



Salina Landfill – Concept to Construction

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Overview

- Background and History of Site
- Master Planning
- 2014 Construction Project

Background and History of Site

Site Birdseye View



Background and History of Site

Original Permit Layout

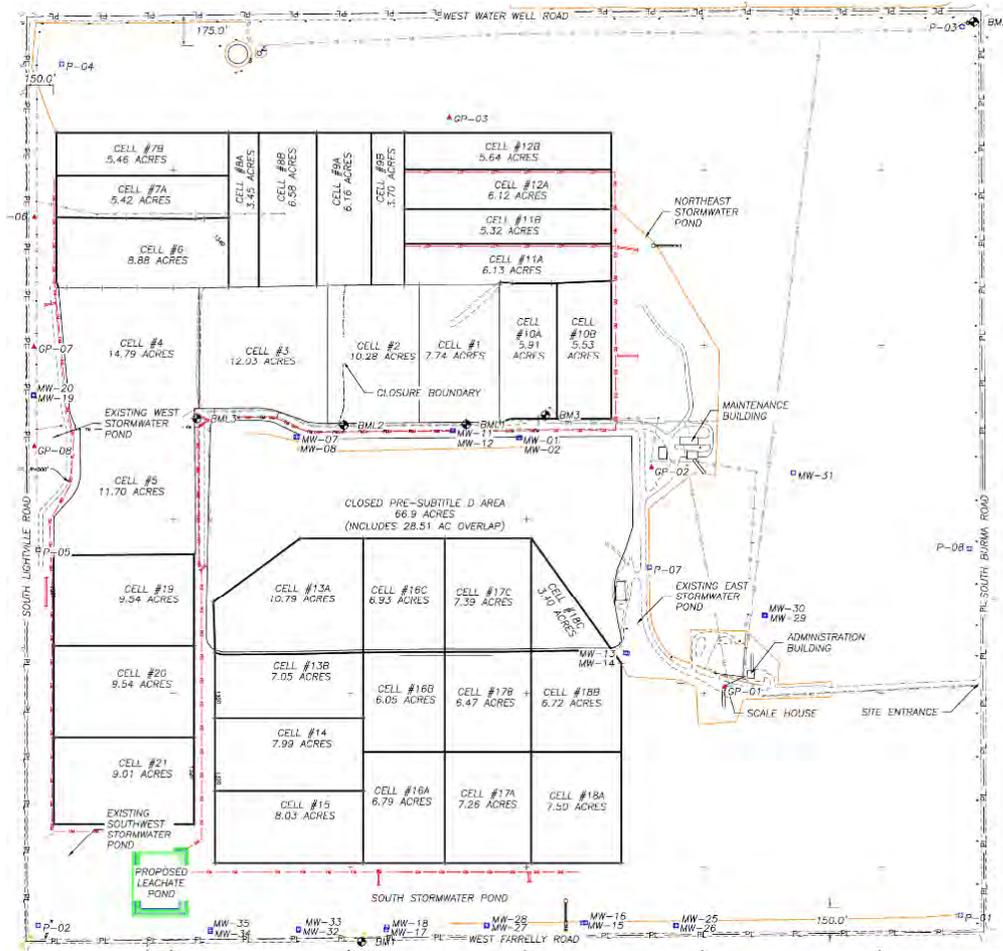


Master Planning

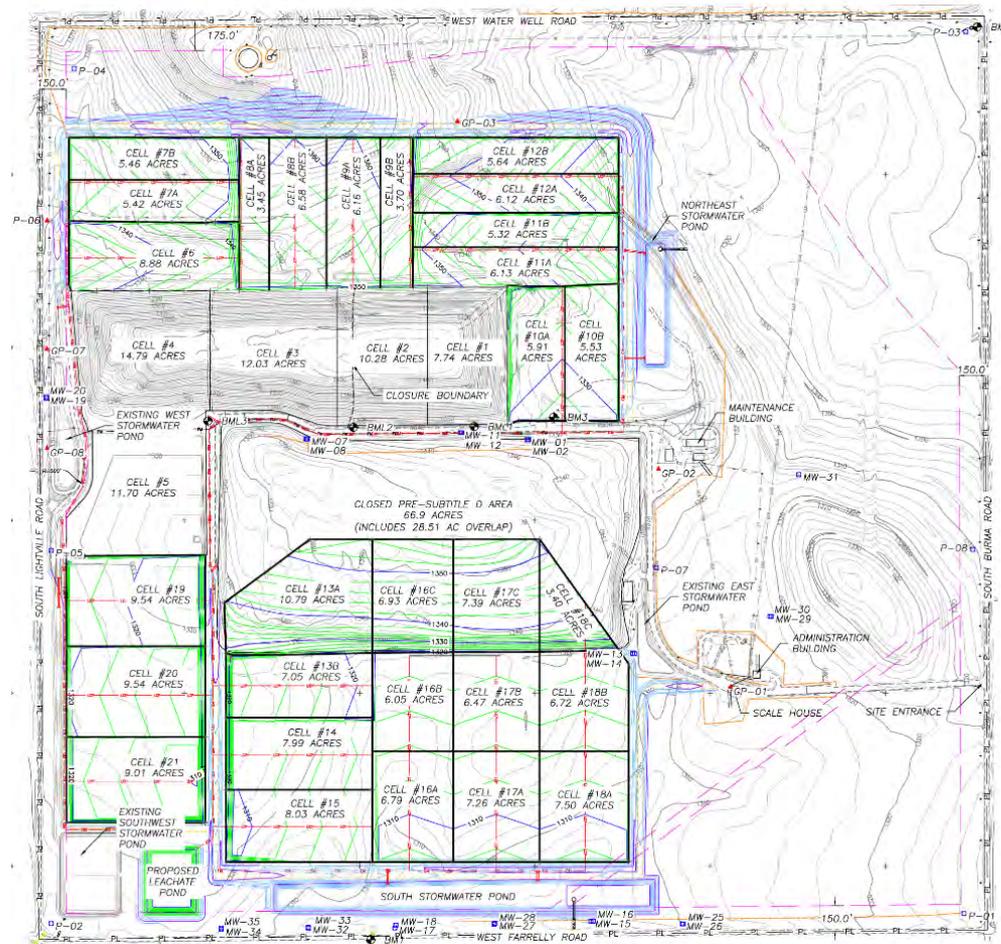
Key Components

- Cell Grades
- Leachate Pond
- Leachate Collection and Removal System
- Access Roads
- Final Cover
- Stormwater Control Structures

