Industrial Excess Landfill (IEL)

Regulatory Basis for Choosing Phyto Technology as Part of Cleanup Plan
September 2002

EPA

Summary of Remedy Change (9/2002)

New Remedy

- Enhance soil cover by planting additional trees and other types of vegetation.
- Natural attenuation of both off-site and on-site GW.
- Additional design studies
- Monitoring of groundwater and landfill gas.
- Perimeter fencing.
- Deed Restrictions.
- Maintaining interim measure providing alternate water to residents west of the landfill.

Old Remedy

- Impermeable cap.
- Natural attenuation of off-site contamination.
- Expanding existing landfill gas system.
- Perimeter fencing.
- Deed restrictions.
- Monitoring cap, GW, and MVS.

Why change the remedy?

- Groundwater quality continues to improve.
- Strong local interest in remedial alternative permitting more flexible land use.
- State flexibility
- Consistent with current Agency policies on updating remedy decisions and land use.

IEL Background

- 30 acres. Privately owned.
- Operated as a landfill 1966-1980.
- Closed 1980 by court order- 2 ft. clean soil.
- Placed on Superfund NPL June 1986.
- EPA Remedial investigation 1986-1988.

Past

"Late 1960s-early 1970s."

Present

"2000"

IEL Background-continued

- 780,000 tons disposed. 1 million gallons liquid waste.
- EPA Record of Decision July 1989.
- Extensive design studies 1991-1993.
- 1997 and 1998 groundwater testing.
- ROD Amendment March 2000.

Background-continued

- Cap construction put on hold. *Summer 2000*
- Quarterly groundwater testing begins. *August 2000*
- PRPs present alternative to capping. *September 2000*
- EPA agrees to evaluate alternative to capping site.
- Focused Feasibility Study (FFS) Prepared. *March 2002*
- Proposed Plan/Public Meeting Held. *April 2002*
- ROD Amendment signed. *September 2002*

Cleanup Objective

- Attain drinking water standards (e.g. MCLs) or acceptable risk-based levels in groundwater at IEL, both onsite and offsite.

IEL Groundwater Data

Compound	Target Cleanup Levels	2000-2001 Results	Highest Value Reported Prior to 2000
1,2 Dichlorethane (DCA)	5	ND-14	100
Cis 1,2 dichlorethene (DCE)	70	ND-34	960
Benzene	5	ND-25,000	8,300
Chloroethane	4.6	ND-73	31
Vinyl Chloride	2	ND-7	32
Arsenic	10*	ND-73	139
Chromium	100	ND-244	739
Lead	15	ND-24	268
Nickel	730	ND-156	1,700
Thallium	2	ND-13	12

Note: All values are in parts per billion (ppb).

Organic Compounds Detected at IEL (Mid-1980's to Present)

