EPA Record of Decision for Cabot Carbon/Koppers Superfund Site

City of Gainesville / Alachua County
Gainesville Regional Utilities
and
Alachua County Health Department

Gainesville City Commission - February 17, 2011

Alachua County Commission - February 22, 2011

Introduction

- Purpose of Presentation
- LIT – Local Intergovernmental Team
  - City of Gainesville
  - GRU
  - Alachua County EPD
  - Outside Technical Experts
- Alachua County Department of Health

Presentation Topics

- Introduction (Fred Murry, City of Gainesville)
- Site History & EPA Superfund Process
  (Bill Pence Environmental Counsel to City of Gainesville)
- Overview of EPA Record of Decision
  - Groundwater/subsurface (Rick Hutton, GRU)
  - Soils and Sediments (Chris Bird/John Mousa, ACEPD)
  - Land Use
  - Stormwater (Stewart Pearson, City of Gainesville)
  - Health Department (Anthony Dennis)
- Conclusions & Recommendations

LIT Goals

1. **Protect Our Water Supply**
2. **Protect Public Health & Environment**
   - Treat on-site & off-site soils to eliminate risk
   - Stop off-site migration of contamination
3. **Facilitate Site Reuse**

Superfund Process Overview

Bill Pence,

Environmental Counsel to City of Gainesville

GLOSSARY OF TERMS

- Superfund or CERCLA
- Remedial Investigation/Feasibility Study ("RI/FS")
- Proposed Plan
- Record of Decision ("ROD")
- Consent Decree
- Remedial Design/Remedial Action ("RD/RA")

Past Site History

- 1983 – Superfund Site Listing
- 1984-87 - Initial Site Investigations
- 1988 - Beazer East Agrees to Perform RI/FS
- 1990 - FS Completed and ROD Issued

  - Assumed Impacts were Limited to Surficial Aquifer

  - Limited Soil Excavation
  - Bioremediation of Source Areas
  - Surficial Aquifer Extraction System
  - Institutional Controls
- 1990s
  - Surficial aquifer groundwater pumping system installed
  - GRU & ACEPD call for deeper investigation
  - GRU & ACEPD call for investigation and closure of production wells

Past Site History (Cont'd)

- 1994-98 - Additional Field Investigations
- 1999 - Revised Supplemental FS
- 2001 - EPA Releases Proposed Plan for Revised Remedy-
  - *Assumed Hawthorn was Effective Confining Unit*
  - Removal of Surface Soils
  - Onsite Solidification/Stabilization of Source Areas in SA
  - Containment of Source Areas with Physical Barrier
  - Impermeable Cap
  - Institutional Controls
- GRU, ACEPD & Citizens object
  - Site geology not well understood
  - No evaluation of potential impact to Floridan Aquifer
- 2001 - EPA Rescinds Proposed Plan

Past Site History (cont'd)

- 2001 to Present - Intensive site evaluation
  - GRU DNAPL Team & ACEPD input & review
  - ACEPD calls for off-site soil sampling
- 2003 - Floridan Aquifer contamination discovered
  - City & County Commission resolutions
  - City requests assistance from congressional delegation
    - Senator Bill Nelson becomes involved
  - GRU assembles expert consultant team "DNAPL Team"

Past Site History (cont'd)

- 2005 - EPA orders Beazer to install Upper Floridan Aquifer Monitoring network
  - Based on DNAPL team recommendations
  - Beazer begins installation of Upper Floridan Aquifer monitoring wells (34 installed to date)
- 2006 - EPA 5-year Review
  - GRU, DNAPL team & ACEPD call for more investigation
  - EPA finds Koppers site remedy not protective & calls for investigation of both Koppers & Cabot

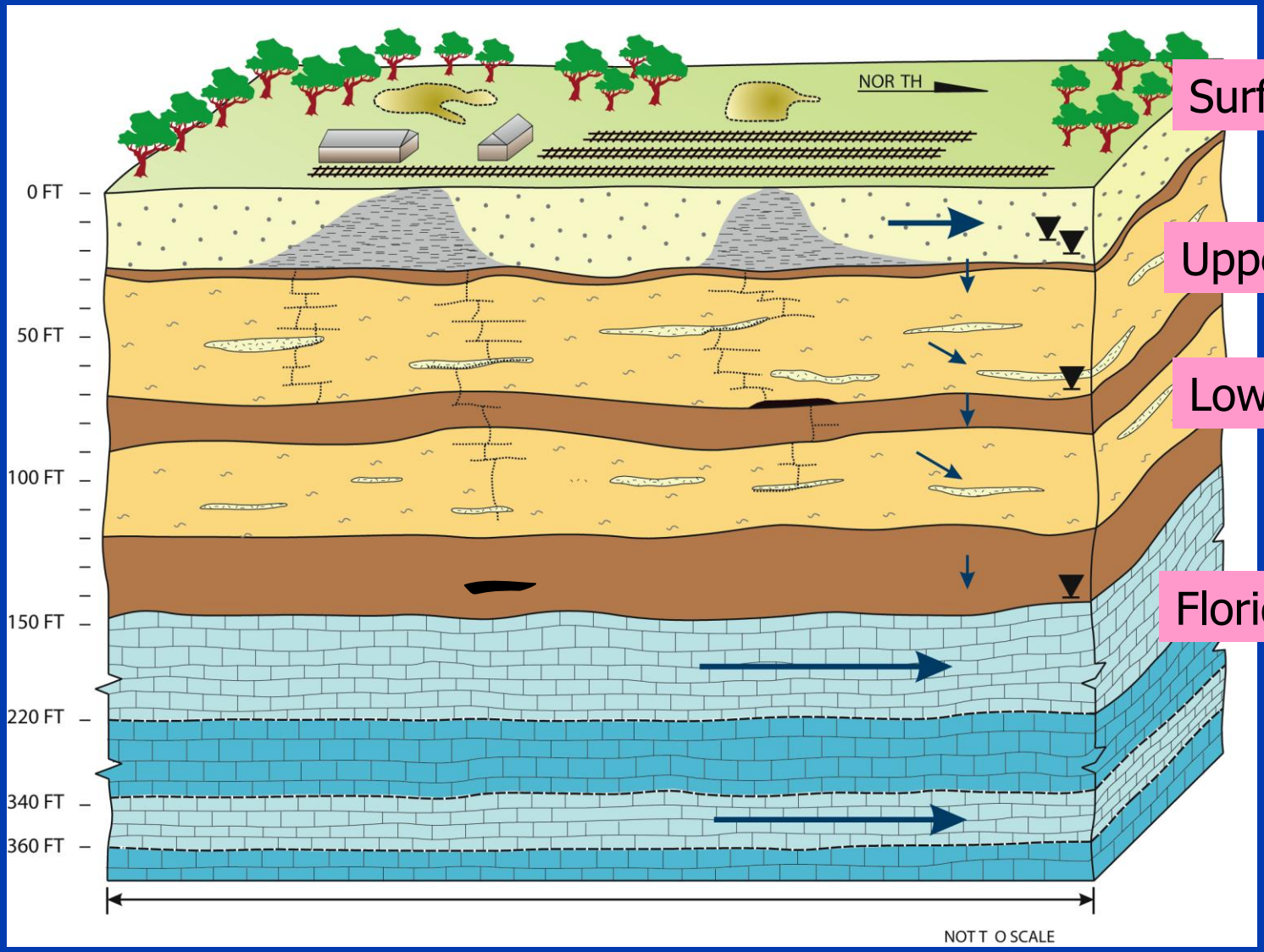
Past Site History (cont'd)