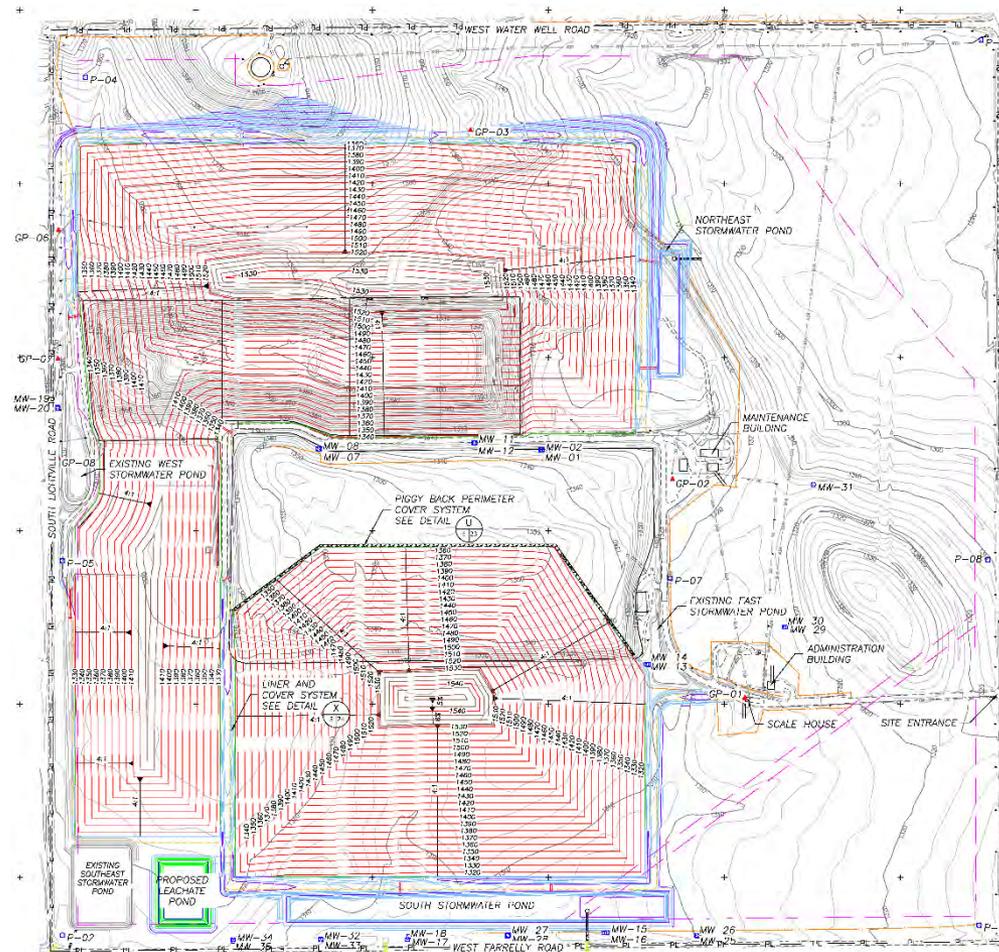
Master Planning New Site Layout



Master Planning Liner Grades



Master Planning Final Cover



Master Planning

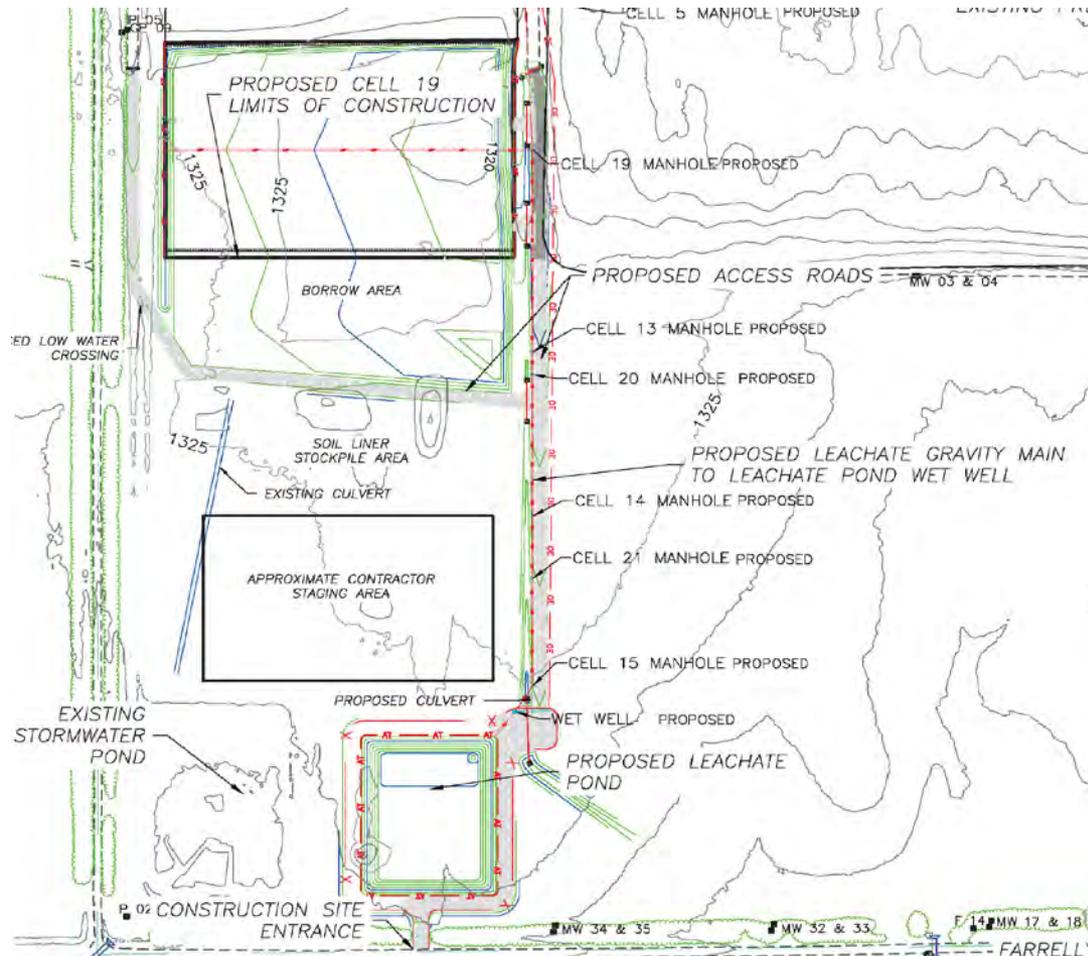
Key Highlights

- Original Waste Volume Estimate ~21.5MM CY
- New Waste Volume ~ 30MM CY
- Net Gain of 8.5MM CY While Only Adding 8 Acres of Footprint
- Leachate Gravity System
 - No pumps or sumps in future cells; replacement and maintenance
 - Central wet well at the leachate pond
- No Leachate Tanks, Hauling to POTW