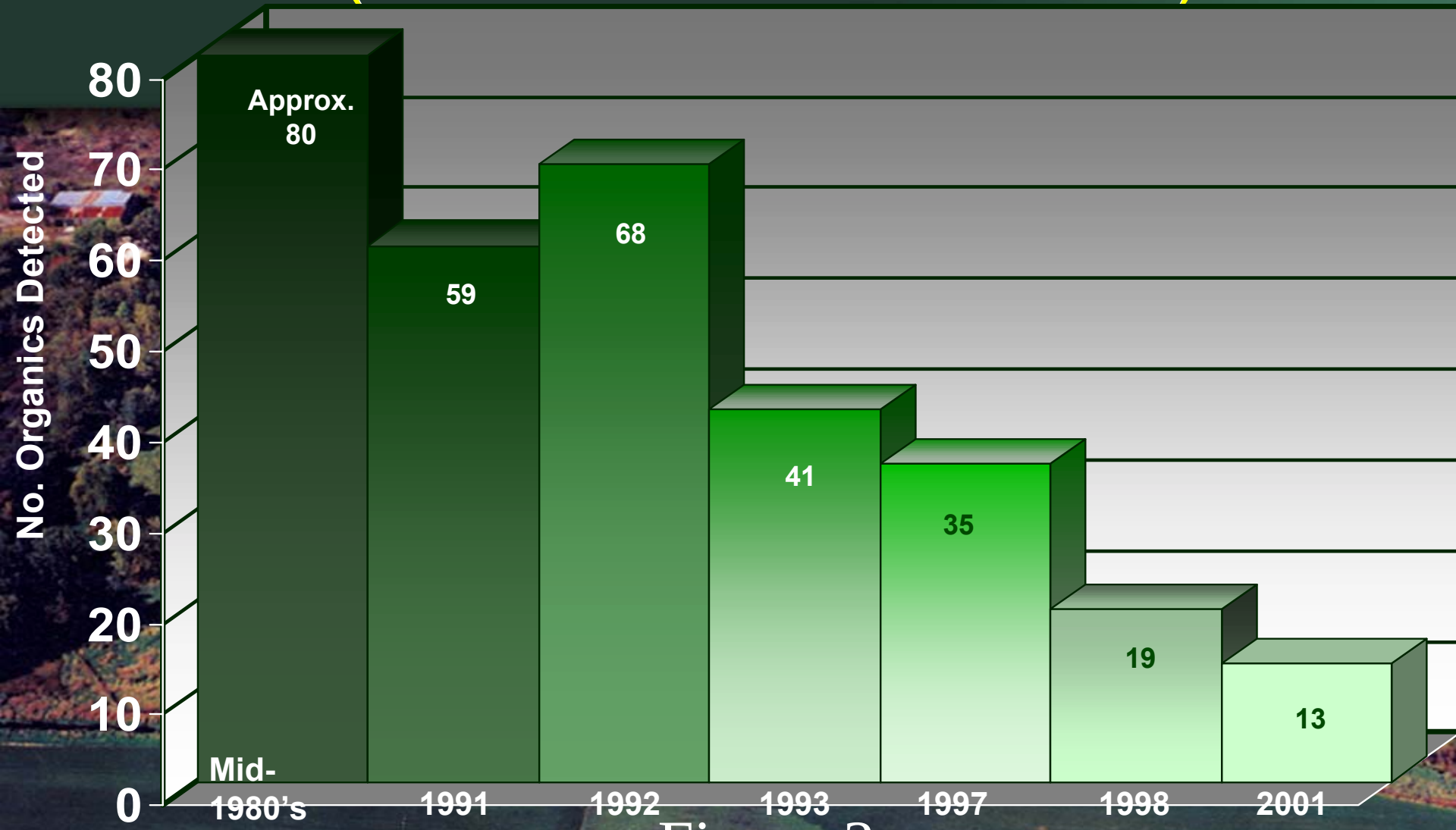
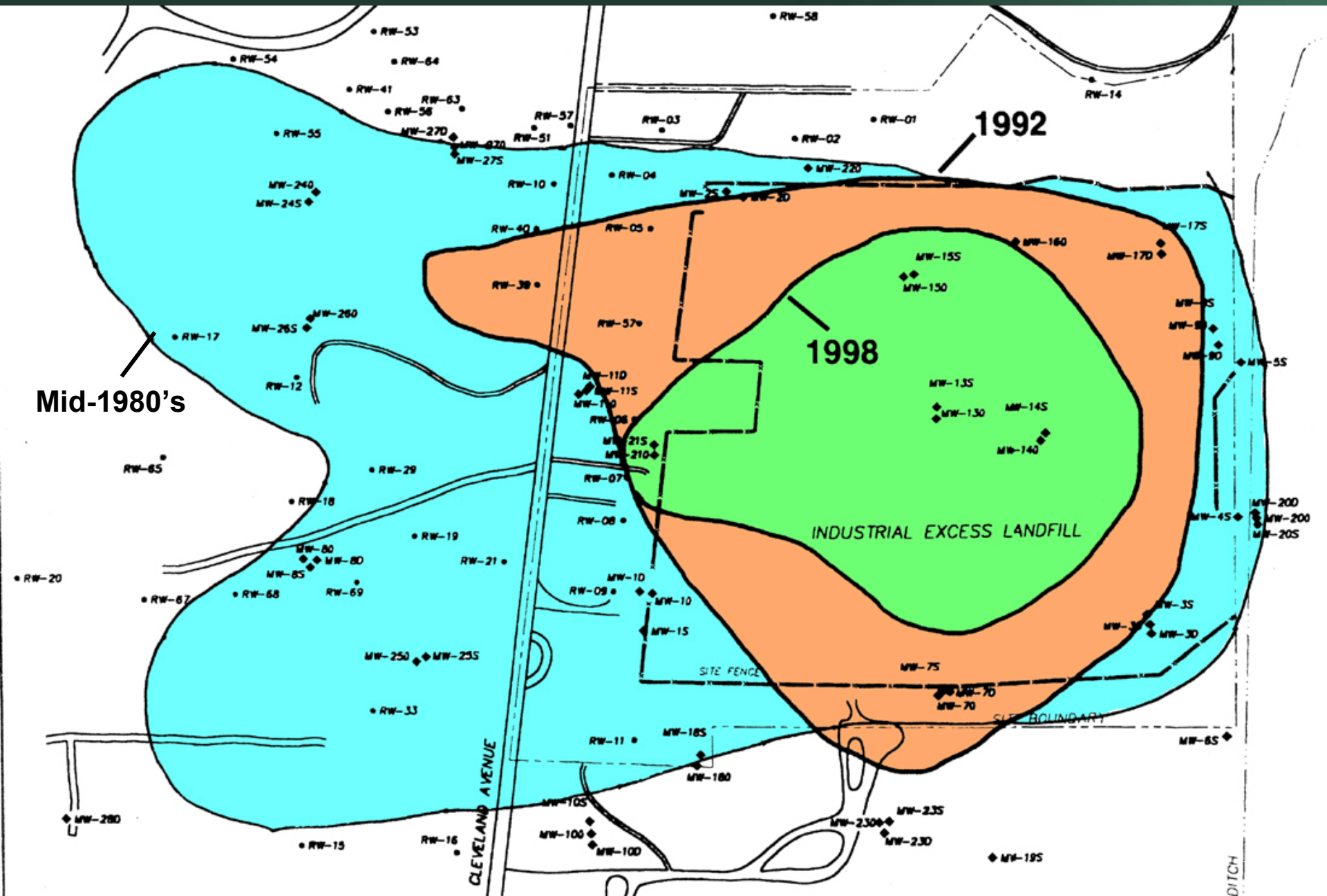