- 2007 - Present
- Beazer adds surficial containment trenches
- Beazer installs Upper Floridan containment well
- On-site soil testing performed
- ACEPD calls for off-site soil testing
- Off-site soil testing
  - ACEPD & City call for EPA to:
    1. Expedite soil delineation
    2. Use state SCTL cleanup criteria & remove soils

Past Site History (cont'd)

- 2009 – EPA Releases Draft FS
  - LIT Formed
  - City Gen Gov't assembles technical experts
  - LIT technical comments adopted by City & County Commissions
    - Public input
- 2010 – EPA Releases Proposed Plan
  - LIT technical comments adopted by City & County Commissions
    - Public input
- Feb 2, 2011 – ROD Issued

Site Conceptual Model



Superfund Process Overview

- Draft FS – August 2009
  - *City/County Formal Comments – Nov 2009*
- Final FS – May 2010
- Proposed Plan – July 15, 2010
  - *City/County Formal Comments – Oct 2010*
- ROD - Feb 2, 2011
- 60-120 Day Negotiation Moratorium
- Consent Decree or Unilateral Administrative Order
- RD/RA

ROD & Consent Decree

ROD

- EPA's Final Decision on how site will be cleaned up
- Includes EPA's formal responses to comments received on Proposed Plan
- Federal Law does not provide for further comments on selected remedy

Consent Decree (between Beazer & EPA)

- Requires performance of Remedial Design & Action, time schedules, administrative procedures, financial assurance, etc.
- Conditions of ROD can not be changed in the Consent Decree negotiation
- Consent Decree review limited to determination that "the settlement is reasonable, fair, [both procedurally and substantively], and consistent with the purposes that CERCLA is intended to serve."

Remedial Design & Remedial Action

Remedial Design & Remedial Action (RD/RA)

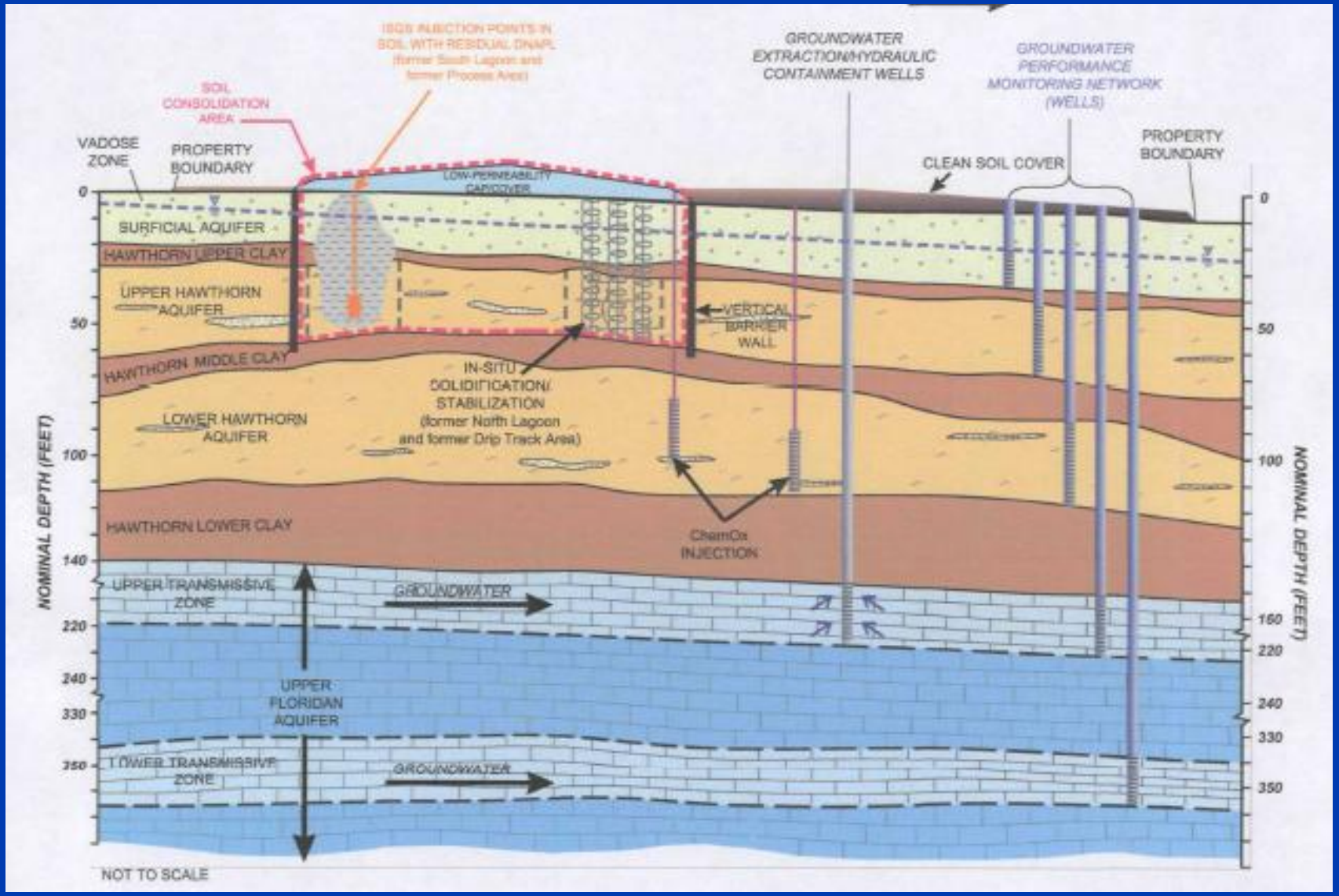
- Remedial Design & Investigation Work Plans
- Critical phase for LIT to stay engaged

