

Solvay Wastebeds 1-8 Operable Unit-1 Proposed Plan

September 2014



NYS Department of Environmental Conservation

Presentation Outline

- ▶ Site Background
 - Site location/disposal history
 - Site contaminants
 - Interim Remedial Measure (IRM)
- ▶ Alternatives Evaluated
- ▶ Preferred Remedy
- ▶ Next Steps



Wastebeds 1–8 Site Background

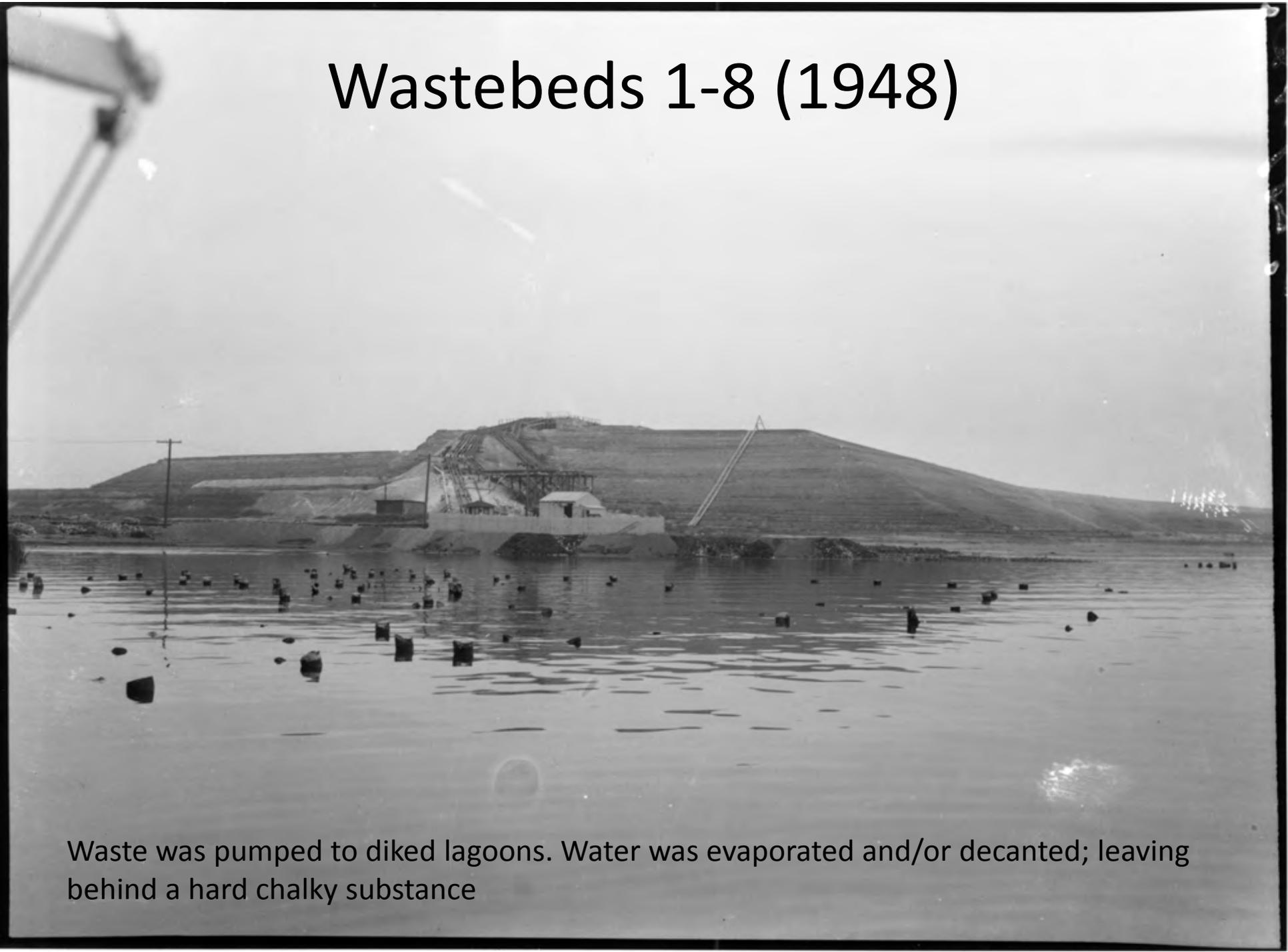
- ▶ Located adjacent to the western shore of Onondaga Lake (between State Fair Boulevard and Onondaga Lake)
- ▶ Covers approximately 400 acres (~1 mile x 0.5 miles)
- ▶ Subsite to the Onondaga Lake NPL site
- ▶ Currently owned by Onondaga County and New York State
- ▶ Solvay Waste disposed in Wastebeds 1–8 from approximately 1916 to 1943



