

GE-Pittsfield / Housatonic River Site
Rest of River

Overview of Upland Disposal Facility Design Plans

April 18, 2024

Agenda

- UDF Design and Construction Overview
- EPA's Design Performance Standards
- Site Description and Primary Components Overview
- Construction, Operations, and Closure Phases
- Next Steps

The Upland Disposal Facility Meets or Exceeds All EPA Design Criteria

GE is presenting plans for a state-of-the-art Upland Disposal Facility to safely manage up to 1.3 million cubic yards of sediment and soil from the Housatonic River and its floodplains.

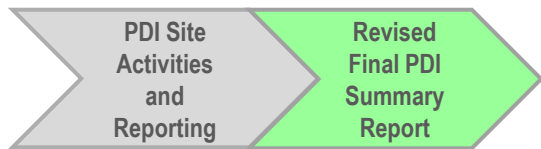
The UDF is:

- Designed at EPA's direction and with EPA oversight to be protective of human health and the environment
- Exclusively for lower PCB concentration material from the Rest of River Cleanup
- Designed with redundant safety measures, including primary and secondary leachate collection systems, stormwater collection, additional and thicker impermeable liners, and a groundwater monitoring network that will be sampled regularly to confirm performance

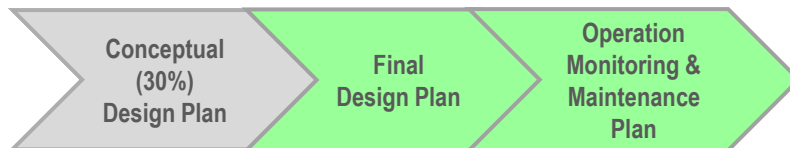
UDF Design and Construction Overview

- Permit requires a hybrid disposal approach for excavated soil/sediment:
 - Out-of-state disposal for higher-level PCB materials
 - Upland Disposal Facility (UDF) for lower-level PCB materials
- Permit requires UDF-specific investigation reports and design plans

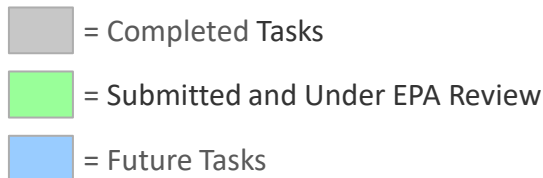
Pre-Design Investigation (PDI)



Design Plans



Construction, Operations, and Closure Phases



EPA's Design Performance Standards

Per Section II.B.5.a of the EPA's Revised Permit (derived by EPA from TSCA landfill regs)

- ✓ Maximum design capacity of 1.3 million cubic yards.
- ✓ Maximum consolidation area of 20 acres.
- ✓ Maximum elevation of 1,099 feet above mean sea level (amsl).
- ✓ Include a double bottom liner separated by a drainage layer and incorporate primary and secondary leachate collection systems.
- ✓ Bottom liner a minimum of 15 feet above conservative estimate of the seasonal high groundwater elevation. Seasonal high groundwater elevation estimated using a methodology approved by EPA.
- ✓ Consolidation area to be covered with a low-permeability cap that includes a liner(s), drainage layer(s), and vegetation.
- ✓ Bottom and cap liners to have a permeability equal to or less than 1×10^{-7} centimeters per second (cm/s) with a minimum thickness of 30 thousandths of an inch (mil) and be chemically compatible with PCBs.
- ✓ Include a stormwater management system to control surface runoff and minimize the potential for surface erosion or stormwater contribution to leachate generation.
- ✓ Include a groundwater monitoring network around the UDF to monitor for PCBs and other constituents identified in the groundwater monitoring plan.