DETAILED DISCUSSION OF FINAL REMEDY SELECTED IN ROD

Groundwater

Rick Hutton, P.E.
Supervising Utility Engineer

EPA ROD Remedy



Groundwater

1. **Floridan Aquifer Hydraulic Containment**
   - Pump & treat contaminated groundwater
   - Compliance points & performance criteria
   - Triggers for more action (additional pumping) if criteria not met
   - Additional monitoring wells
   - *Specifics on locations of compliance monitoring points, pumping rates, etc in remedial design work plan*

Groundwater

2. Creosote Source Area Treatment

- Slurry Wall & Cap for entire Soil Consolidation Area
- In situ solidification (ISS/S) in 2 source areas most likely to impact Upper Floridan Aquifer (Former North Lagoon/Former Drip Track)
- Chemical treatment (ISBS) in other 2 source areas (Former South Lagoon/Former Process Area)
  - ISBS pilot test
  - Performance Criteria (short & long-term)
  - If ISBS does not meet criteria then Beazer must do ISS/S

Groundwater - Conclusions

- Local input has greatly improved groundwater remedy
- Aggressive remedy compared with other sites
  - $89M+ implementation cost

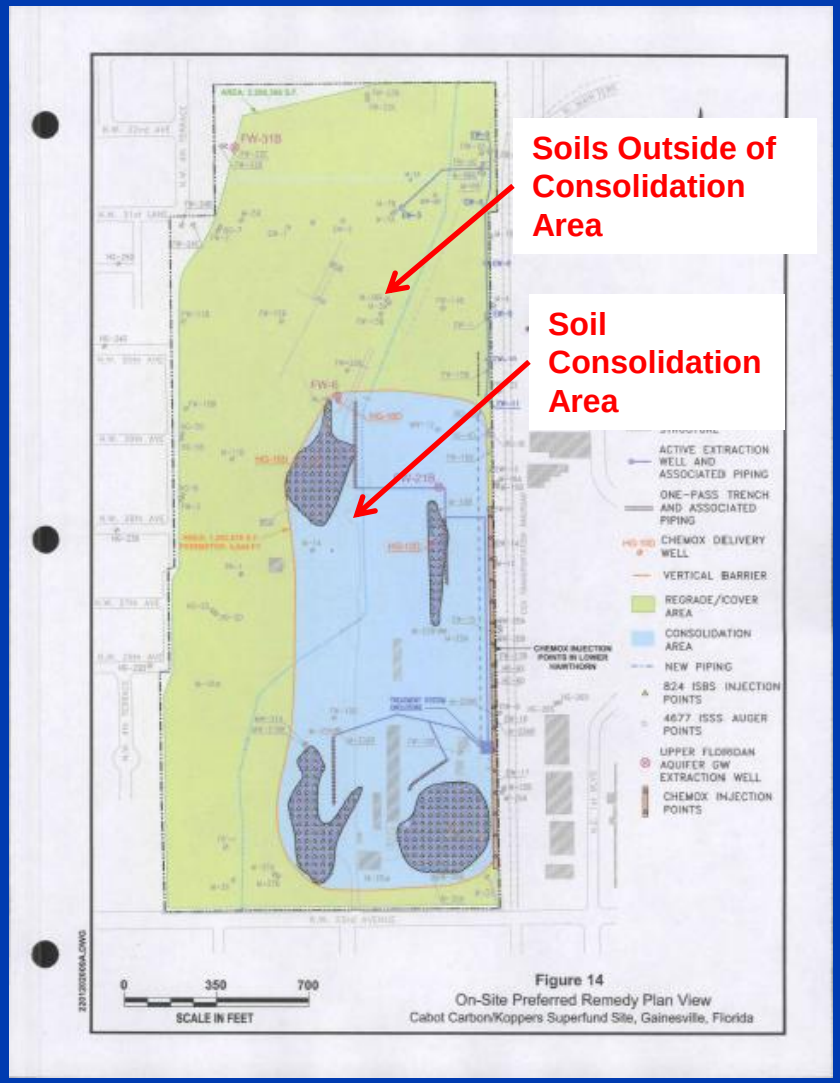
- **Protective of drinking water supply *if properly implemented***

Soils & Creek Sediments

Chris Bird
Alachua County Environmental Protection Director

John Mousa, Ph.D.
Pollution Prevention Manager

On-Site Soils



- Low permeability cap over soil Consolidation Area (blue area)
- Excavate soils outside Consolidation Area (green area) that exceed State leachability or commercial direct contact standards.
- Move excavated (on-site and off-site) soils to Consolidation Area.
- Surface grade & cover green & blue areas with 2 ft of clean soil

Soil Consolidation Area

- EPA indicates proposed on-site soil Consolidation Area is consistent with remedies at other Superfund sites
- Consolidation Area expected to have gradual contours
- Consolidation Area will be isolated by perimeter slurry wall to Hawthorn Middle Clay and covered by impermeable cap & clean soil layer.

Soils Outside Consolidation Area

- Soils exceeding State leachability or commercial direct contact standards will be moved to Consolidation Area.
- Soils meeting State standards will be covered with a minimum 2 ft clean soil layer
- ***Clean soil layer will meet State residential soil standards***
- ROD concludes this remedy will prevent direct human exposure to contaminated soils and protect groundwater quality.