Wastebeds 1-8 (1938)



Wastebeds 1-8 (1948)



Waste was pumped to diked lagoons. Water was evaporated and/or decanted; leaving behind a hard chalky substance



LEGEND

- PROPERTY LINE
- WASTEBEDS 1-8

WASTEBEDS 1 - 8
GEDDES, NEW YORK

WASTEBEDS 1 - 8 SITE



Wastebeds 1–8 Site Background (cont.)

- ▶ RI/FS performed under a Consent Order
- ▶ Risk assessments performed include:
 - Human Health Risk Assessment (HHRA) (2011)
 - West Shore Trail HHRA (2009)
 - Supplemental HHRA for the amphitheater (2014)
 - Ecological Risk Assessment (2011)

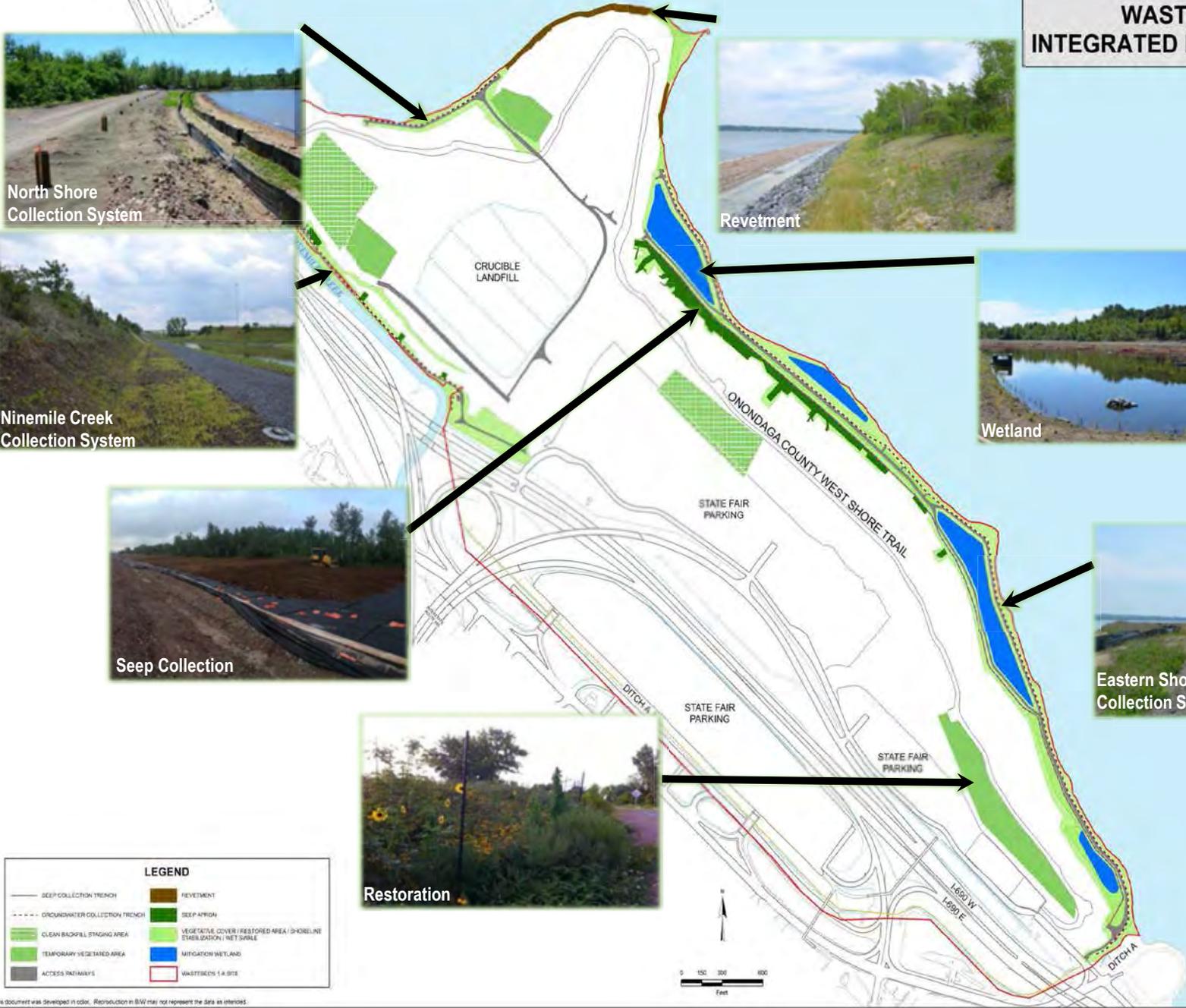


Wastebeds 1–8 Site Background (cont.)

- ▶ Site contaminants include benzene, toluene, xylene, naphthalene, phenols, PCBs and metals
 - Most significant contaminated materials are present deep below the surface (over 40 feet deep)
- ▶ Site includes 2 operable units (OUs)
 - OU1 – addresses Solvay waste and contaminated soil/fill materials at the site.
 - OU2 – addresses the groundwater and impacted media in a surface water drainage ditch, Ditch A

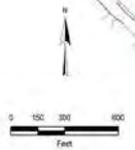


WASTEBEDS 1-8 INTEGRATED IRM COMPONENTS



LEGEND

—	SEEP COLLECTION TRENCH	■	REVESTMENT
- - -	CIRCUMFERENCE COLLECTION TRENCH	■	SEEP APRON
■	CLEAN BACKFILL STAGING AREA	■	VEGETATIVE COVER / RESTORED AREA / SHORELINE REVEGETATION / NET SOIL
■	TEMPORARY VEGETATED AREA	■	MITIGATION WETLAND
■	ACCESS PATHWAYS	■	WASTEBEDS 1-8 SITE



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IRM – Groundwater and seep collection system installation (Ninemile Creek)



IRM – Groundwater and seep collection system installation (North Shoreline)



IRM – Groundwater and seep collection system installation (Eastern Shoreline Seep Collection)



IRM – Groundwater and seep collection system installation (Eastern Shoreline Groundwater Collection)



IRM – Eastern shoreline before (2011) and during ongoing wetland construction and restoration



