West Valley Demonstration Project

Nuclear Regulatory Commission-licensed Disposal Area Cap Plan

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South Plateau Aerial View

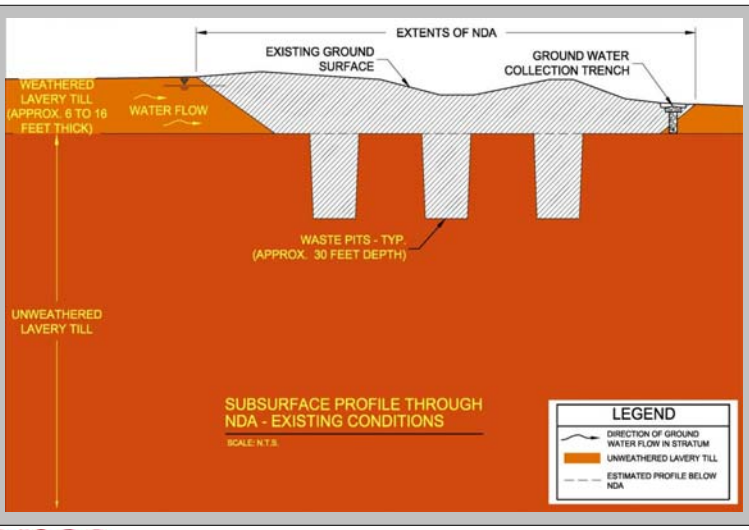
NDA History

- Radioactive waste disposal area used:
  - —1966-1981 by NFS for reprocessing-related wastes
  - —1982-1986 by DOE for WVDP-related LLW
- Contents
  - —360,000 cubic feet of buried waste
    - 44.8% from NFS
    - 55.2% from WVDP
  - —298,000 curies of radioactive materials
    - 99.6% from NFS
    - 0.4% from WVDP

NDA Current Status

- NDA subject to water infiltration issues
  - —Interceptor Trench installed as part of kerosene mitigation plan collects ~400,000 gallons of mildly contaminated water annually
    - Kerosene has never been detected above action levels in trench
    - Water is treated and released through Liquid Waste Treatment System
  - —Preventing water from coming in contact with waste was identified as a “best practice”
- Existing earthen cap needs attention
  - —Similar to the State-licensed Disposal Area before it was capped, the earthen cap is subject to degradation due to weather

Schematic Section through NDA



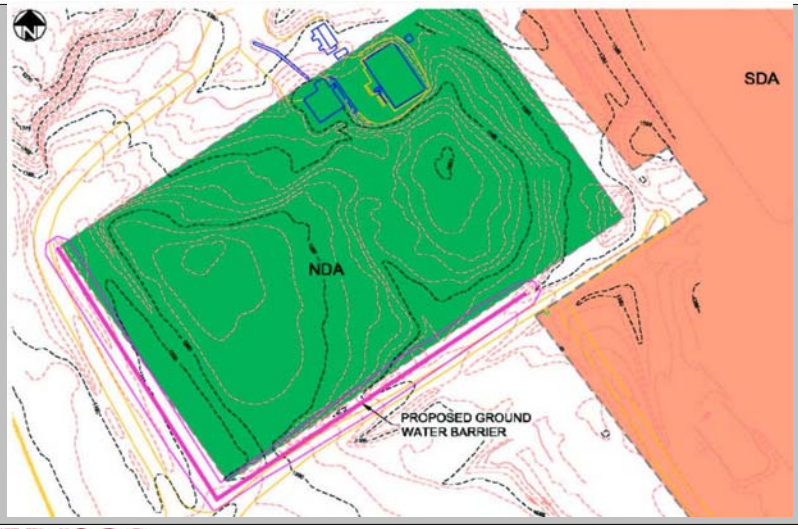
Key Project Design Criteria

- Minimize surface and groundwater infiltration into the NDA for at least 30 years using a geomembrane liner and barrier wall
- Geomembrane permeability must be 10^{-7} cm/sec, maintenance minimal, UV resistant, puncture resistant
- Stabilize the geomembrane liner against wind uplift forces
- Control storm water run-off discharge to pre-construction conditions for 25-year, 24-hour storm.
- Key the barrier wall into unweathered Lavery Till
- Provide barrier wall with permeability of 10^{-7} cm/sec
- Provide upgradient and downgradient groundwater monitoring
- Maintain existing groundwater monitoring wells
- Design to avoid impact on SDA