UDF Site Description



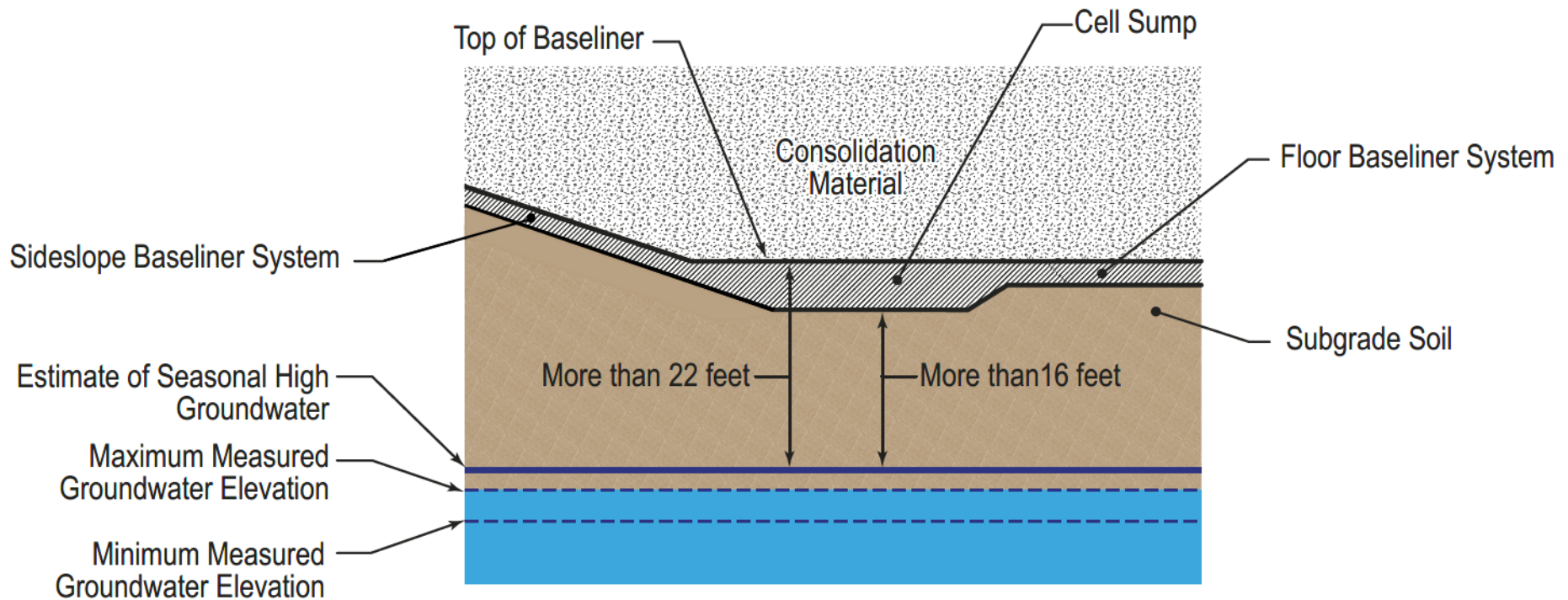
Existing Conditions

- Previously disturbed and barren ground areas void of vegetation
- Open grassed and wooded areas
- Quarry ponds created as part of prior and ongoing quarry operations
- Miscellaneous debris piles

