



US Army Corps
of Engineers
Buffalo District

Formerly Utilized Sites Remedial Action Program (FUSRAP)

PUBLIC MEETING ON THE TONAWANDA LANDFILL VICINITY PROPERTY PROPOSED PLAN

April 25, 2007

Lieutenant Colonel [REDACTED]
District Commander
Buffalo District

[REDACTED]
Project Manager



US Army Corps
of Engineers
Buffalo District

Meeting Purpose

- Present the Proposed Plan for the Tonawanda Landfill Vicinity Property
- Obtain public input on the Corps' proposal to address uranium, radium and thorium at the site
- Understand there are many concerns regarding the Tonawanda Landfill, and will work with other agencies and elected officials to ensure they are addressed



US Army Corps
of Engineers
Buffalo District

Agenda

- Welcome and Introduction
- Site History
- Results of Remedial Investigation
- Risk Assessment
- Proposed Plan
- Comments



US Army Corps
of Engineers
Buffalo District

FUSRAP Mission

- Investigate and, if necessary, remediate sites that were contaminated from activities related to the Nation's early atomic energy program
 - Protect human health and the environment
 - Comply with the Comprehensive Environmental Response, Compensation and Liability Act (CERLCA)



US Army Corps
of Engineers
Buffalo District

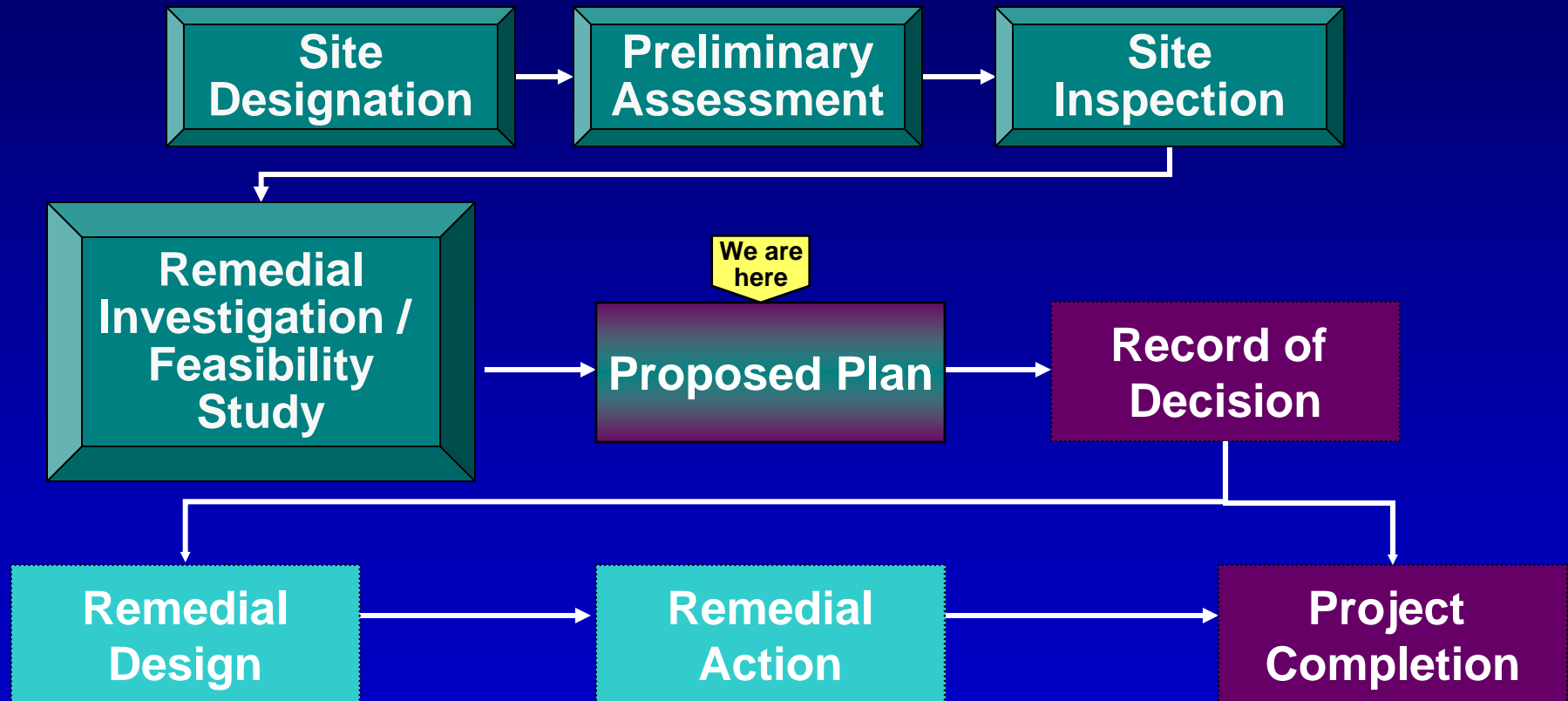
FUSRAP

Dedicated to Excellence

- Buffalo District managing 14 FUSRAP sites
 - Have successfully cleaned up three sites to date
 - Excellent safety record
 - Multi-disciplinary project team
 - Extensive independent review
 - Work with state regulators and local stakeholders
 - Communicate with the local community



**US Army Corps
of Engineers**
Buffalo District



A removal action may be initiated at any time during the process if human health or the environment is in immediate danger.





US Army Corps
of Engineers
Buffalo District

Public Input

- Public input during the formal comment period is very important, and we are open to public comment
- The Proposed Plan is not the final decision on FUSRAP action at the site
- A final decision on the FUSRAP site will not be made until after all public comments have been considered