2014 Construction Project Overview

- Construction Project Consisted of:
 - 10 Acre Cell 19
 - 1800 feet of Gravity Main, Wet Well, and Pumping System (Leachate Collection and Removal System)
 - 3 Acre Leachate Pond

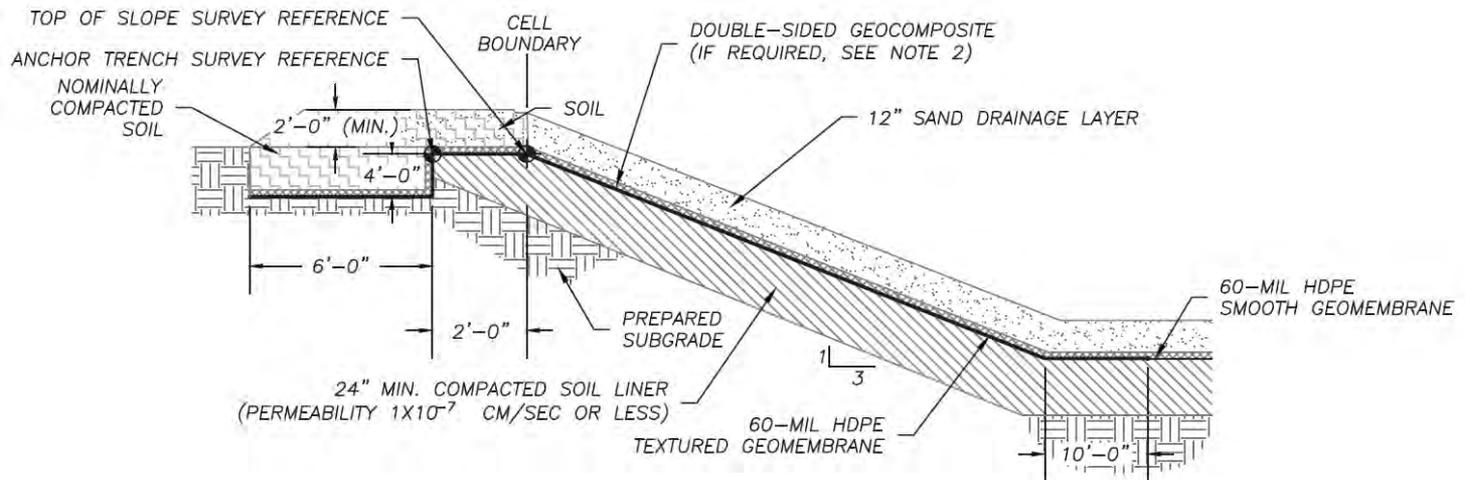
2014 Construction Project Overview



2014 Construction Project

Cell 19 Construction

- 2 feet of compacted clay liner
- 60 mil HDPE
- 1 foot of sand drainage/protective layer



2014 Construction Project

Cell 19 Construction

- Other Key Components
 - Leachate Collection Trench
 - Emergency Sump
 - Liner Termination Berm
 - Leachate Collection Line - Liner Penetration

2014 Construction Project Cell 19 Construction



2014 Construction Project Cell 19 Construction



2014 Construction Project

Cell 19 Construction



2014 Construction Project

Leachate Collection and Removal System

- After the liner penetration the leachate collection line discharges into a concrete manhole that was lined with polypropylene outside of Cell 19 limits
- Travels to the south by gravity to a wet well
- Pumped into the leachate pond
- Installed future lined manholes along pipeline. 7 in total

