



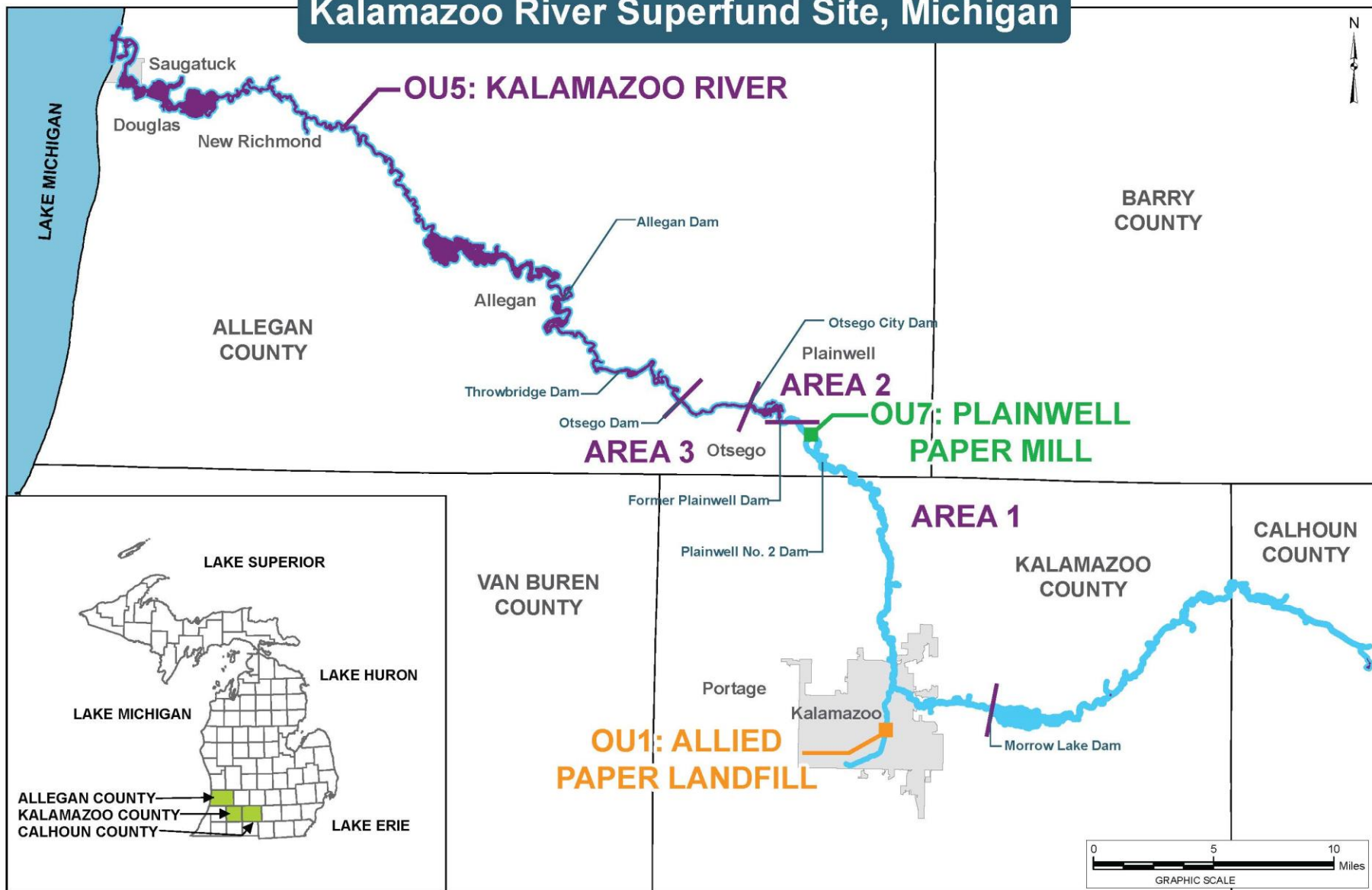
*Allied Landfill and Willow Boulevard/A-Site
of the Allied Paper/Portage Creek/Kalamazoo River
Superfund Site*