IRM – Eastern shoreline before (2011) and during ongoing wetland construction and restoration



IRM - Vegetated revetment before and after



IRM - Vegetated revetment before and after



OU1 Remedial Action Objectives

- ▶ Prevent, ingestion/direct contact with soil/fill material/Solvay waste in surface and subsurface soil above levels that would result in unacceptable human exposure.
- ▶ Prevent or minimize, inhalation of or exposure to contaminants volatilizing from contaminated soil/fill material/Solvay waste that would result in unacceptable human exposure. In the event that buildings are constructed, mitigate impacts to public health resulting from existing, or potential for, soil vapor intrusion into those buildings.
- ▶ Prevent or minimize, adverse ecological impacts to biota from ingestion/direct contact with soil/fill material/Solvay waste causing toxicity or impacts from bioaccumulation through the terrestrial food chain.
- ▶ Prevent or minimize, the further migration of contaminants that would result in groundwater, sediment, or surface water contamination.



Alternatives

- ▶ 1 – No Action;
- ▶ 2 – Cover System;
- ▶ 3 – Enhanced Cover System;
- ▶ 4A – Full Removal; and
- ▶ 4B – Partial Excavation



Alternatives 2 and 3

▶ Alternative 2 – Cover System

- 1 to 2 feet of soil cover placed in areas that exceed the cleanup objectives
 - Approximately 24 acres of 1 foot soil cover
 - Approximately 30 acres of 2 foot soil cover
 - Vegetation enhancement cover would be placed on approximately 117 acres
- Construction estimated to take 6 years

▶ Alternative 3 – Enhanced Cover System

- 1 to 2 feet of soil cover placed in areas based on public use (regardless of cleanup objectives) or ecological cleanup objectives
 - Approximately 58 acres of 1 foot soil cover
 - Approximately 37 acres of 2 foot soil cover
 - Vegetation enhancement cover would be placed on approximately 76 acres
- Construction estimated to take 8 years