Additional Activity
On-Site Soils – Screening for Buried Drums

- Beazer has submitted a work plan for screening site for buried drums and investigate suspicious trench features

- Contaminated materials found will be removed.

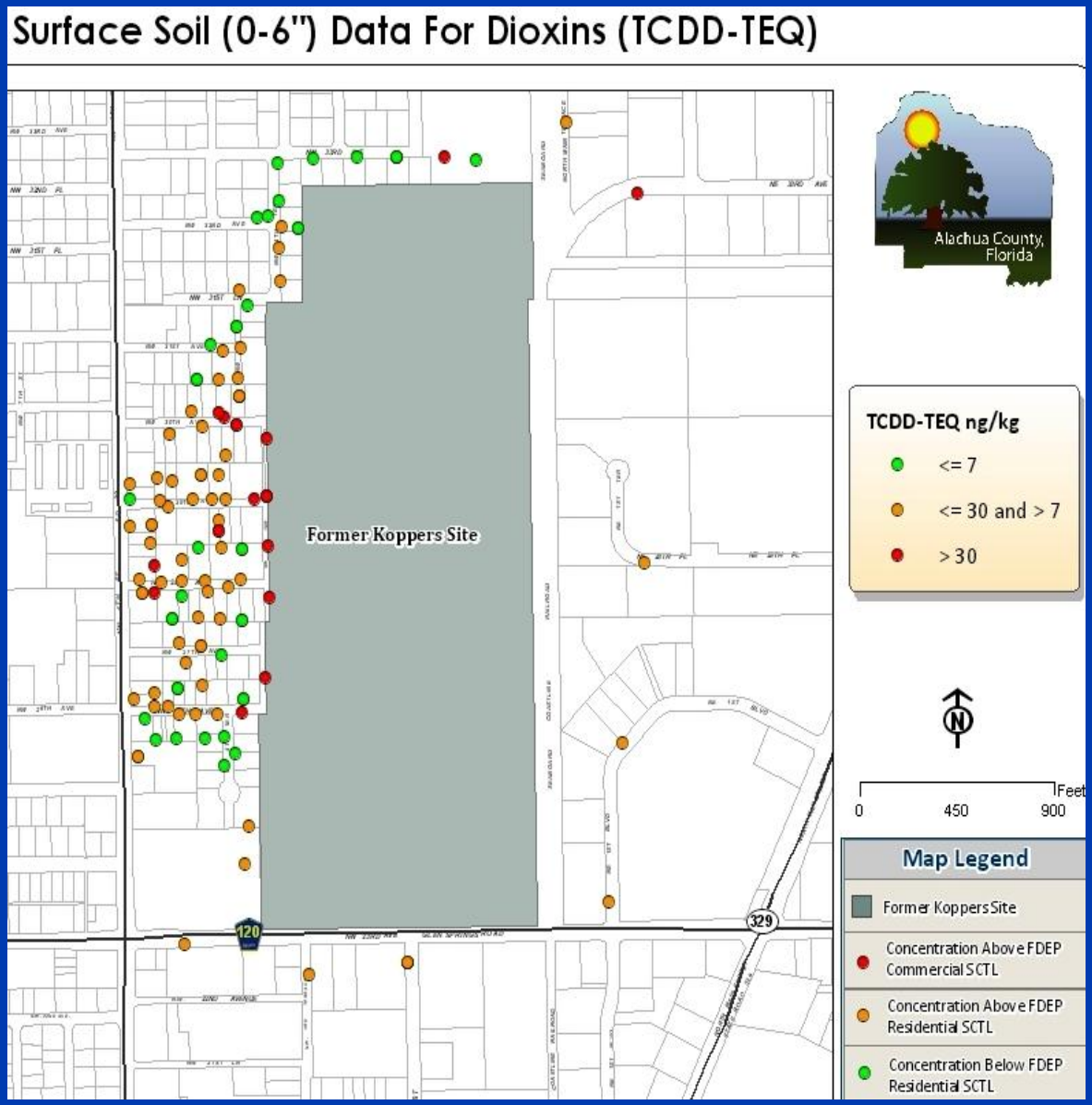
Land Use Aspects -- On-site Soil Remedy

- 2 ft of clean cover expands allowed future land uses to include mixed use residential, in addition to commercial & recreational

- Requires on-site institutional and engineering controls to prevent exposure to contaminated soils and maintain effectiveness of remedy