OU1 and OU2 STATUS

*Diane Russell
U.S. EPA Region 5
Community Involvement Coordinator*

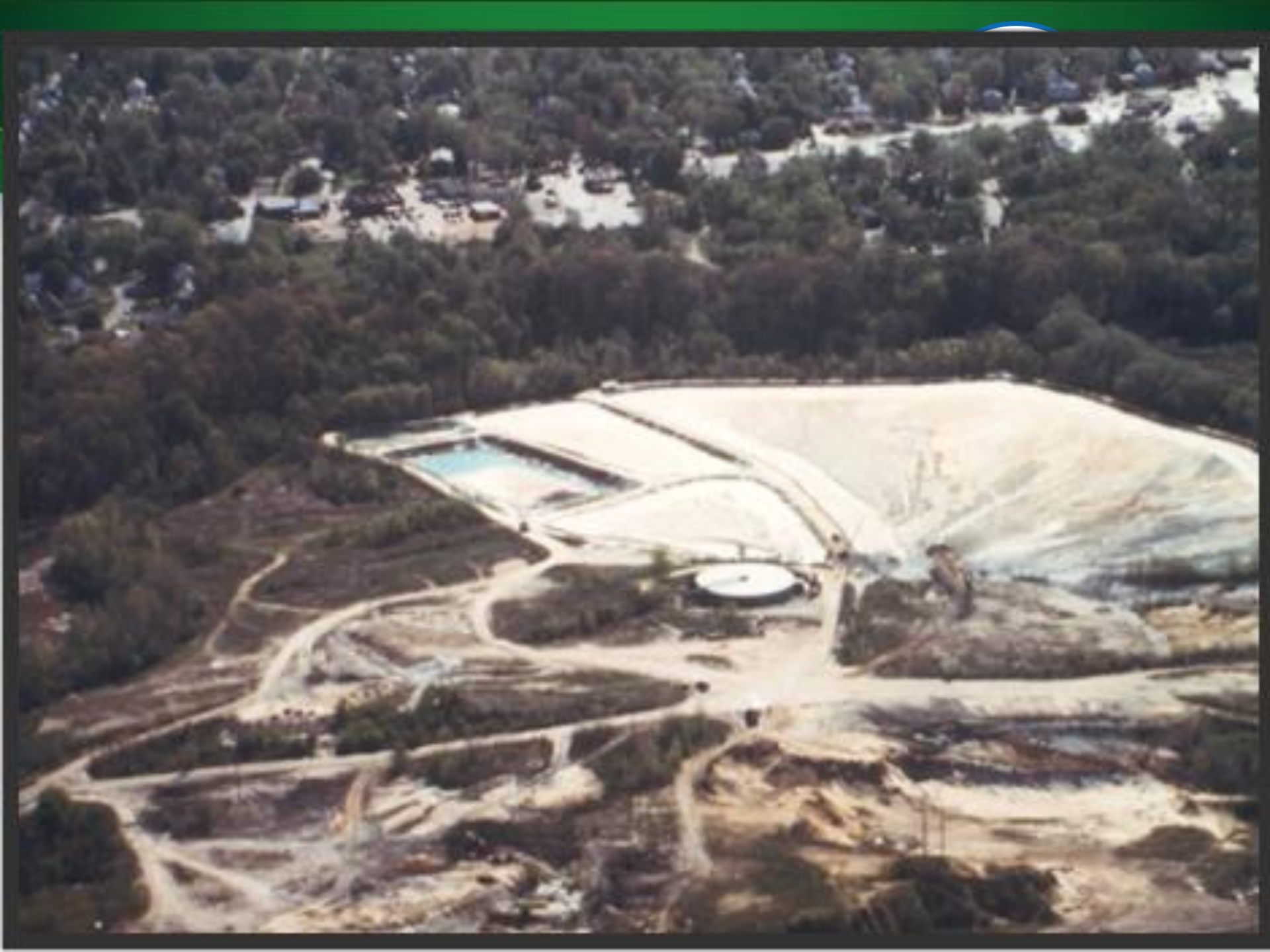
*Michael Berkoff
U.S. EPA Region 5
Project Manager*

Kalamazoo River Superfund Site, Michigan









Allied OU
Seeps Investigation
Layer of Residuals
Date?



Volatilization and
Wind-Blown
Particulates

Residuals

Groundwater
Seep

Infiltration and
Colloidal Transport

EROSION AND RUNOFF

Contaminated Sediment



Remedial Action Objectives



RAO 1

- Mitigate the potential for human and ecological exposure to materials at OU1 containing COC concentrations that exceed applicable risk-based cleanup criteria.

RAO 2

- Mitigate the potential for COC-containing materials to migrate, by erosion or surface water runoff, into Portage Creek or onto adjacent properties.

RAO 3

- Prevent contaminated waste material at OU1 from impacting groundwater and surface water.