Alternatives 4A and 4B

- ▶ **Alternative 4A – Excavation and Off-Site Disposal/Treatment/Reuse (Full Removal)**
 - Excavation of ~27 million cubic yards of material (equivalent to approximately 8,200 Olympic-sized swimming pools)
 - Highways (I-690 and Rt 695) would need to be removed and replaced
 - Construction estimated to take 30 years
- ▶ **Alternative 4B – Partial Excavation and Off-Site Disposal/Treatment/Reuse (Partial Removal)**
 - Excavation of ~23 million cubic yards of material (equivalent to approximately 7,000 Olympic-sized swimming pools)
 - Highways would remain
 - Construction estimated to take 27 years



Evaluation of Remedial Alternatives

- ▶ Overall Protection of Human Health and the Environment
- ▶ Compliance with ARARs
- ▶ Long-term Effectiveness and Performance
- ▶ Reduction of Toxicity, Mobility or Volume through Treatment
- ▶ Short-term Effectiveness
- ▶ Implementability
- ▶ Cost
- ▶ Community Acceptance



Cost of Alternatives

Alternative	Capital Costs	Annual O&M Costs	Total Present Worth
1	\$0	\$0	\$0
2	\$14.3 Million	\$99,000- \$129,000	\$16.6 Million
3	\$17.8 Million	\$98,000- \$128,000	\$20 Million
4A	\$6.1 Billion	\$170,000- \$1,362,000	\$6.1 Billion
4B	\$5.1 Billion	\$157,000- \$1,172,000	\$5.1 Billion

ALTERNATIVE 3 - ENHANCED VEGETATED COVER SYSTEM



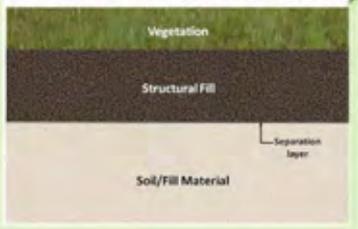
Vegetated Soil Cover



Vegetation Enhancement

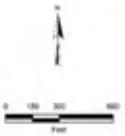


Vegetated Structural Fill Cover



LEGEND

- | | |
|--|---|
| <ul style="list-style-type: none"> NO FURTHER ACTION AREAS EXISTING FILL TO BE CONFIRMED AS PART OF O&M (1.5' DEPTH) (1.5' H₂O) ALTERNATIVE 3 FOOTPRINT (1.7' H₂O) AREAS RESTORED AS PART OF INTEGRATED RMU (1.5' H₂O) STAGING AREAS ADDRESSING AS PART OF INTEGRATED RMU AND O&M (1.5' H₂O) EXISTING VEGETATION ENHANCEMENT HAZARDOUS 1 & 2 SITE | <p>TYPE OF COVER</p> <ul style="list-style-type: none"> 1" VEGETATED SOIL COVER 1" VEGETATED STRUCTURAL FILL 1.5" VEGETATED SOIL COVER 2" VEGETATED SOIL COVER VEGETATION ENHANCEMENT |
|--|---|



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Before application 5/18/11



Vegetation Enhancement Pilot

After application 6/24/11



After application 8/20/13



After application 7/25/14



5/5/14



Structural fill pilot – placed in December 2013

8/14/14



8/25/14 – during fair



9/15/14 – after fair (mowing occurred before fair)



Preferred Remedy – Alternative 3

- ▶ Best alternative based on the evaluation criteria.
- ▶ Would be protective of human health and the environment
- ▶ Estimated to take 8 years to implement. This would be a phased approach
- ▶ The extent of soil covers would be determined during design based on anticipated future use
- ▶ It is anticipated that design, construction and maintenance of the remedy would be performed by Honeywell



Wastebeds 1–8 OU1 Next Steps

- ▶ Close of public comment period on October 17, 2014.
- ▶ NYSDEC/EPA issue a decision document (Record of Decision), which will select the final remedy for OU1.
- ▶ Remedial Design will proceed.
- ▶ Remedial Construction to commence in 2015



Questions?



Public comment period closes on
October 17, 2014

Email comments to:

Tracy.Smith@dec.ny.gov

(Indicate "Wastebeds 1-8 Comments" in the subject line of the email)

Mail comments to:

Tracy A. Smith

NYSDEC

625 Broadway, 12th Floor

Albany, NY 12233-7013

Website address for Wastebeds 1-8 Site

www.dec.ny.gov/chemical/37558.html