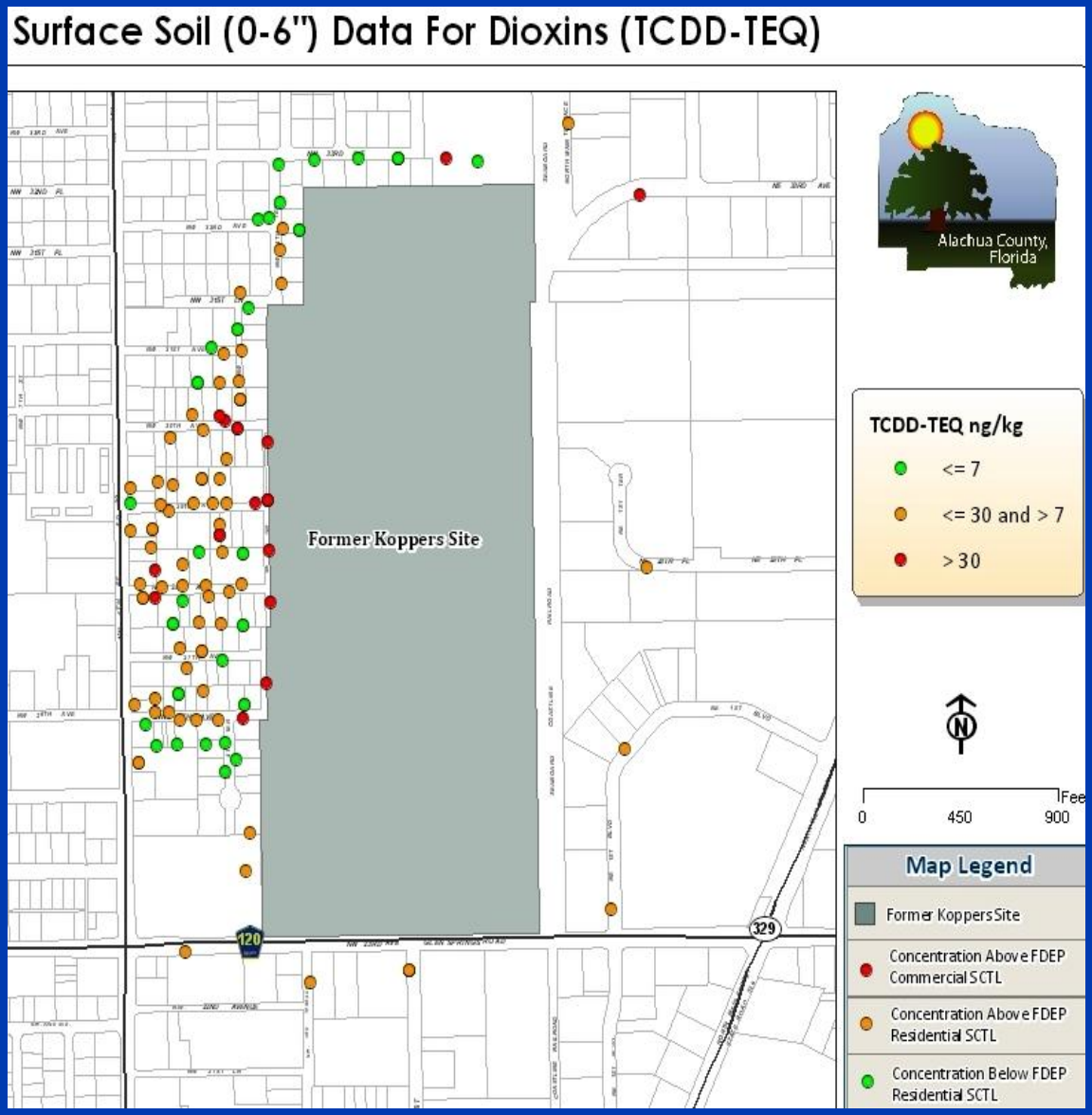
- Mixed use type residential development is possible on site with appropriate conditions

Offsite Soils



- Extent of contamination has not been determined
- State residential soil clean-up standards on residential properties
- State commercial soil clean-up standards on commercial properties

Offsite Soils



Property owner makes decision:

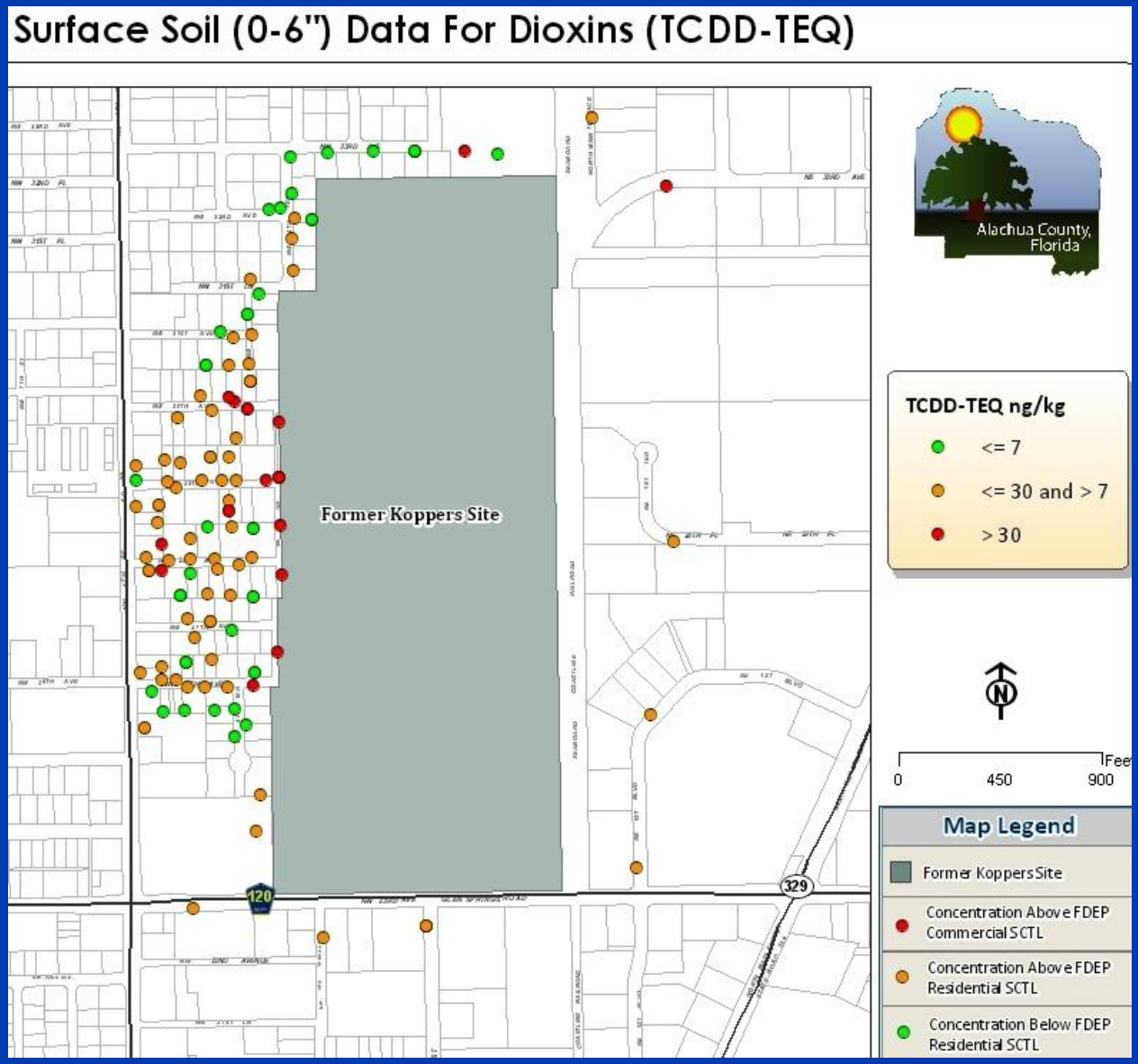
- ➢ <u>Excavate</u> contaminated soil and restore properties