5 Key Components of the UDF

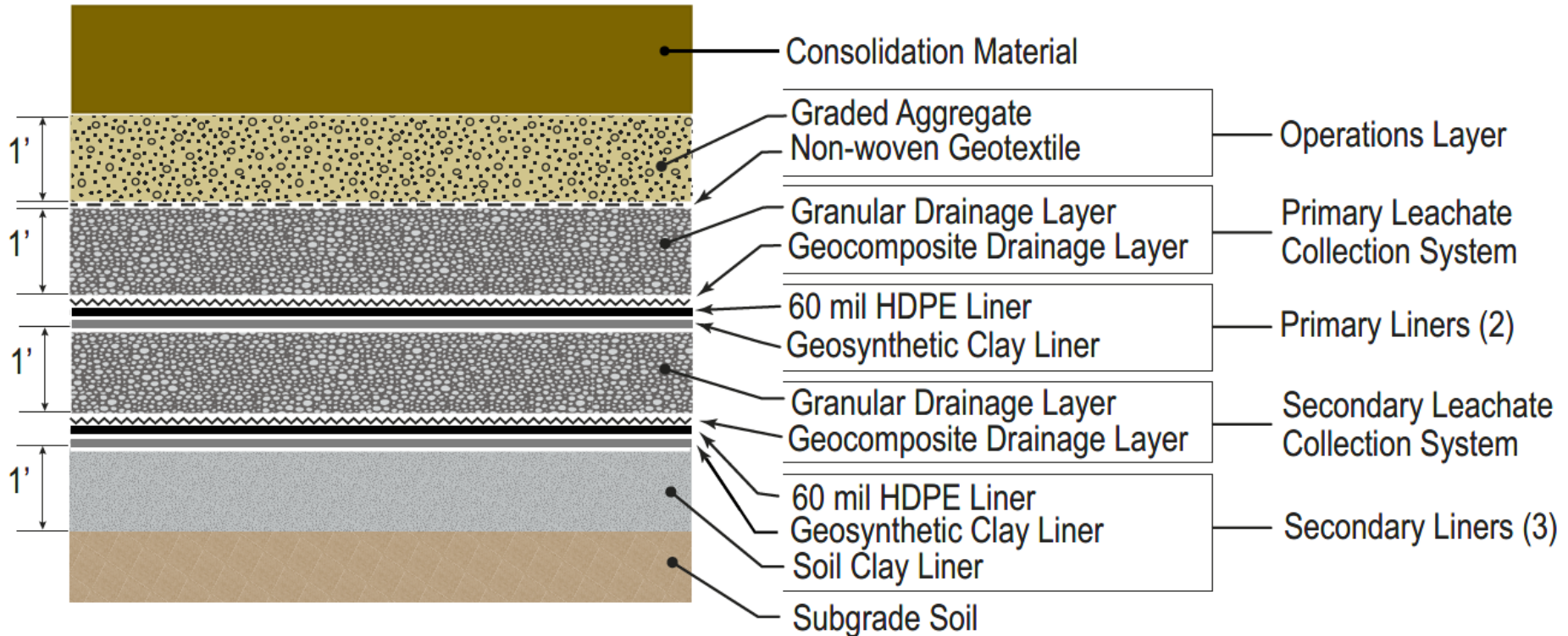
1. Baseline and Groundwater Separation
2. Baseline System
3. Leachate Collection and Removal System
4. Stormwater Management System
5. Final Cover System