OU4: 12th Street Landfill



OU4: 12th Street Landfill



- Remedial Action Complete - October 2012
 - Consolidation of Contaminated Materials
 - Protective Cap
 - Gas Venting System
 - Groundwater Monitoring System

OU4: 12th Street Landfill



- Groundwater Monitoring Results
 - Sampling Events
 - Results
- 2013 and Beyond
 - Groundwater Monitoring
 - 9 Events October 2011- October 2013
 - Fencing
 - 2017 5 YR



OU2: Willow Boulevard/A-Site Landfill



OU2: Willow Boulevard/A-Site Landfill

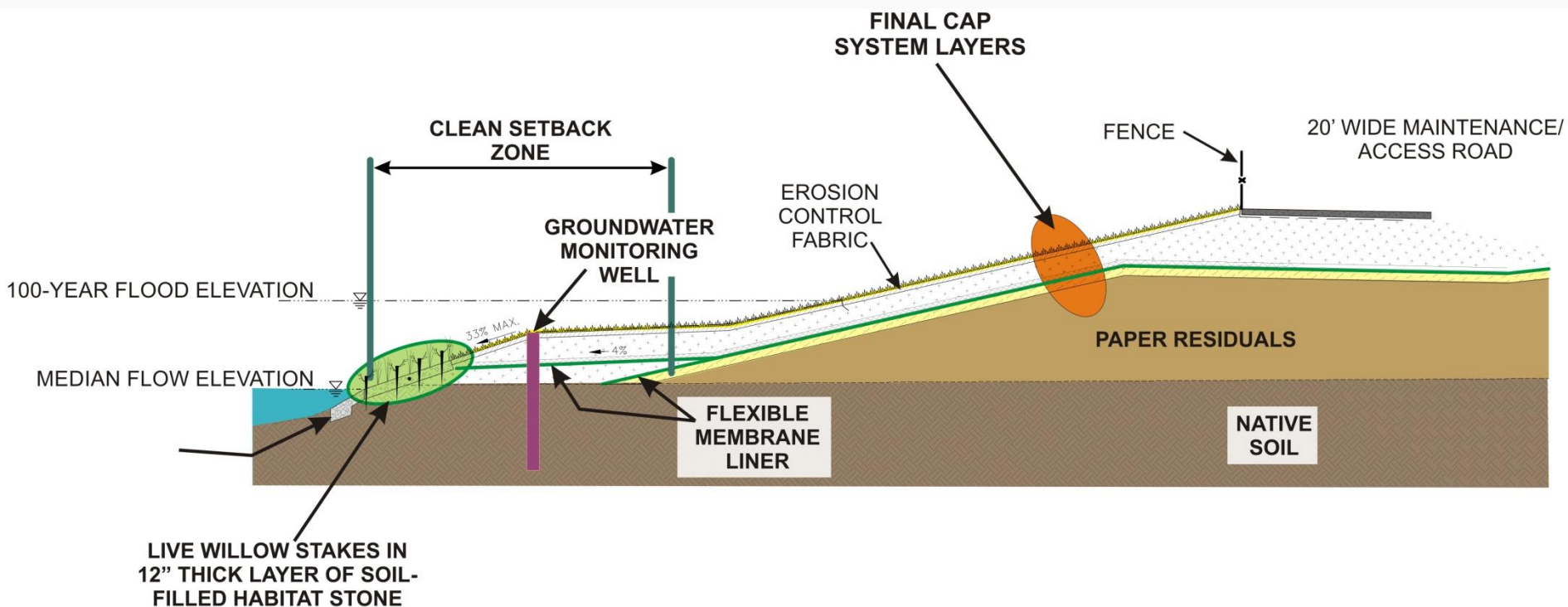


- Georgia Pacific – Responsible Party
- 2006 Remedy – Consolidation, Capping and Groundwater Monitoring
- Remedial Design Completed March 2011
 - Sheetpile at A-Site
- Remedial Action 2011-2013
 - Consolidation
 - Capping
 - Groundwater Monitoring



