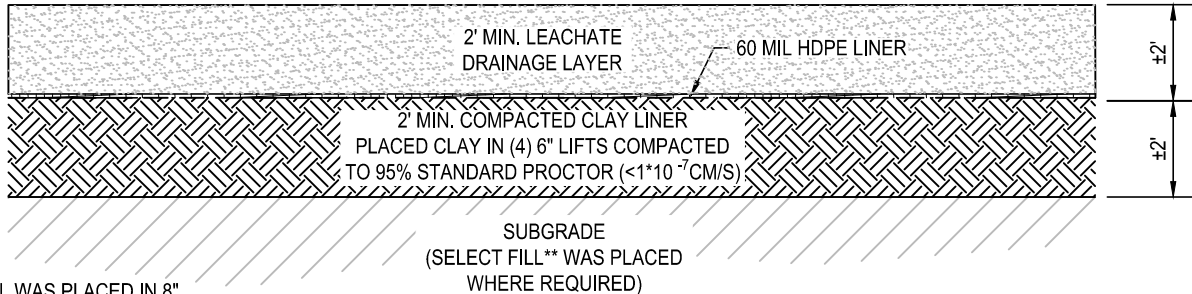
2018 LANDFILL
 CELL
 PLANT AND
 CCR UNIT MAP



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 (F) 903-236-9745
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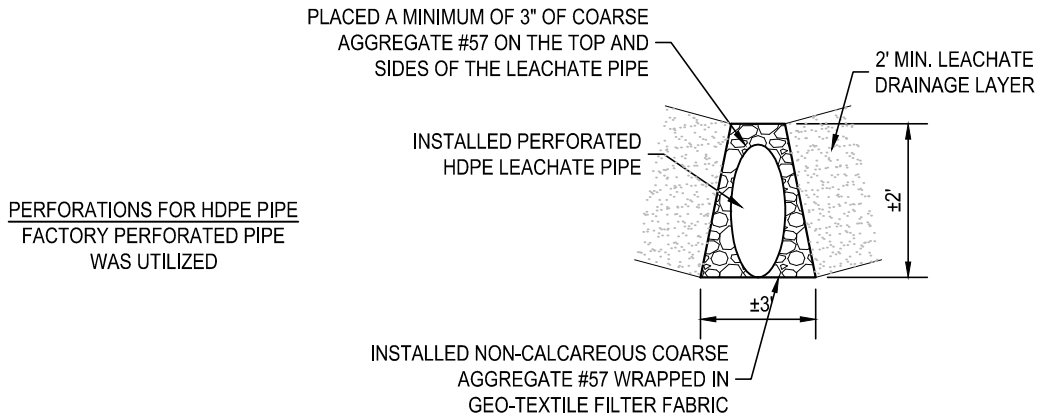
2018 LANDFILL
 CELL
 SITE LAYOUT
 MAP



**SELECT FILL WAS PLACED IN 8" MAX LIFTS AND COMPACTED TO 95% OF STANDARD PROCTOR

COMPOSITE LINER AND LEACHATE COLLECTION DETAIL

NOT TO SCALE



LEACHATE REMOVAL SYSTEM DETAIL

NOT TO SCALE



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 (F) 903-236-9745
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2018 LANDFILL CELL DETAILS