Figure 3

Remaining IEL Contaminants Above Cleanup Levels

Contaminant	September 2001 Results	Cleanup Level	Location of well where highest conc. found
Benzene	ND-10,000	5	MW-14s
Vinyl Chloride	ND-6	2	MW-21s
1,2 Dichlorethane (DCA)	ND-12	5	MW-15s
Arsenic	ND-56	10	MW-17s
Thallium	ND-9	2	MW-18s

Plume


1992
1998
Mid-1980's
INDUSTRIAL EXCESS LANDFILL
SITE FENCE
SITE BOUNDARY
CLEVELAND AVENUE

EPA's Nine - Criteria Evaluation

1. Overall protection of human health and environment.
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).
3. Long-term effectiveness and permanence.
4. Reduction of toxicity, mobility, or volume.
5. Short-term effectiveness.
6. Implementability
7. Cost
8. State acceptance
9. Community acceptance

Three Alternatives Evaluated in FFS

Alternative #	Description
1	No Action
2	March 2000 ROD Amendment
3	November 2000 Proposal from PRPs

Results

1. No Action Alternative (Alternative 1) not protective of human health and environment.
2. Alternative 2 and 3 provide adequate protection of human health and environment, will meet ARARs, provide long-term effectiveness and permanence, and easily implementable.
3. Alternative 3 appears to have best potential for reducing toxicity/mobility/volume of contamination at site, is less costly, and has support of certain segments of community.

- Based on FFS, decision to propose change in IEL Remedy.