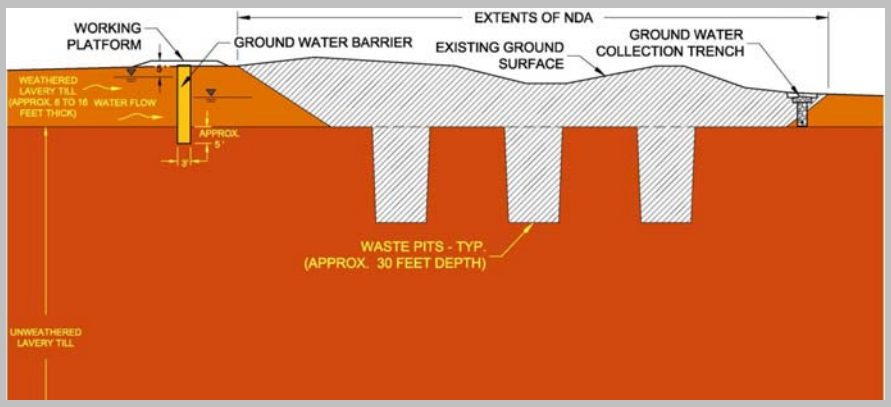
NDA Cap Design

- Possible methods of reducing water infiltration were explored
- Cap/barrier wall combination identified and designed based on:
  - NYSERDA's success at managing the water infiltration issues at the SDA
  - Durability and cost-effectiveness of cover and barrier wall
  - Doesn't preclude other actions of managing the NDA in the future
  - Designed by Butler Construction, Inc. with McMahon and Mann Consulting Engineers P.C.
- Design includes
  - Geomembrane cap over 7-acre area
  - Barrier wall along two sides in groundwater upgradient direction (South & West)

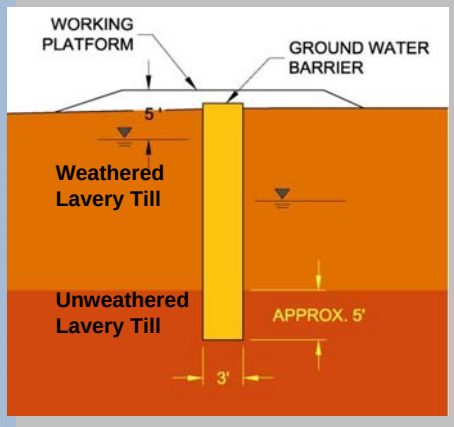
NDA Cap/Barrier Wall Design



Groundwater Barrier Wall



Barrier Wall Features



- Soil-bentonite backfill (Permeability 10^{-7} cm/sec)
- 3-foot width
- 5-foot key into Unweathered Lavery Till
- Working platform
- Subsurface explorations
- Post-construction monitoring

NDA Cap Design Review Process

- Interactive final design review team consisted of
  - —DOE
  - —NYSERDA
  - —NYSDEC
  - —U.S. Army Corps of Engineers
  - —WVNSCO
- Design and construction documents also provided to
  - —U.S. NRC
  - —U.S. EPA
- Design and construction specification are nearly complete
- WVNSCO will provide to DOE this week
  - —Construction package
  - —Draft Interim Measure Work Plan

NDA Cap Anticipated Schedule

◆ June 2007	Design and construction package provided to DOE
◆ Mid-July 2007	Submit Interim Measure Work Plan and supporting documents to NYSDEC for approval
◆ Late Aug 2007	Expected NYSDEC approval
	Award construction contract
◆ Late Sept 2007	Begin site work: survey and core borings
◆ Sept 2008	Slurry wall and cap completion