2014 Construction Project Leachate Collection and Removal System



2014 Construction Project
**Leachate Collection and
Removal System**



2014 Construction Project
**Leachate Collection and
Removal System**



2014 Construction Project Leachate Collection and Removal System



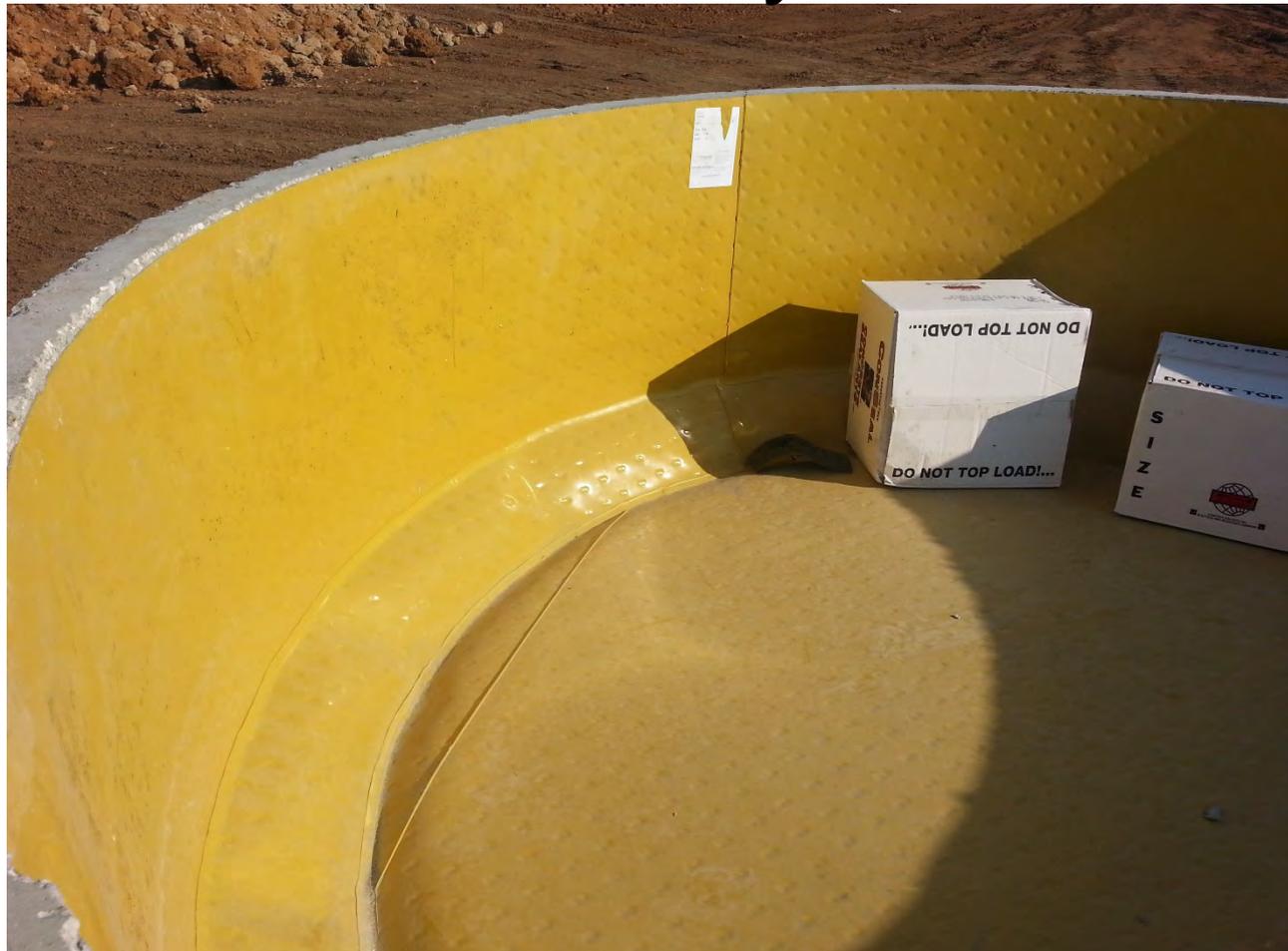
2014 Construction Project Leachate Collection and Removal System



2014 Construction Project Leachate Collection and Removal System



2014 Construction Project Leachate Collection and Removal System



2014 Construction Project

Leachate Collection and Removal System

- Wet well equipped with 2-ABS sanitary sewer pumps.
 - Stainless steel or epoxy coated parts
- Pumps alternate operation to decrease operational wear
- High leachate level alarm with light and sound
- Lights when the pumps are on and when a pump fails

2014 Construction Project

Leachate Collection and Removal System

- Digital display showing depth of leachate from bottom of wet well
- Flow totalizer with a manual reset switch
- Digital flow meter display in GPM
- Control panel controls pumps at the following switch levels
 - Pump on
 - Lag Pump Start on
 - High alarm
 - Pump off