Key Components of the New Remedy

1. Planting additional trees/vegetation on existing cover
2. Natural attenuation of both offsite and onsite groundwater contamination
3. Additional studies

1. Planting Additional Trees/Vegetation on Existing Cover

Objectives:

A. Aid degradation of subsurface contaminants in root zone via phytoremediation

B. Reduce infiltration of water into waste mass below

C. Provide a varied habitat for wildlife/increase biodiversity of site

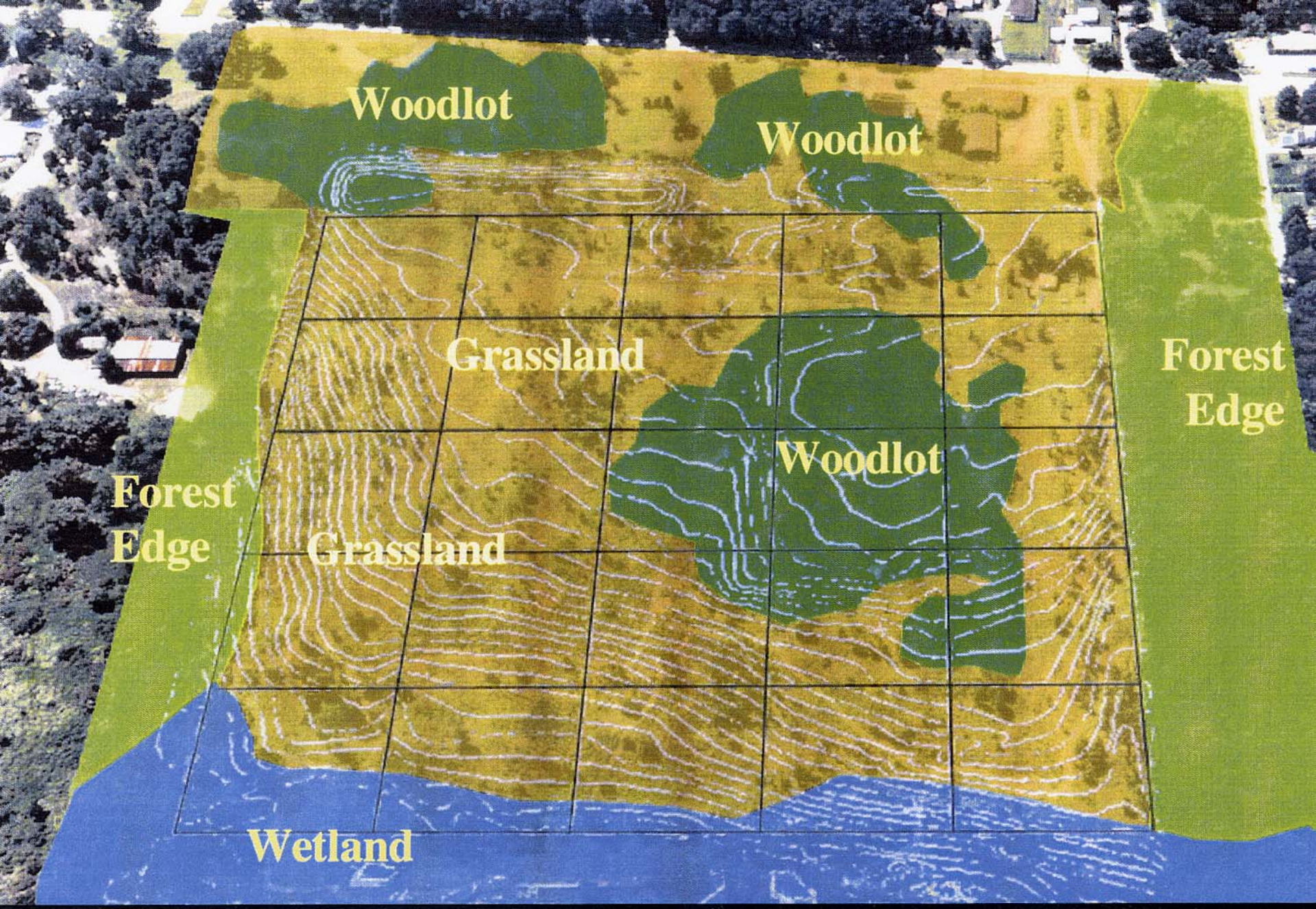


Figure 5. Current Ecological Regimes

Figure 6. Proposed Tree Planting Area