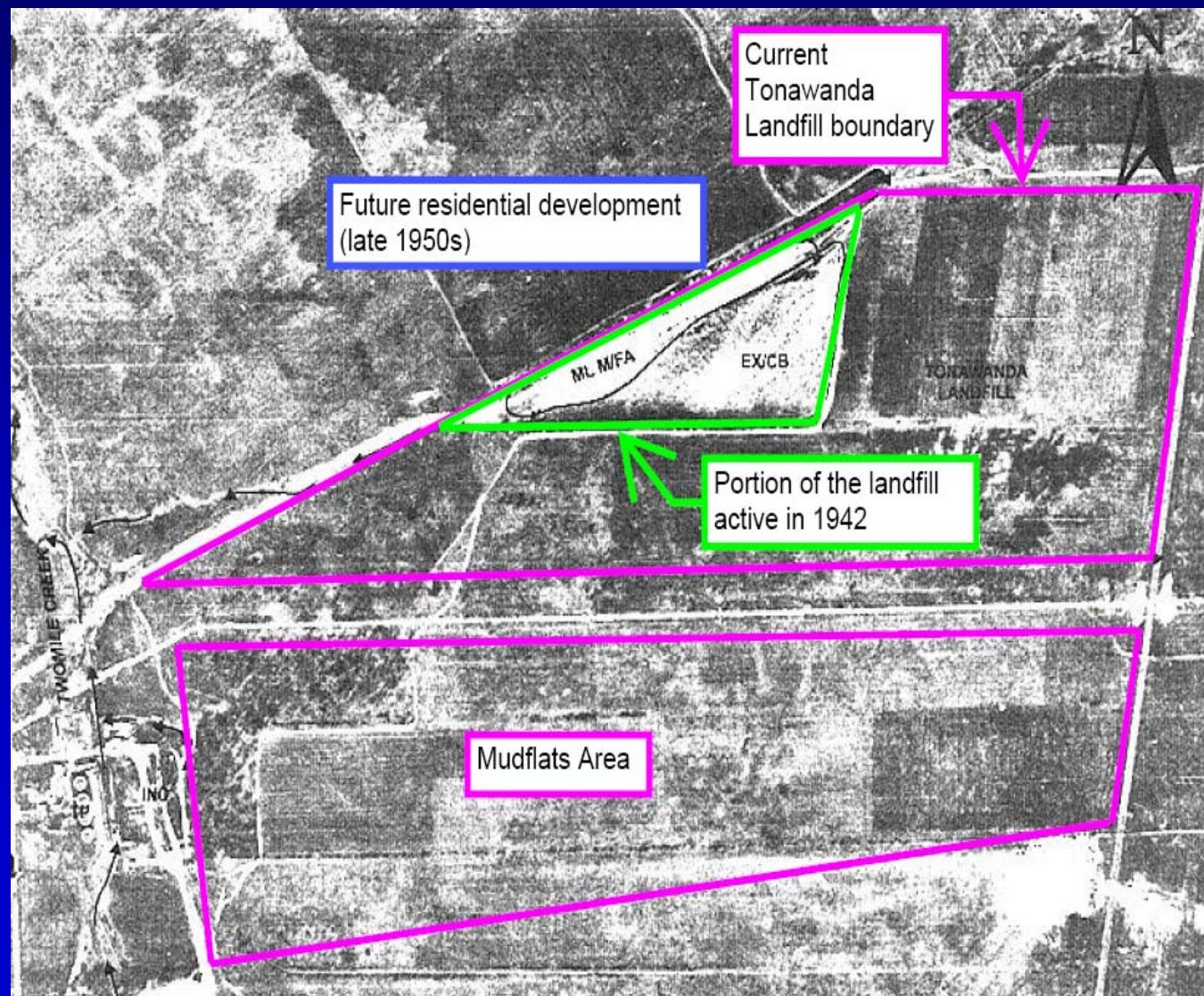


US Army Corps
of Engineers
Buffalo District

1942 Aerial Photo

Town of
Tonawanda
Landfill accepted
municipal waste,
incinerator ash,
and sludge from
the 1930s to
1989.

Mudflats Area
was vacant
except for
Town's
incinerator.





US Army Corps
of Engineers
Buffalo District

Recent Aerial Photo





US Army Corps
of Engineers
Buffalo District

Tonawanda Landfill

FUSRAP Investigation History

- 1990 - 1994 - DOE investigations find radioactive elements at the site that are similar to elements found at other FUSRAP sites.
- 1992 - DOE designates the site into FUSRAP for further investigation.
- 1997 - Congress transfers execution of FUSRAP from DOE to USACE.
- 1999 - USACE completes Radiological Health Assessment, which concludes risks are within USEPA limits.
- 2001 - USACE conducts additional remedial investigation sampling at the site.
- 2006 - USACE releases Remedial Investigation Report, including Baseline Risk Assessment.



US Army Corps
of Engineers
Buffalo District

Investigation Rationale

- The Corps considered the presence of residences adjacent to the landfill, and the fact that some residents use the landfill for recreational purposes
- The Corps:
 - Surrounded areas previously identified by DOE with additional samples
 - Sampled along the residential fence line in the landfill
 - Evaluated risks to residents coming onto landfill





US Army Corps
of Engineers
Buffalo District

FUSRAP Sampling

- 600 soil samples collected from the Landfill and Mudflats, at depths up to 24 feet
- Groundwater samples collected from 14 wells in Landfill and Mudflats
- Samples analyzed for uranium, radium and thorium





US Army Corps
of Engineers
Buffalo District

Groundwater Sampling Results

- Groundwater is not a public water source for the area
- The well closest to the residential area did not exceed Federal drinking water limits
- Of 14 wells sampled - only 1 had uranium exceeding Federal drinking water limits



**Field Work –
Soil Sampling**



US Army Corps
of Engineers
Buffalo District

Soil Sampling Results

- All sample locations within 50 feet of the residential fence line had results at normal background levels
- In the Landfill, 40 sample locations had results above normal background levels
- In the Mudflats, only 2 sample locations had results above normal background levels