Cross-Section of River Bank Restoration at Willow Boulevard Landfill

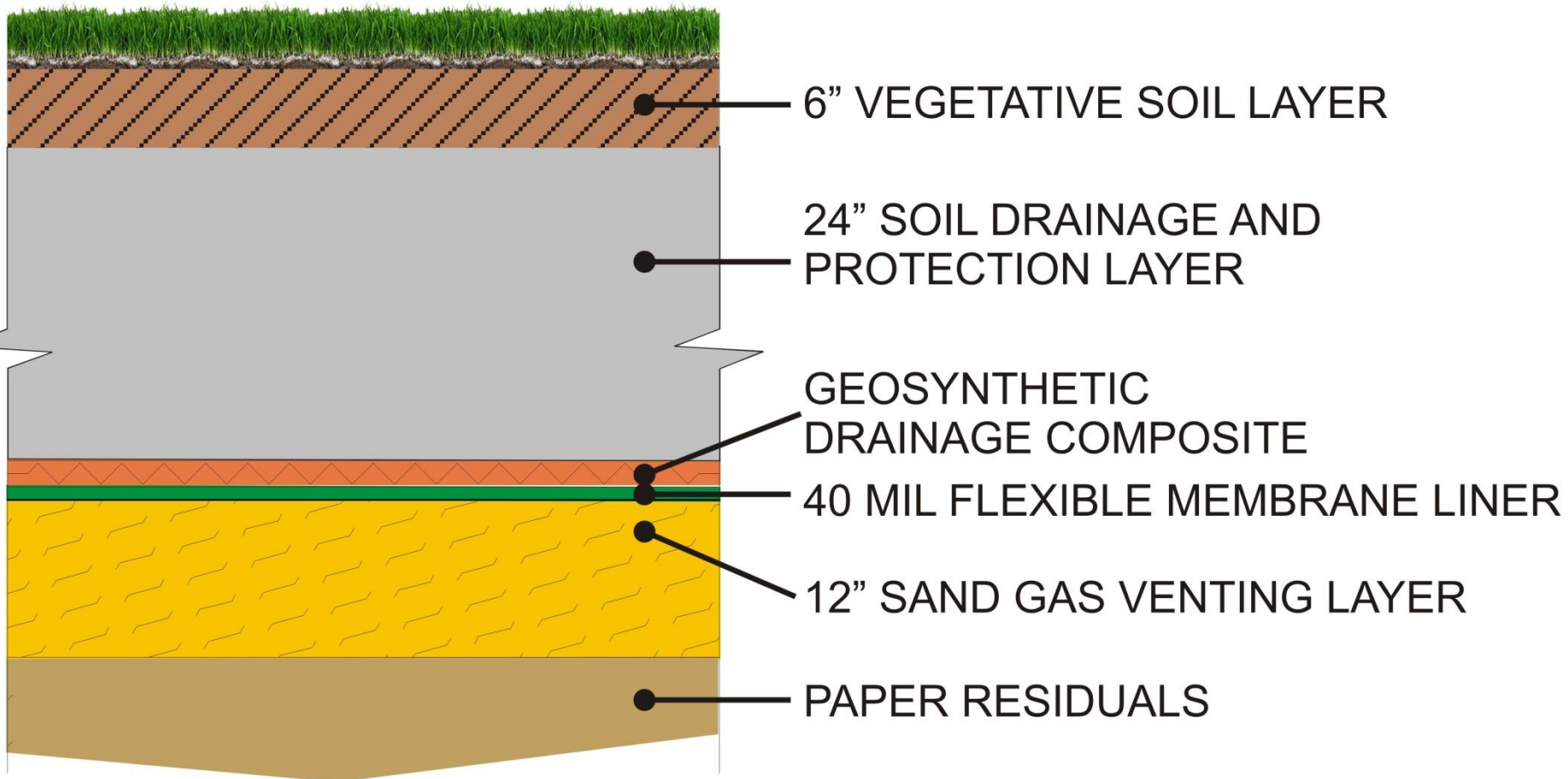
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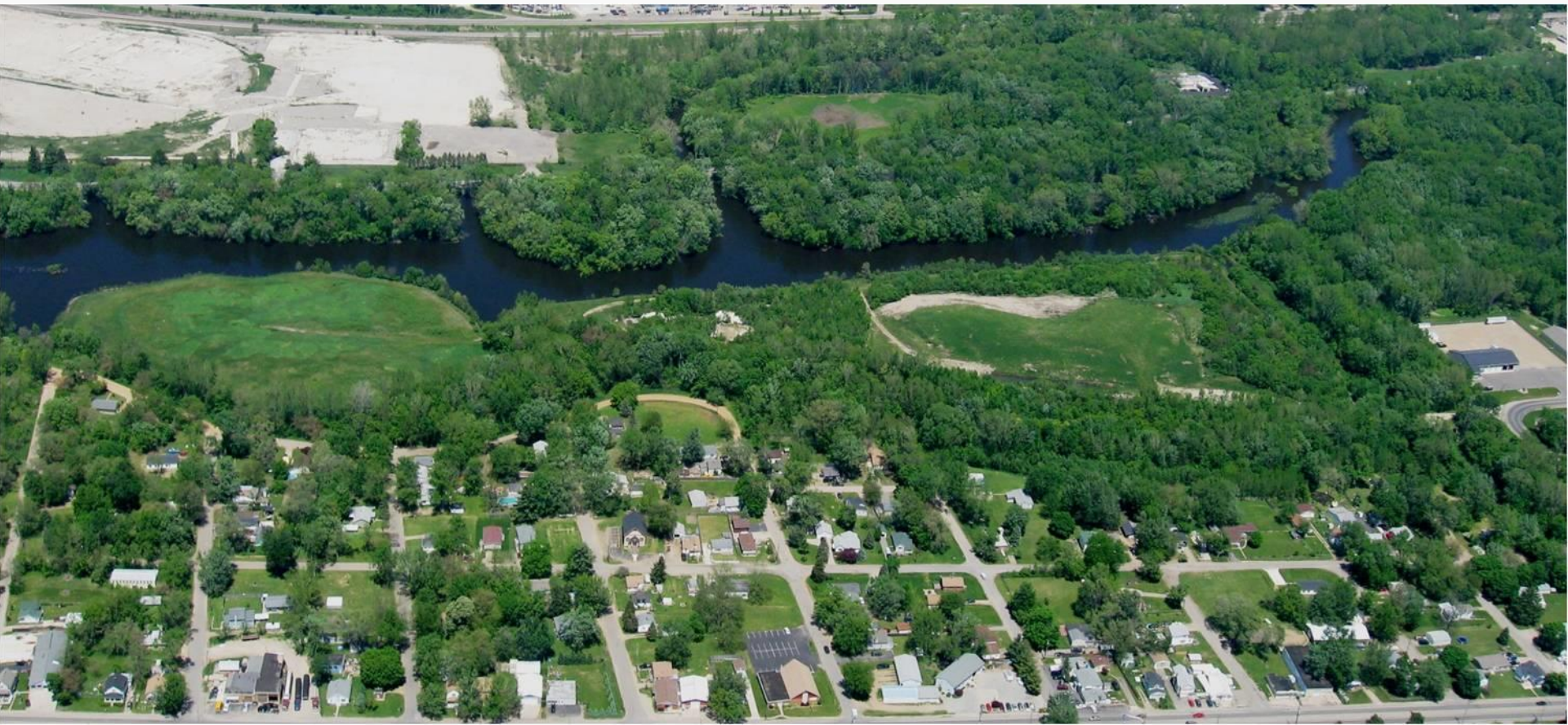
Cross-Section of Final Cap System