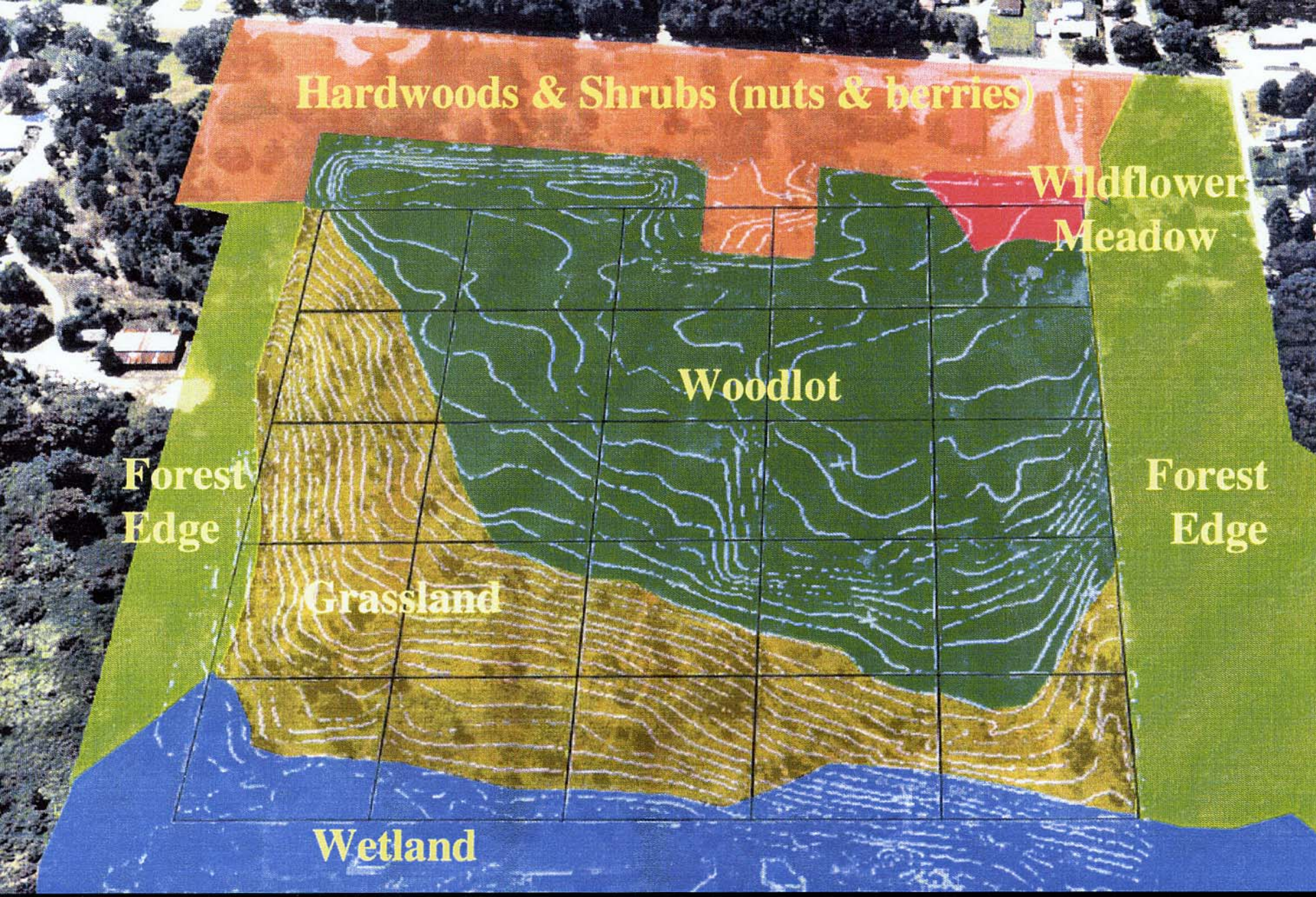


Figure 7. Future Ecological Regimes

Recap

- Enhance soil cover by planting additional trees and other types of vegetation.
- Natural attenuation of both off-site and on-site groundwater contaminants.
- Additional design studies.
- Monitoring of groundwater and landfill gas.
- Perimeter fencing.
- Deed restrictions.
- Maintaining interim measure providing alternate water to residents west of landfill.

Closing Remarks

- New remedy is protective of human health and environment.
- Long-term EPA involvement.
- Turn a detriment to the neighborhood into a benefit.