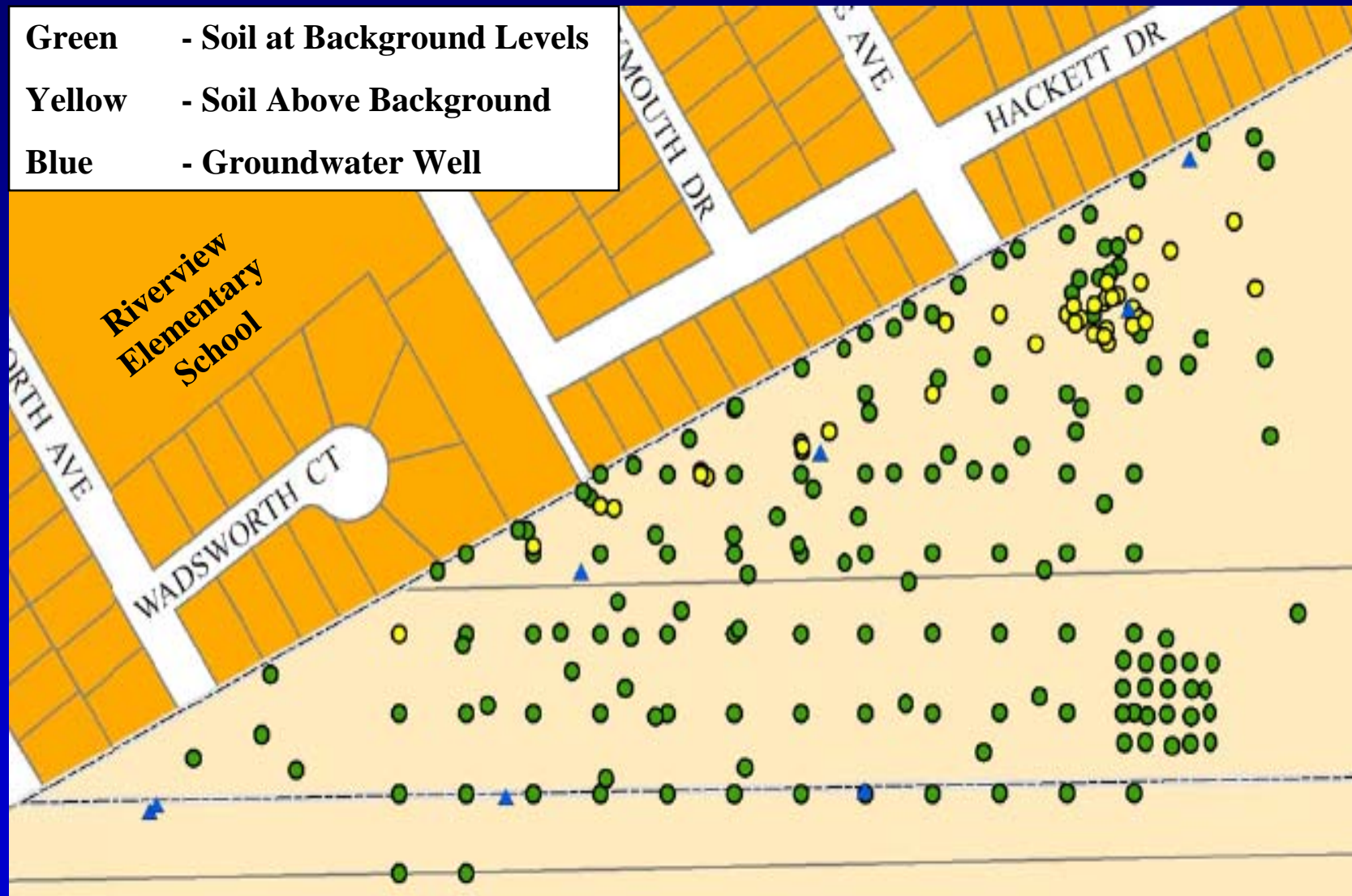
**Field Work –
Soil Sampling**



US Army Corps
of Engineers
Buffalo District

Landfill Investigation Results

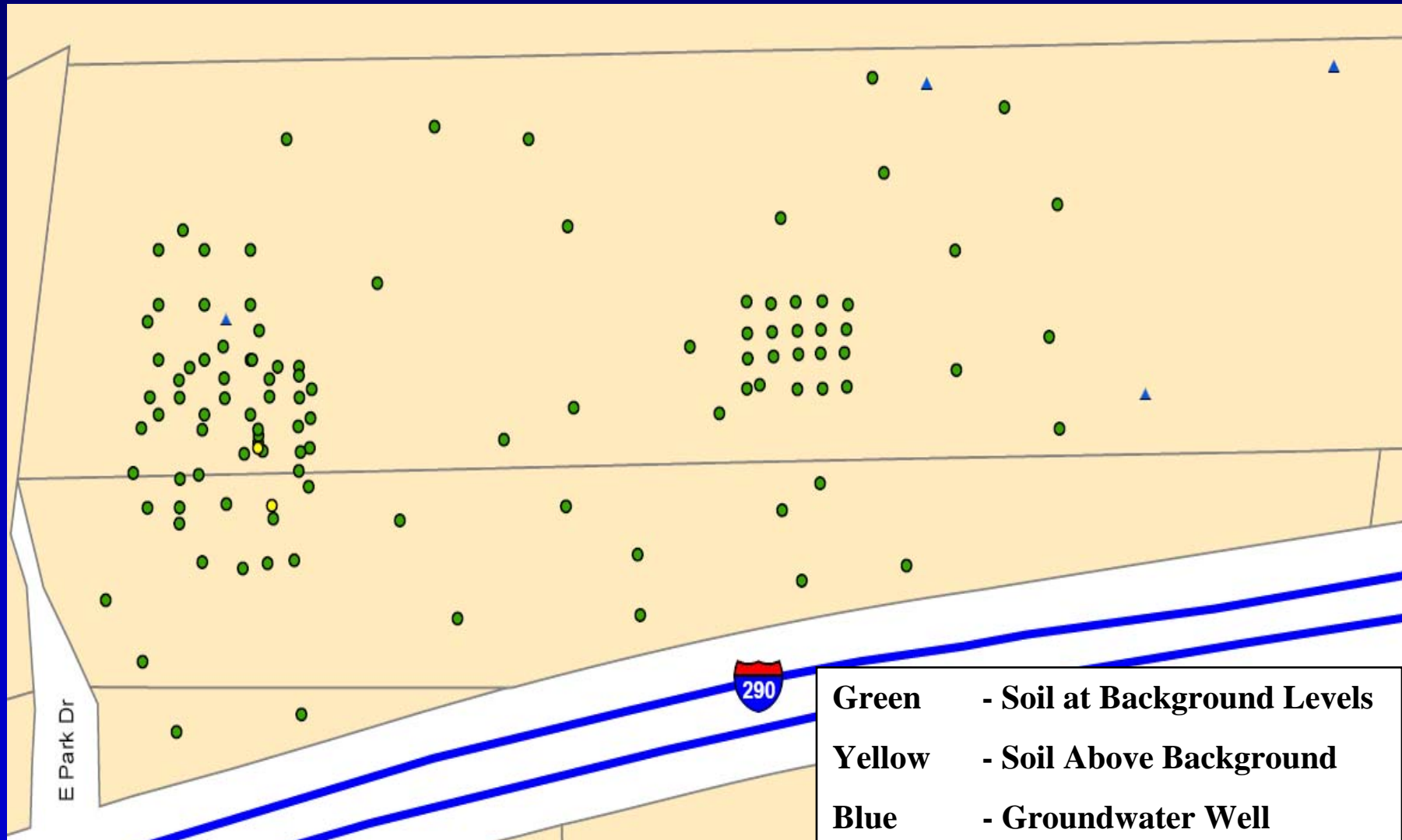
- | | |
|--------|-----------------------------|
| Green | - Soil at Background Levels |
| Yellow | - Soil Above Background |
| Blue | - Groundwater Well |





US Army Corps
of Engineers
Buffalo District

Mudflats Investigation Results





US Army Corps
of Engineers
Buffalo District

Risk Assessment

Why Do We Do a Risk Assessment?

- Risk Assessment is a mandated part of the CERCLA process
 - National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
- Used to determine if action is required, based on the health hazard at a site
 - NCP sets risk limits that require action if they are exceeded
 - Risk limit is an additional incidence of cancer in a population of 10,000 people



US Army Corps
of Engineers
Buffalo District

Risk Assessment

How Do We Determine Risk?

Risk depends on Toxicity and Exposure

Toxicity

- How harmful a substance is
- Determined by USEPA

Exposure

- How much of a substance someone comes in contact with
- Methodology developed by USEPA is used to calculate the level of exposure using site information



US Army Corps
of Engineers
Buffalo District

Risk Assessment

How Do We Determine Exposure?