2014 Construction Project

Leachate Collection and Removal System



2014 Construction Project

Leachate Collection and Removal System

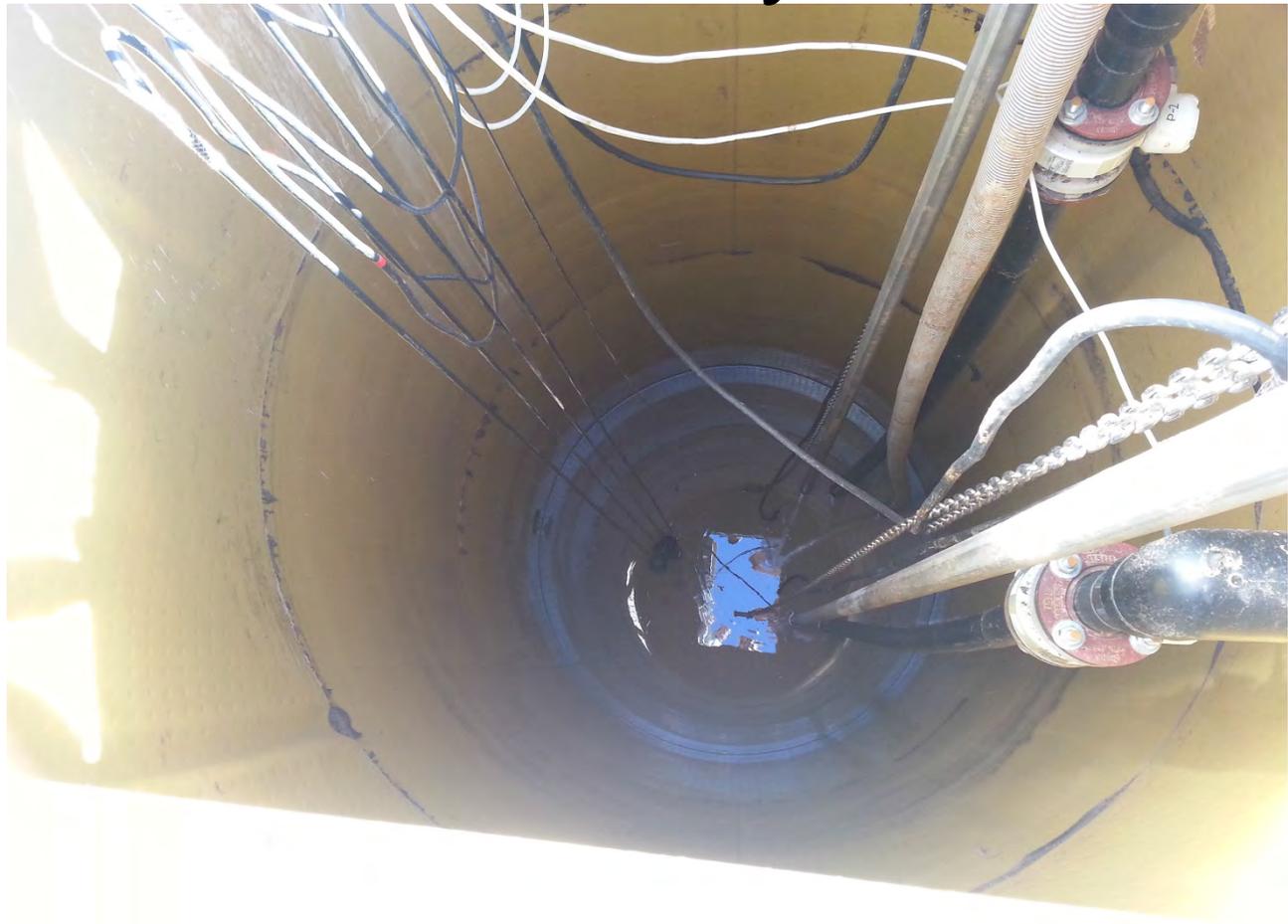


2014 Construction Project

Leachate Collection and Removal System

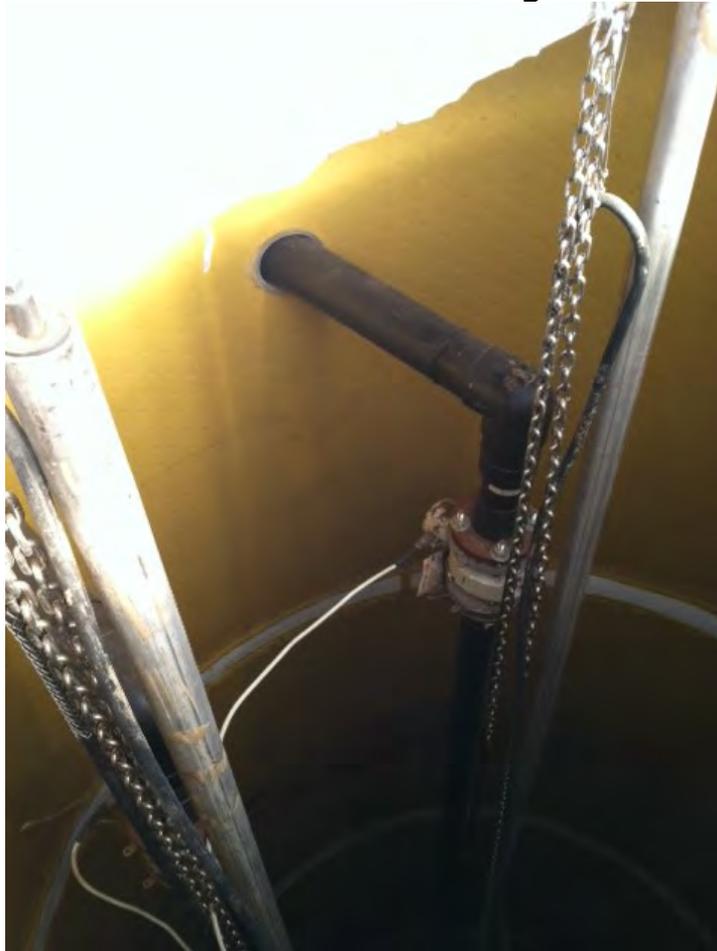


2014 Construction Project