OR

- ➢ <u>Engineering and institutional controls</u>
  - Covers, deed restrictions

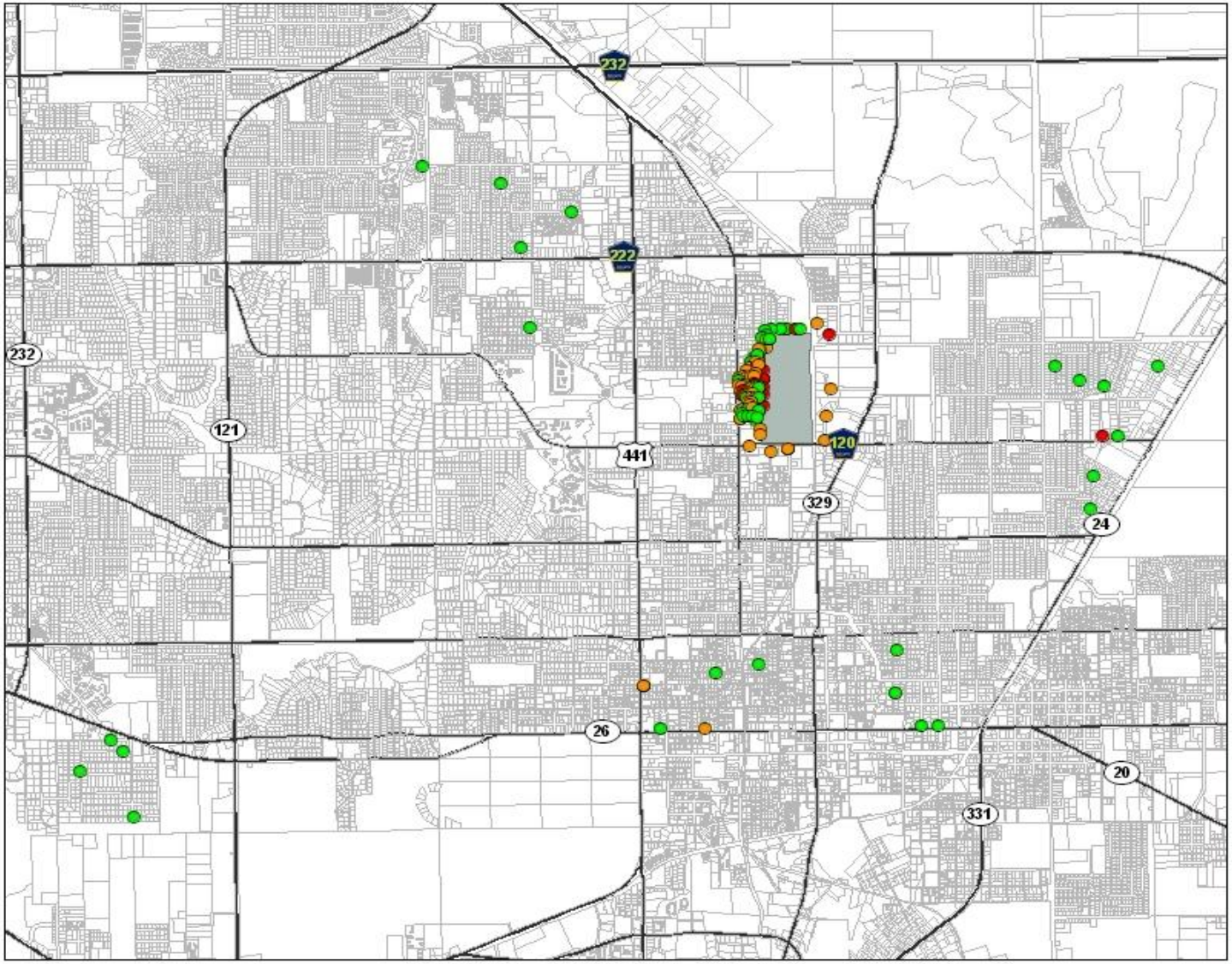
- ➢ Transport excavated off-site soil to on-site Consolidation Area

Offsite Soils



- Dioxin above FDEP SCTLs on road rights of way south and east of site and on property north of site
- EPA will require more soil testing around site to determine extent of contamination

Surface Soil (0-6") Data For Dioxins (TCDD-TEQ)