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Willow Boulevard/A-Site 2009





Willow Boulevard/A-Site October 2012



A-Site Sheet Pile

- Pull Back of Material
- Sheeting Cut Below Ground Surface





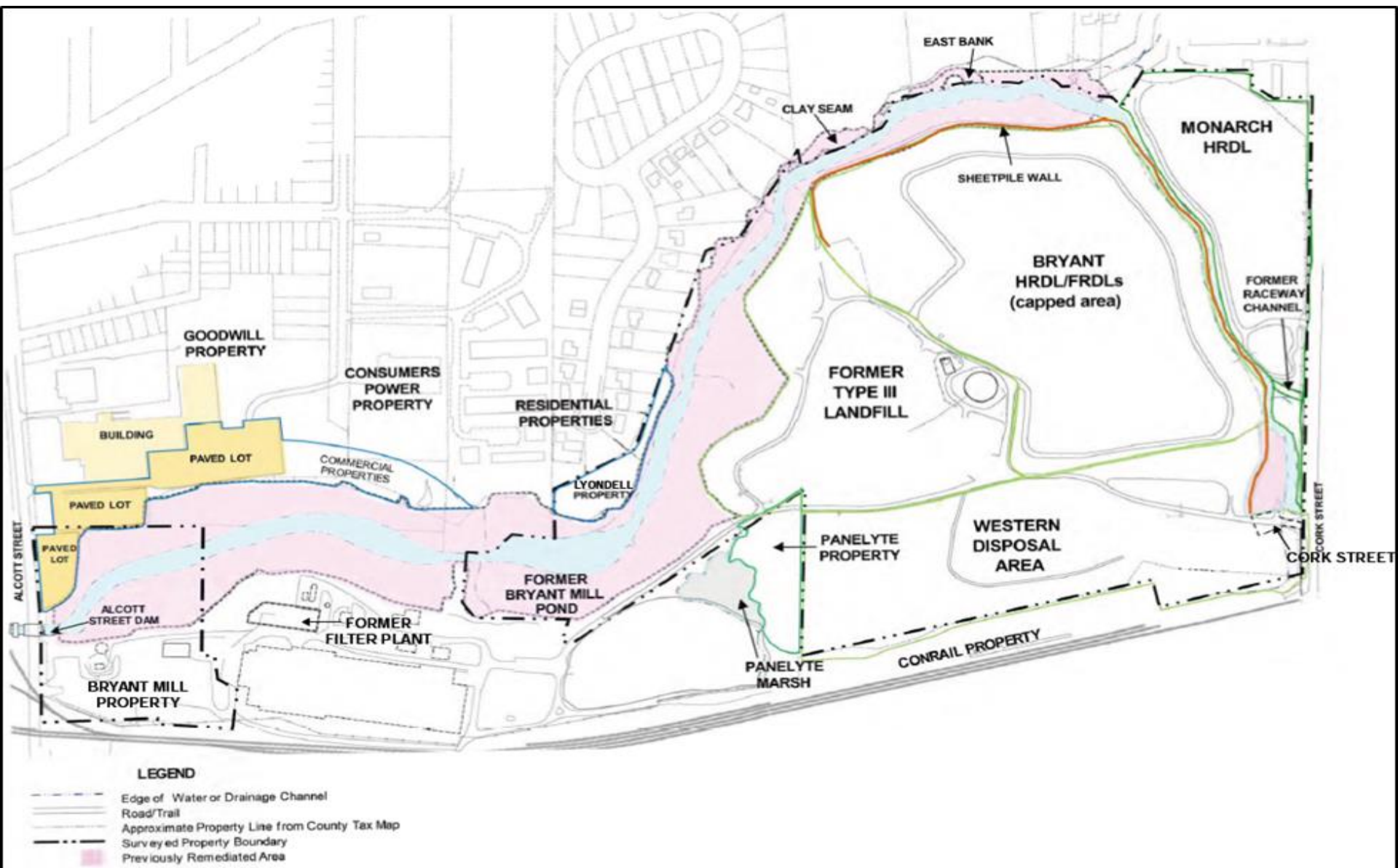
OU1: Allied Landfill



Allied OU
Former Bryant Mill Pond
Portage Creek
May 2007

Flow





Allied Paper Landfill with Sub-Areas

Allied Paper Landfill

Previous Cleanup Activities



Cleanup Activities

- Bryant Mill Pond Cleanup 1998-2004
- Removal of 146,000 CY of PCBs and placed in former landfill
- Installation of:
 - Sheetpile Wall
 - Partial Cap
 - Groundwater Collection/Treatment System
- Concentrations of PCBs in fish tissues declined



PCB Treatment Technologies



- Mayor Hopewell Request - Additional Evaluation
 - December 2014
 - Chemical, Thermal or Biological
- Nature of the Waste
 - PCBs Tightly Bound
 - Residuals Largely Impermeable
- Currently, No Viable Treatment Technologies

Conceptual Site Model



- Conceptual Site Model
 - PCBs bound to Residuals
 - Groundwater Influenced by Portage Creek
 - Risks
 - Consumption of Contaminated Fish
 - Direct Contact Exposure
 - Erosion and Runoff of Contaminated Soils and Residuals
 - Metals and PCBs not complete co-location

Reports



- 2008 Remedial Investigation
 - Nature and Extend of Residuals
 - Exposure Risks
- 2013 Feasibility Study
 - Remedial Action Objectives
 - Evaluation of Technologies
 - Array of Alternatives
 - 2015 addendum - consolidation and capping into reduced footprint