- Level of exposure depends on:
 - Pathway - Exposure requires contact with the substance
 - Concentration - How much of a substance someone could come into contact with
 - Frequency & Duration - How often and how long someone is in contact with the substance
- Required to look at a reasonable maximum exposure based on site information



US Army Corps
of Engineers
Buffalo District

Risk Assessment

What Are Pathways at the Landfill?

Exposure Pathways

- Eating contaminated dirt
 - Requires direct contact by someone on the Landfill
- Breathing contaminated dust
 - Vegetation limits dust at the Landfill
- Direct exposure to external gamma emissions
 - Gamma exposure drops rapidly as you move away from the source



US Army Corps
of Engineers
Buffalo District

Risk Assessment

Frequency and Duration

- Recreational use of the Landfill and Mudflats
 - 2 hours per week over 30 years (adult)
 - 7 hours per week over 6 years (youth)
- Construction worker in Landfill and Mudflats
 - 40 hours per week over 1 year
- Industrial re-development of Mudflats
 - 40 hours per week over 6.6 years
- Residential re-development of Mudflats
 - 18 hours per day over 30 years (adult)
 - 24 hours per day over 6 years (youth)



US Army Corps
of Engineers
Buffalo District

Landfill Risk Assessment Results

User	Lifetime Risk
Recreational - Current	Within NCP Limits
Construction - Current	Within NCP Limits
Recreational - After Town's Cap	Within NCP Limits



US Army Corps
of Engineers
Buffalo District

Mudflats Area Risk Assessment

User	Lifetime Risk
Recreational	Within NCP Limits
Construction	Within NCP Limits
Industrial/Commercial	Within NCP Limits
Residential	Within NCP Limits



US Army Corps
of Engineers
Buffalo District

Risk Assessment Summary

- Risk depends on Toxicity and Exposure
- Risks to someone on the Tonawanda Landfill Vicinity
Property are within NCP risk limits for current
conditions and potential future site uses



US Army Corps
of Engineers
Buffalo District

Proposed Plan

- **Based on the Remedial Investigation and Baseline Risk Assessment, soils containing uranium, radium and thorium may safely remain in place in their current condition**
- **No Action for uranium, radium and thorium detected at the Tonawanda Landfill Vicinity Property**



US Army Corps
of Engineers
Buffalo District

Next Steps

- **Proposed Plan**
 - 90-day public comment period ends June 26, 2007
- **Responsiveness Summary**
 - Responds to all comments on the Proposed Plan
 - Will be posted on website with transcript of public meeting
- **Record of Decision**
 - Evaluates comments received
 - Documents final decision on FUSRAP activities
 - Placed in the Administrative Record for public availability



US Army Corps
of Engineers
Buffalo District

Comments

Comments



US Army Corps
of Engineers
Buffalo District

Ground Rules

- One person speaks at a time
- State your name and affiliation
- Please use the microphone when speaking
- Speakers are limited to five minutes to allow everyone an opportunity to speak
- Stenographer will be recording proceedings



US Army Corps
of Engineers
Buffalo District

Written Comments

Written comments should be postmarked by June 26,
2007 and mailed to:

U.S. Army Corps of Engineers
FUSRAP Information Center - Tonawanda Landfill
1776 Niagara Street
Buffalo, NY 14207

e-mail us at : fusrap@usace.army.mil



US Army Corps
of Engineers
Buffalo District

Response to Comments

- We will respond to all oral and written comments after the 90 day public comment period has closed.
- They will become part of the official record and placed in the Administrative Record that is located at:

Tonawanda Public Library
333 Main Street
Tonawanda, NY

US Army Corps of Engineers
1776 Niagara Street
Buffalo, NY

- Responses will also be placed on the Corps' FUSRAP Website



US Army Corps
of Engineers
Buffalo District

For More Information

FUSRAP Questions

- By phone: 716-879-4396
800-833-6390
- By e-mail: fusrap@usace.army.mil
- By writing: U.S. Army Corps of Engineers
FUSRAP Information Center
1776 Niagara Street
Buffalo, NY 14207
- On the web: www.lrb.usace.army.mil/fusrap



US Army Corps
of Engineers
Buffalo District

Thank you for your participation