1. Baseline : Groundwater Separation



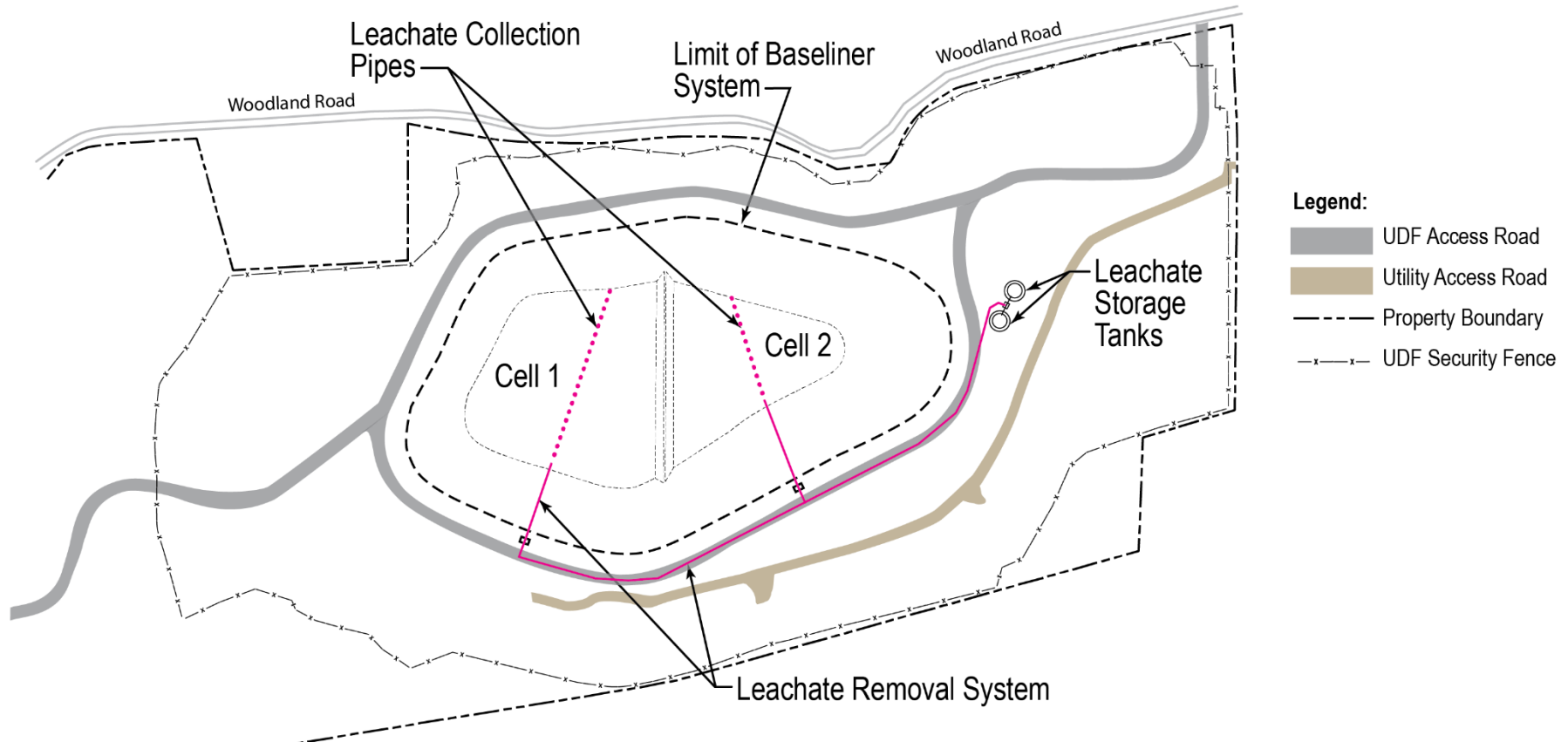
- Minimum and maximum groundwater elevations measured during PDI.
- Estimate of seasonal high groundwater elevation based on calculations approved by EPA.
- Design provides more than 16 feet of separation from bottom of baseliner to estimated seasonal high groundwater (*exceeds Performance Standard of 15 feet*).
- Design provides for more than 22 feet of separation from consolidation material to estimated seasonal high groundwater.