Reports

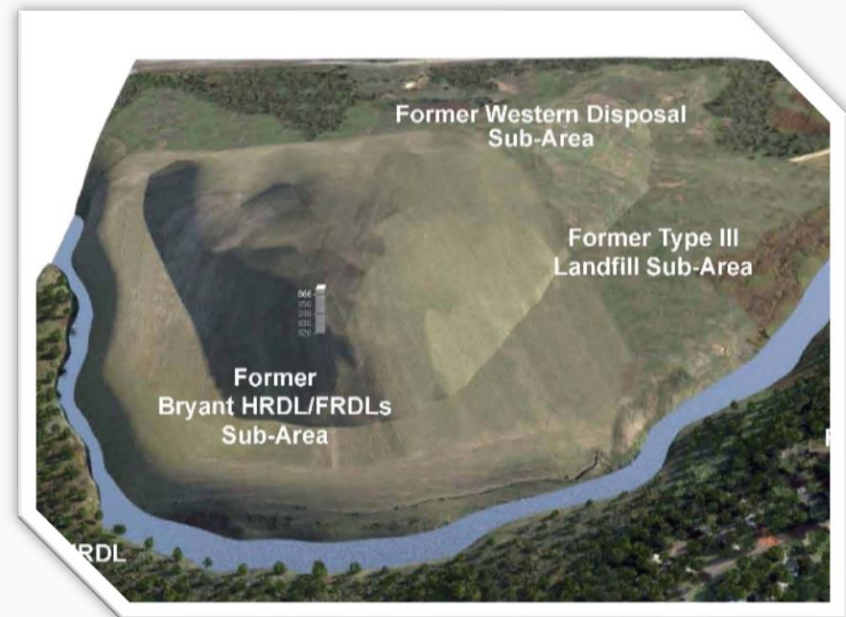


- 2014 Groundwater Study
 - Support potential development of long-term groundwater monitoring network
 - Additional deep wells installed
 - Confirmed Conceptual Site Model
- 2015 Proposed Plan
- 2016 Record of Decision
- 2019 Pre-Design Investigation
 - Extent of excavation
 - Geotechnical properties