**Leachate Collection and
Removal System**



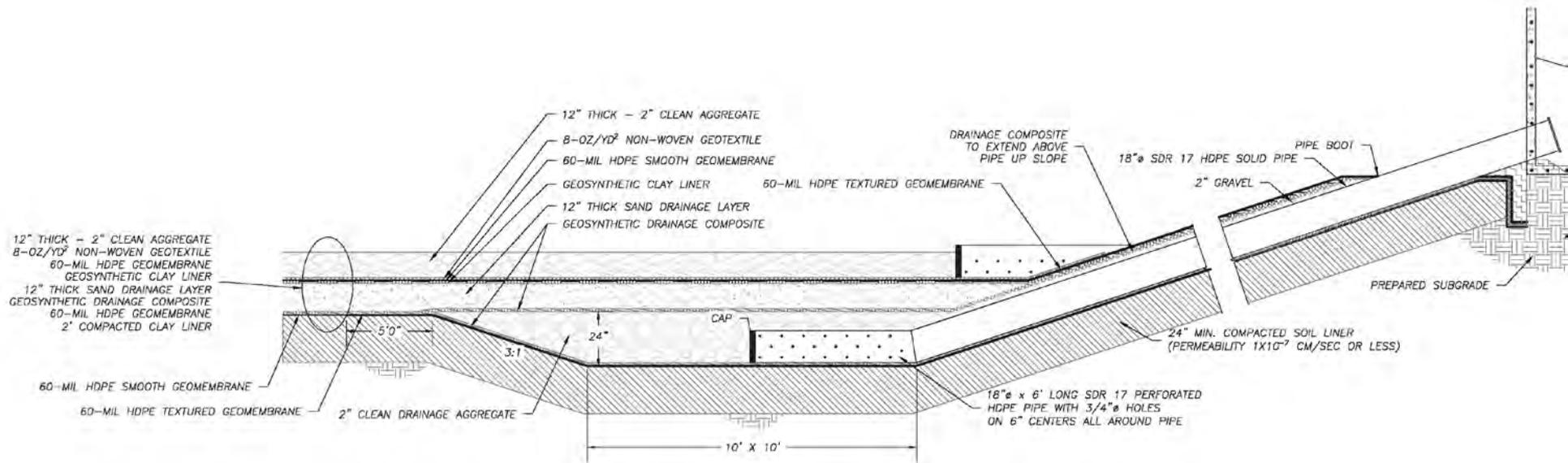
2014 Construction Project

Leachate Collection and Removal System



2014 Construction Project Leachate Pond

- Double lined with a 2-foot thick low permeability soil liner, geosynthetic components, and aggregate protective layers