2. Baseline System



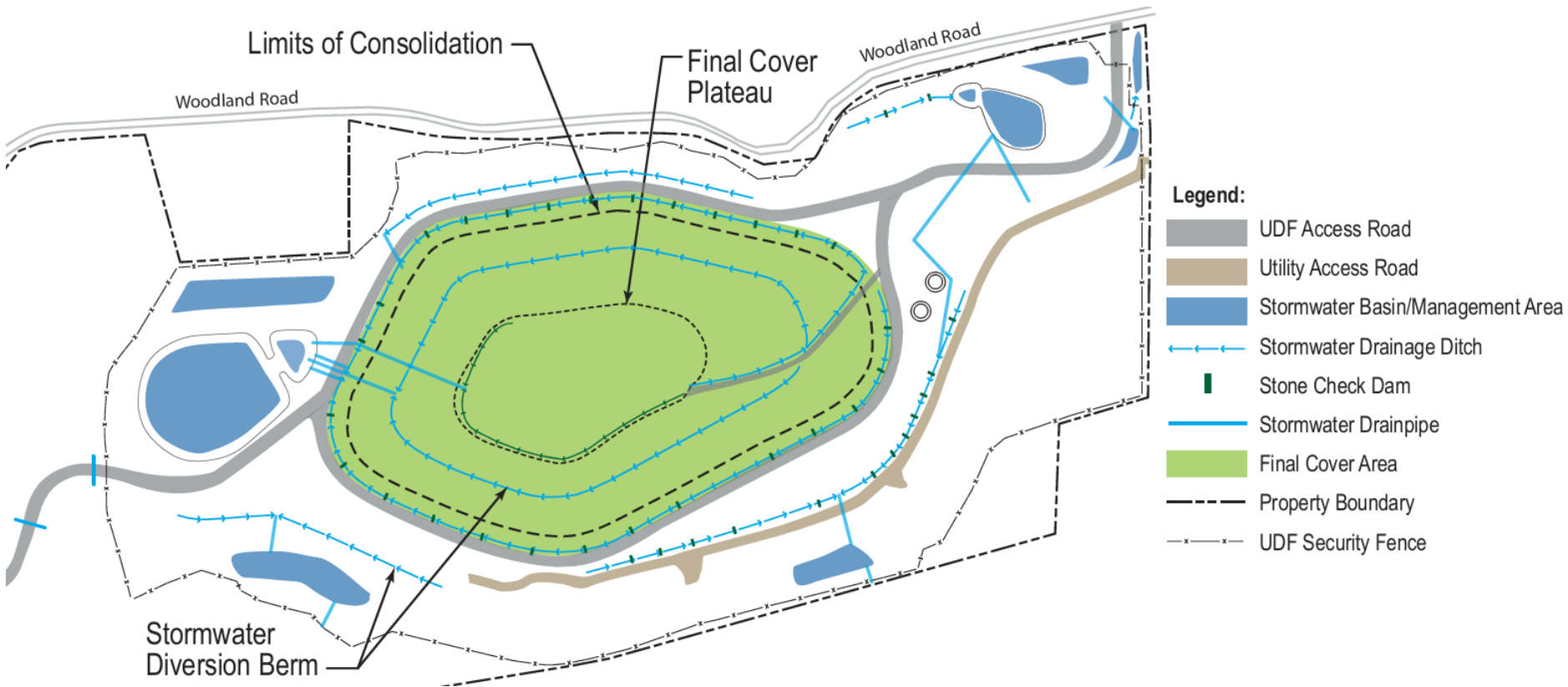
- Baseline system includes 5 individual liners (*exceeds performance standard that requires two bottom liners*).
- The HDPE geomembrane liners are a million times less permeable than the Performance Standard requirement (1×10^{-13} cm/sec vs minimum requirement of 1×10^{-7} cm/sec).
- The HDPE geomembrane liner is twice as thick as the Performance Standard requirement (60 mils vs minimum requirement of 30 mils).