TCDD-TEQ ng/kg

- <= 7
- <= 30 and > 7
- > 30



0 2,900 5,800 Feet

Map Legend

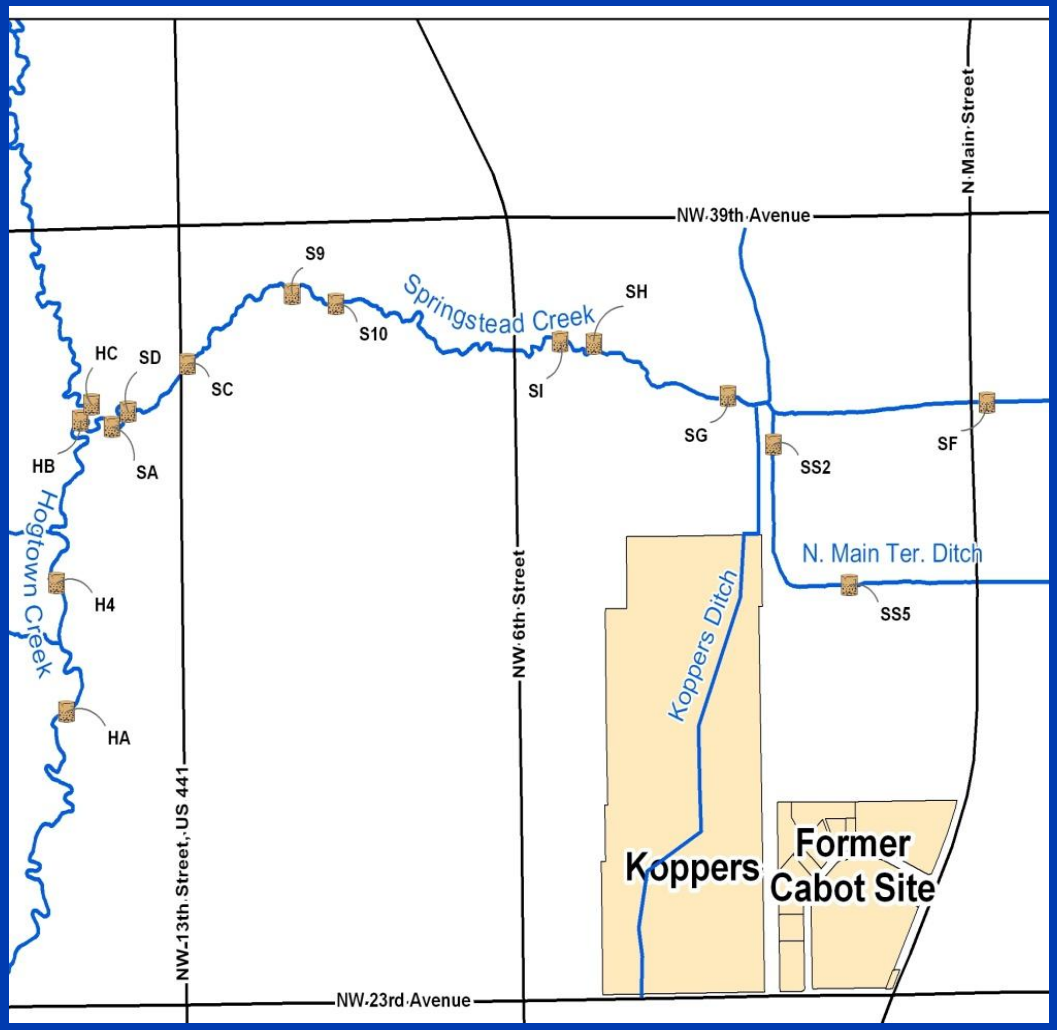
- Former Koppers Site
- Concentration Above FDEP Commercial SCTL
- Concentration Above FDEP Residential SCTL
- Concentration Below FDEP Residential SCTL

DISCLAIMER: This map and the spatial data it contains are made available as a public service, to be used for reference purposes only. The Alachua County Environmental Protection Department provides this information AS IS without warranty of any kind, implied or expressed, regarding accuracy, completeness, or fitness of use. The quality of the data is dependent on the various sources from which each data layer is obtained.

Relocation Assistance

- ROD concludes Site does not meet EPA criteria for permanent relocation
- ROD indicates that temporary relocation may be required during off-site soil clean-up
- EPA comments indicate that Beazer has offered to temporarily relocate residents during off-site property clean-up

Sediments in Creeks



- Excavate sediments with contamination exceeding FDEP probable effects concentration (PEC)
- Tar removal from Creeks is underway by Cabot; may not result in complete cleanup
- Monitored natural recovery to threshold effects concentration (TEC)

Stormwater

Stewart Pearson, P.E.
City of Gainesville

Stormwater Management

- Grading – to direct runoff away from consolidation area and to treatment facilities
- Site Stormwater Ditch
  - Possible relocation of existing ditch or
  - Replacement with underground pipe
- One or more Retention/Detention Basins