2014 Construction Project Leachate Pond



2014 Construction Project Leachate Pond



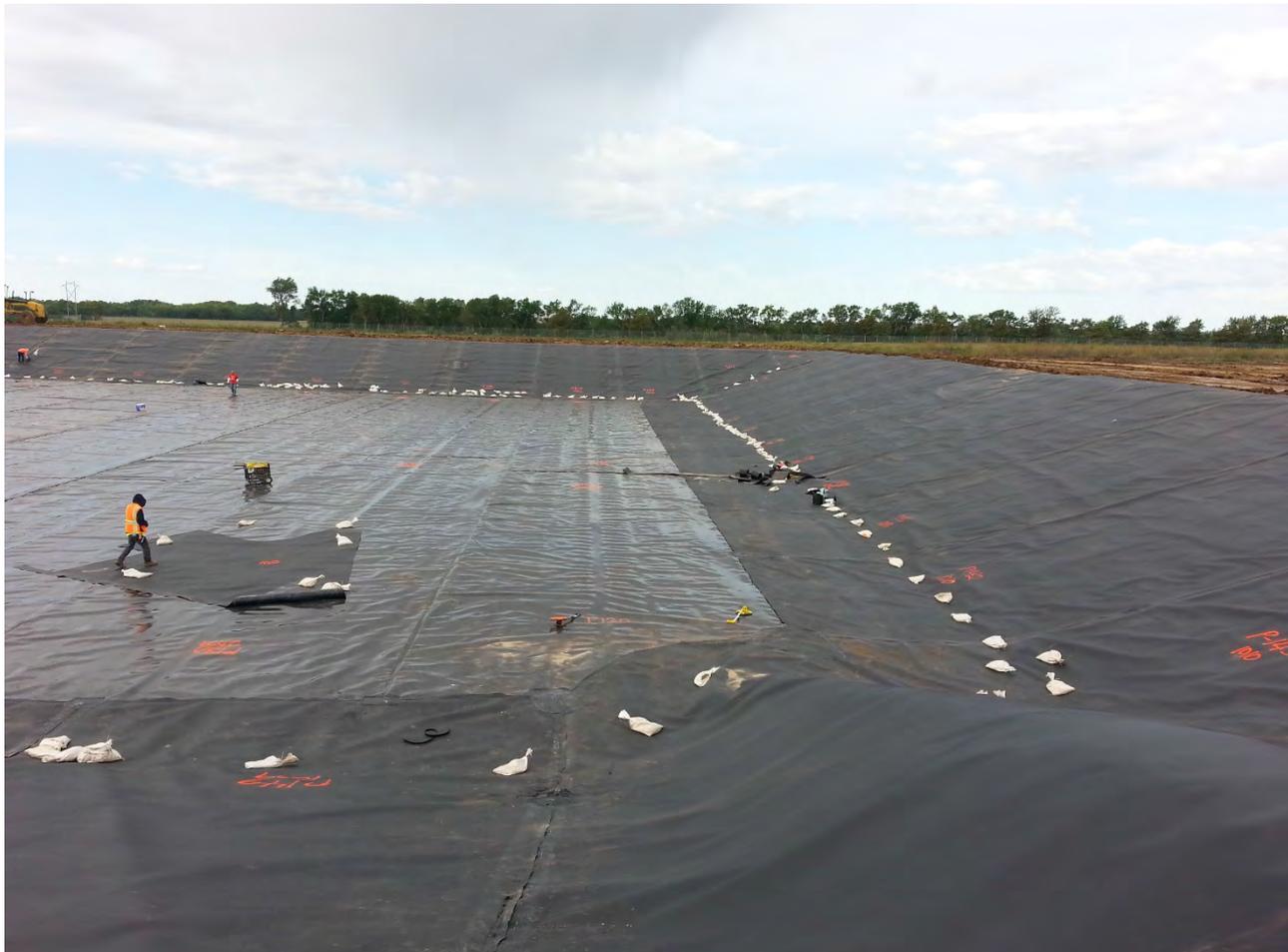
2014 Construction Project Leachate Pond



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2014 Construction Project Leachate Pond



Thank You For Your Time

Questions?