3. Leachate Collection and Removal System



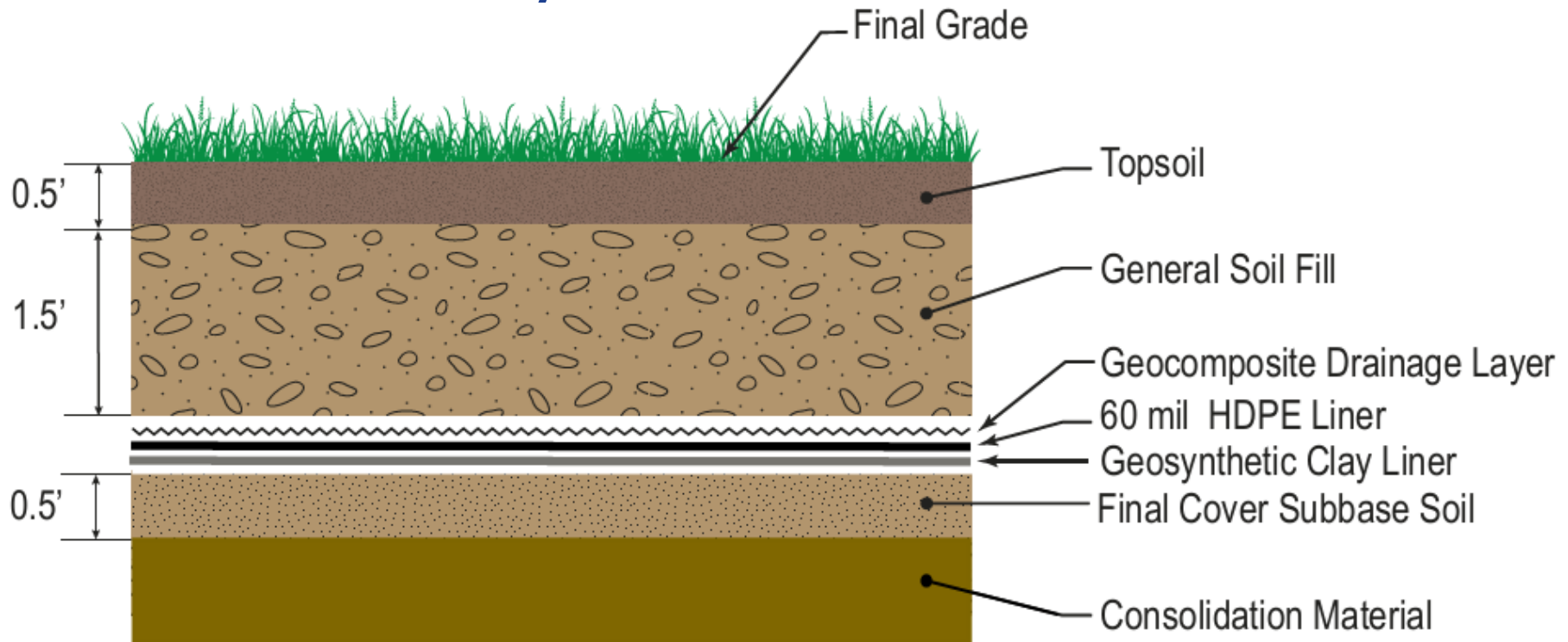
- Floor baseliner includes two leachate collection systems (primary and secondary systems)
- Each collection system has two collection layers (granular layer and geosynthetic layer)
- Leachate is collected from each sump and pumped to on-site storage tanks.
- Leachate in storage tanks will initially be shipped from the UDF to GE's Pittsfield facility or an off-site facility for treatment. During later hydraulic dredging operations, leachate will be treated using an on-site treatment system.

4. Stormwater Management System



- Up to 100-year design storm event used for design. Designed to promote infiltration, similar to what occurs today. For any flows exceeding design criteria, overflows will drain to existing low-lying areas matching existing drainage patterns.
- Post-construction drainage will maintain existing discharge conditions as required by Performance Standard.

5. Final Cover System



- Final cover system will include 2 individual liners.
- The HDPE geomembrane liner is a million times less permeable than the Performance Standard requirement (1×10^{-13} cm/sec vs 1×10^{-7} cm/sec minimum requirement).
- The HDPE geomembrane liner is twice as thick as the Performance Standard requirement (60 mils vs 30 mil minimum requirement).

Overview of Construction, Operation, and Closure Phases

Construction:

- General Site Preparation and Earthwork → Year 1
- Component Construction → Year 2
 - Baseline system, leachate system, stormwater system

Operation:

- Consolidation Material Placement → Years 3 through completion
 - Management of Leachate and Stormwater