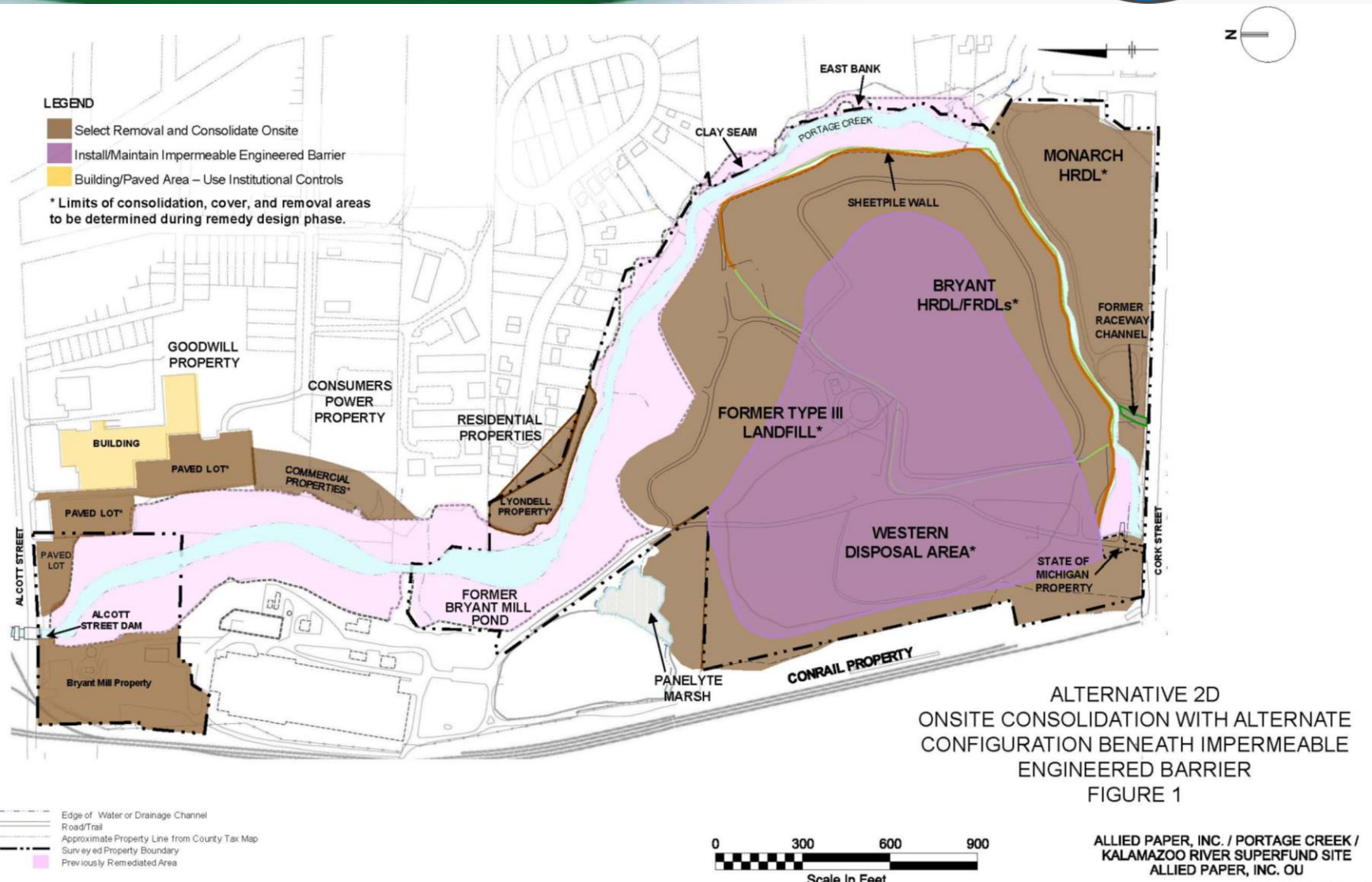
Alternative 2D



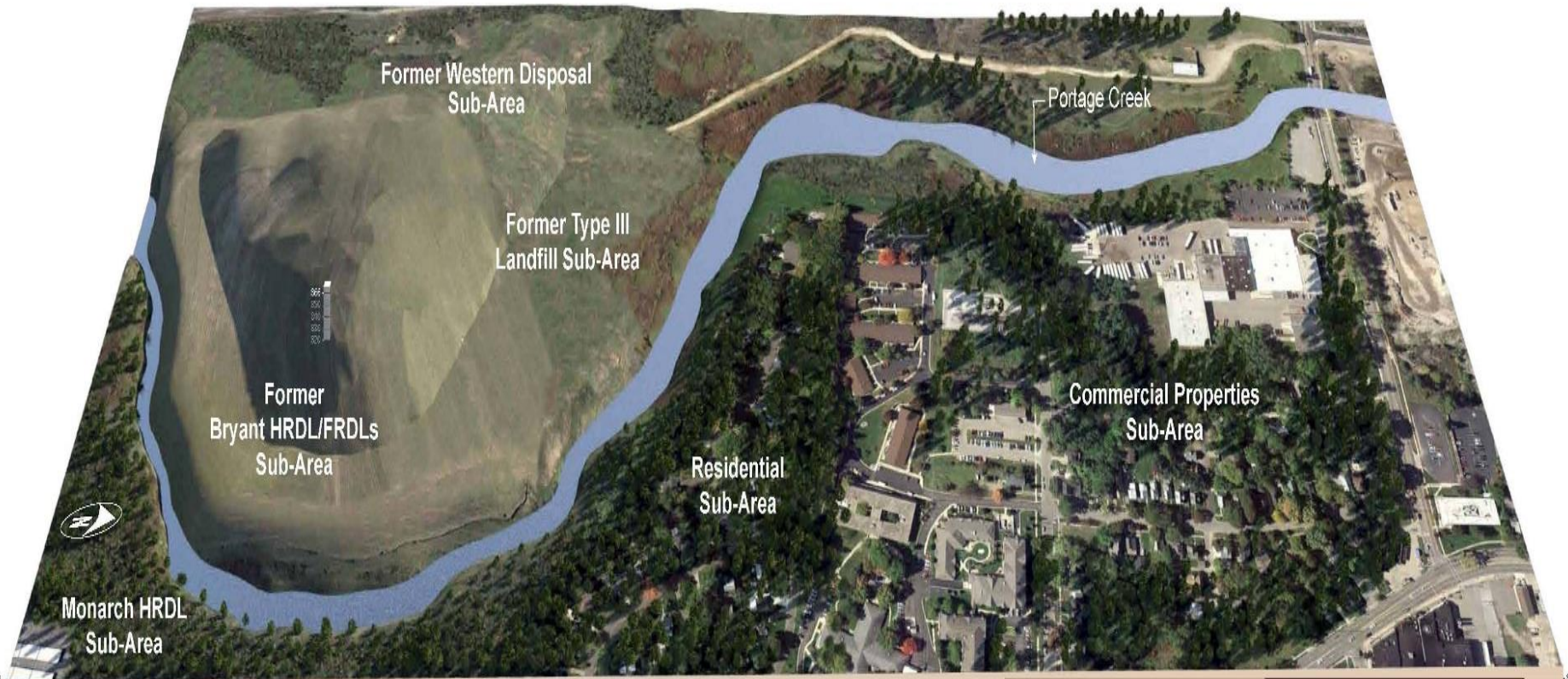
- Consolidation and Capping of Contaminated Material with Long-term stewardship of the property
 - Long-term groundwater monitoring network
 - 27 Acre Landfill
 - Large pull back from Portage Creek
 - Implementation: 3 years



EPA's Selected Alternative - 2D



3-D Representation of Alternative 2D



820
810
800
790
780
770
760
750

820
810
800
790
780
770
760
750



For more information:

Website: <http://www.epa.gov/superfund/allied-landfill-kalamazoo>

Michael Berkoff
US EPA Project Manager
312-353-8983
berkoff.michael@epa.gov

Diane Russell
US EPA Community
Involvement Coordinator
989-395-3493
russell.diane@epa.gov