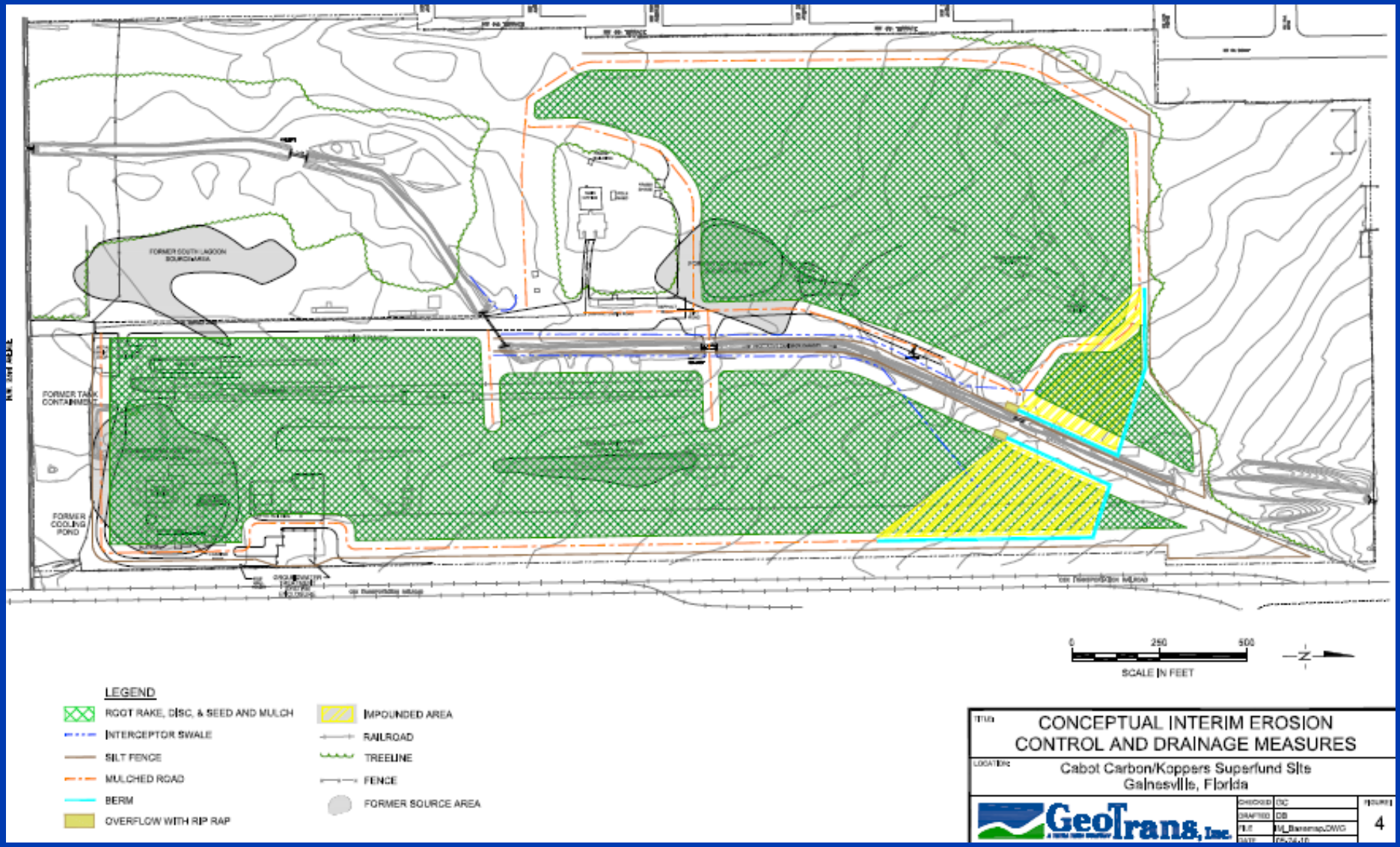
ROD – Stormwater Management

- Retention/Detention Basins
  - To be designed and constructed during the remedial design phase of the on-site remedy
- All facilities to be designed consistent with future use of property

Stormwater Update

- ROD provides controls for untreated stormwater discharges and sediments with contamination
- Draft Stormwater Permit issued by FDEP on 2/4/2011
- Public Meeting on Permit – March 14, 2011
- Interim Remedial Actions in place

Short-Term Interim Measures
Stormwater



Health Concerns

Anthony Dennis,
Environmental Health Director

Alachua County Health Department
Florida Department of Health

Indoor Dust Contamination

- The City/County & Health Dept requested that the USEPA investigate potential indoor dust contamination in homes & remediate where site-related contaminants pose an unacceptable risk.
  - The EPA has formed a Work Group with the Florida Department of Health, the CDC, FDEP, and ACEPD to address this issue.

EPA Remedy Adjustments Based on Local Input

EPA Remedy Adjustments - **Groundwater**

Local Concern/Comment	**EPA Response**
Floridan Aquifer multi-level monitoring network	Req'd Beazer to install network requested by GRU. Beazer has voluntarily added several additional wells
Additional Floridan wells	5 Added recently, more to follow
Floridan Aquifer Containment	Floridan Aquifer pumping well in NE
Triggers for more action if Floridan containment not meeting goals	ROD requires triggers for more action

EPA Remedy Adjustments – **Groundwater (cont'd)**

Local Concern/Comment	**EPA Response**
Surficial Aquifer containment effectiveness concerns	Surficial extraction trenches added. Beazer redeveloped & resampled Surficial Wells
Creosote DNAPL should be removed or immobilized	ISS/S & ISBS of source areas in surficial & upper hawthorn
Concerns about ISBS	ISS/S required in areas of documented Floridan Impacts. Strict performance criteria for ISBS
Lower Hawthorn creosote shoould be immobilized	ISGS or Chemox in Lower Hawthorn
Conceptual model in Proposed plan not accurate	Revised conceptual model in ROD

EPA Remedy Adjustments – **Soils & Sediments**

Local Concern/Comment	**EPA Response**
Florida residential SCTLs should be used on-site	On-site surface soils to meet Florida residential SCTLs
More specific details needed on actions to remediate soil contamination on-site	More specific details provided on criteria for soil excavation in area outside of soil consolidation area.
Florida SCTLs should be used for off-site soils	Requiring off-site soils remediated to Florida SCTLs. Not allowing site specific risk based criteria
Expedite offsite soil sampling and expand to north and west	Offsite soil sampling will continue until delineation of contamination achieve.
Remove contaminated creek sediments	Sediment to be removed in hot spots

EPA Remedy Adjustments – **Other Concerns**

Local Concern/Comment	**EPA Response**
Possible Buried Drums & other contaminated areas	Investigation of potential drum burial & other potential soure areas
Fencing to prevent exposure to soil in right of way & on-site	Fencing & warning signs installed
Stormwater runoff	Interim stormwater measures, grading & grass planting at site. Removal of contaminated sediments from ditch.

EPA Remedy Adjustments – **Other Concerns (cont'd)**

Local Concern/Comment	**EPA Response**
Possible Household Dust Impacts	EPA, ATSDR, FDOH, FDEP workgroup convened
Demolition concerns about dust	Dust control measures implemented
Provide relocation assistance	Temporary relocation during off-site soil clean-up
Provide documents for Administrative Record	EPA has provided more documents for local repository for Administrative Record

Remedies & Costs of Other Wood Treating Superfund Sites in Region 4

Site	Onsite Consol. Area	Excav/Offsite disposal	Slurry Wall	Solidification	Chem/Bio Treatment	Hydraulic Containment	Cost ($ Millions)
Picayune	x		x		x		$28
Davis Timber	x						$5.4
Brunswick Wood	x		x	x	x		$28.5
Camilla Wood			x	x	x		$14
Escambia	x			x	x		$40
Coleman Evans	x					x	$22
Nocatee Hull	x		x		x		$11.2
Koppers Charleston	x	x*				x	$20
Koppers Gainesville	x		x	x	x	x	$89

*22,000 cy of contaminated soil removed & landfilled prior to enactment of land disposal restrictions.

Conclusions

- City/County & Community submitted a number of recommendations
  - Most recommendations addressed
- Remedy includes significant improvements as a result of City/County & Community input
- Remedy provides integrated set of actions that, once implemented properly, should:
  - Protect Water supply
  - Protect Public health & environment
  - Facilitate reuse

Conclusions (cont'd)

- Remedy selected is more aggressive than other remedies approved by EPA at similar sites in Region 4
- On-going Monitoring, Review & Evaluation are critical
  - Site is complex
  - Adaptive Management
  - Comprehensive EPA review every 5 years
- LIT Technical Team should continue to be active in reviewing and commenting upon remedial design & implementation

Recommendations

- Direct staff to draft letter for Mayor/Chair signature to urge USEPA to:
  - Complete off-site soil delineation & remediation ASAP
  - Complete Consent Decree & implement ROD ASAP
  - Expedite indoor dust evaluation
  - If indoor dust &/or health surveys indicate site-related problems – EPA should take appropriate action

Recommendations

- Direct LIT technical team to stay engaged in remedial design, on-going monitoring, indoor dust study etc.
- Direct LIT technical team to provide periodic updates to City & County Commissions
- Provide further direction to staff as appropriate

Questions