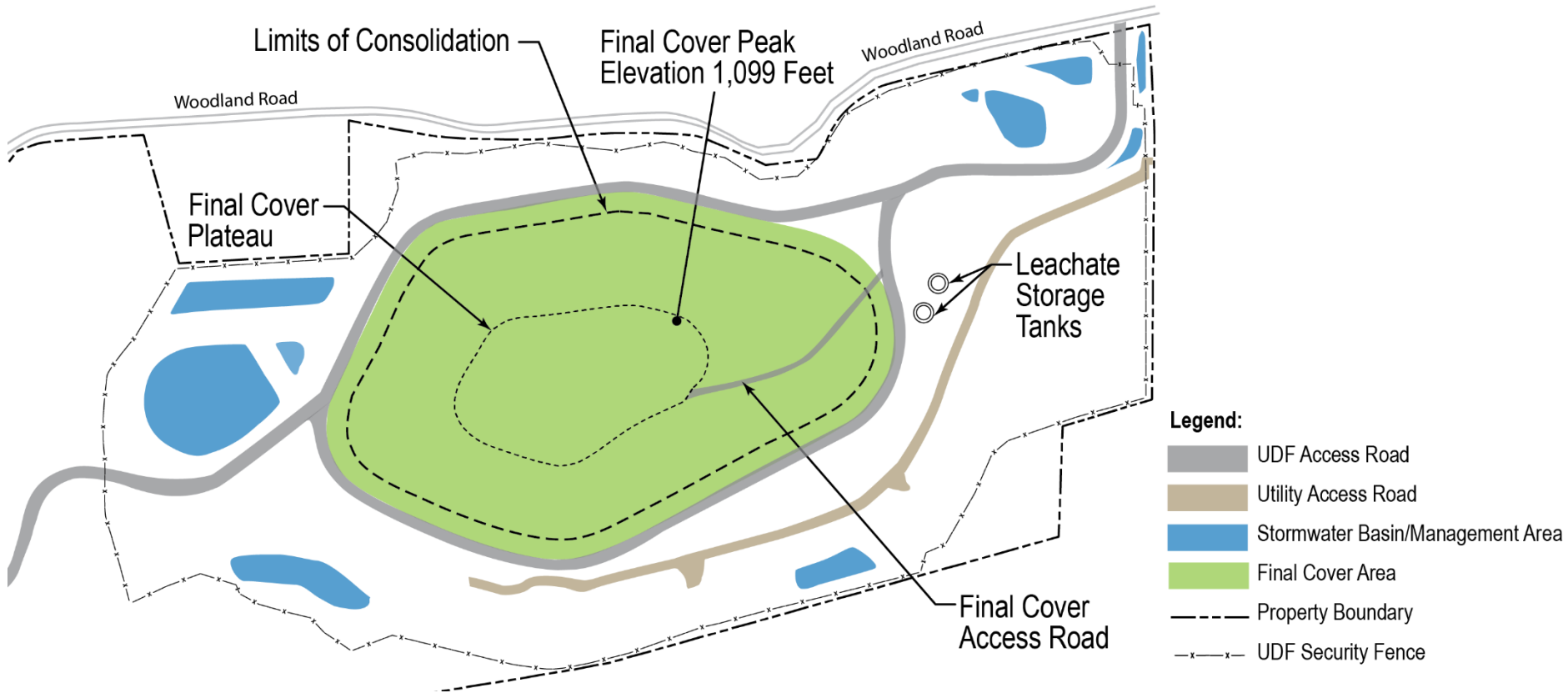
Closure:

- Final Buildout and Cover Construction
 - Consolidation material will be placed to achieve a maximum final cover elevation of 1,099 ft amsl (*per Performance Standard*)
 - Stormwater runoff from capped cell areas will be handled by stormwater management system.
 - Stormwater collected within uncapped cell areas will be handled and treated by leachate management system

Overview of Construction, Operation, and Closure Phases

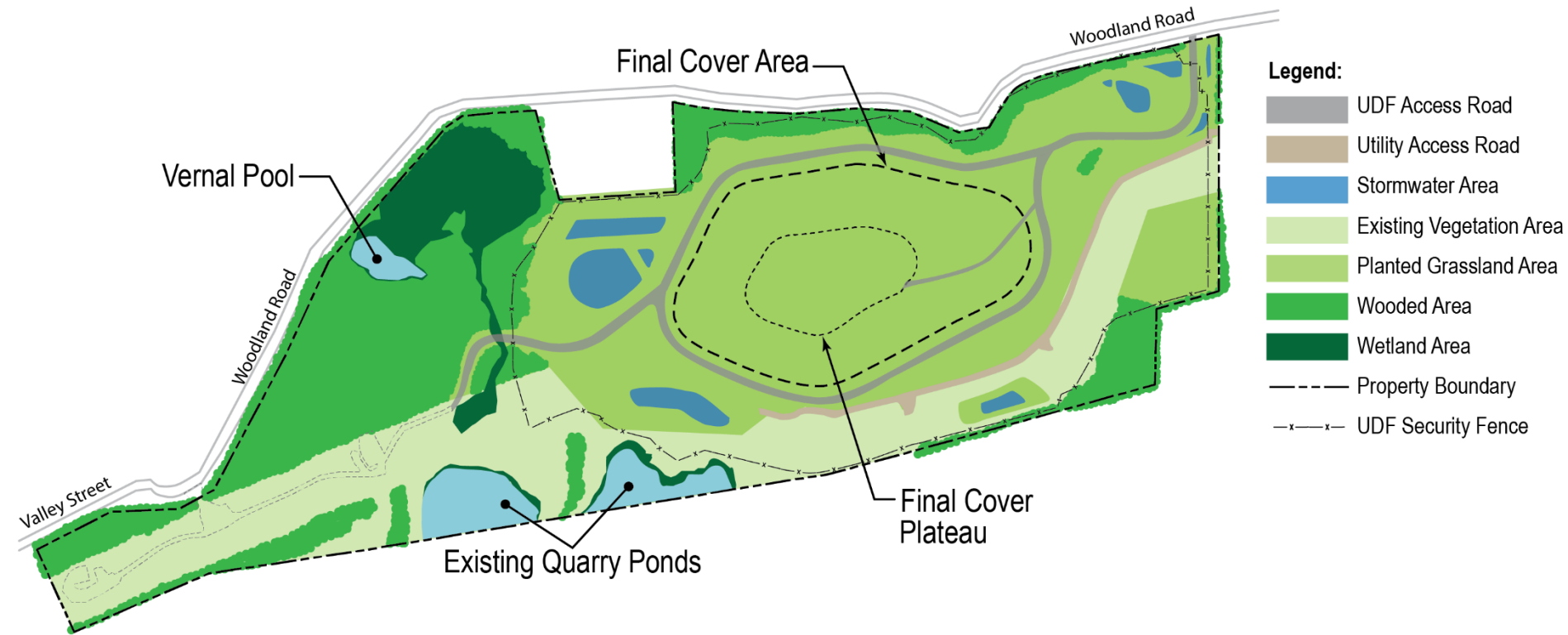
- Site Controls
 - Conducted during all phases: site access, stormwater, dust, noise, lighting, security
- Monitoring
 - Conducted during all phases: dust, noise, condition of local roads
 - Conducted during Operations: additional monitoring for PCBs in air, groundwater (elevation gauging and sampling), meteorological, leachate generation

UDF Site at Completion



- Consolidation area footprint will be approximately 13 acres (*Performance Standard is 20 acre maximum*).
- UDF capacity will be 1.3 million cubic yards (*meets Performance Standard*).
- Peak elevation of final cover will be 1,099 feet amsl (*meets Performance Standard*).
- During later hydraulic dredging, site will also contain pipes, dewatering areas, and a water treatment plant.

Site Restoration



- Establishment of grassland vegetation on topsoiled areas and UDF final cover area.
- Providing plant species to enhance site for pollinator use (based on consultation with Town of Lee officials).
- Expansion and enhancement of vernal pool and wetland resource.

Post-Closure Monitoring & Maintenance

- Groundwater Monitoring
 - Water level gauging
 - Water quality sampling
- Leachate System Operation
- PCB Air Monitoring
- Inspections and Maintenance
 - Final cover
 - Stormwater management components
 - Leachate management components
 - Site security fencing and gates
- Further details will be provided in the UDF Post-Closure Monitoring and Maintenance Plan subject to EPA approval.

Next Steps

- UDF Design Plans EPA public input period ends May 20, 2024
- EPA comments/approval of Final Design and OMM Plans
- Selection of contractor(s) for construction and operations
- Preparation and EPA review/approval of construction-related documents
- UDF construction and operations
 - UDF construction likely to occur in 2025-2026
 - Likely ready to begin receipt of material before or in 2027
 - Schedule depends on timing of EPA review and approvals