

Cabot-Koppers Superfund Site

Off-Site Surface Soils Remedy

Enhancement of Remedial Design/Work Plan
in the Stephen Foster Neighborhood

Gainesville City Commission Meeting

March 15, 2012



Springlead Creek

Hogtown Creek

NW 13th Street, US 441

NW 6th Street

NW 23rd Avenue

N Main Street

N Main Ter Ditch

Koppers

Koppers Ditch

Former Cabot Site

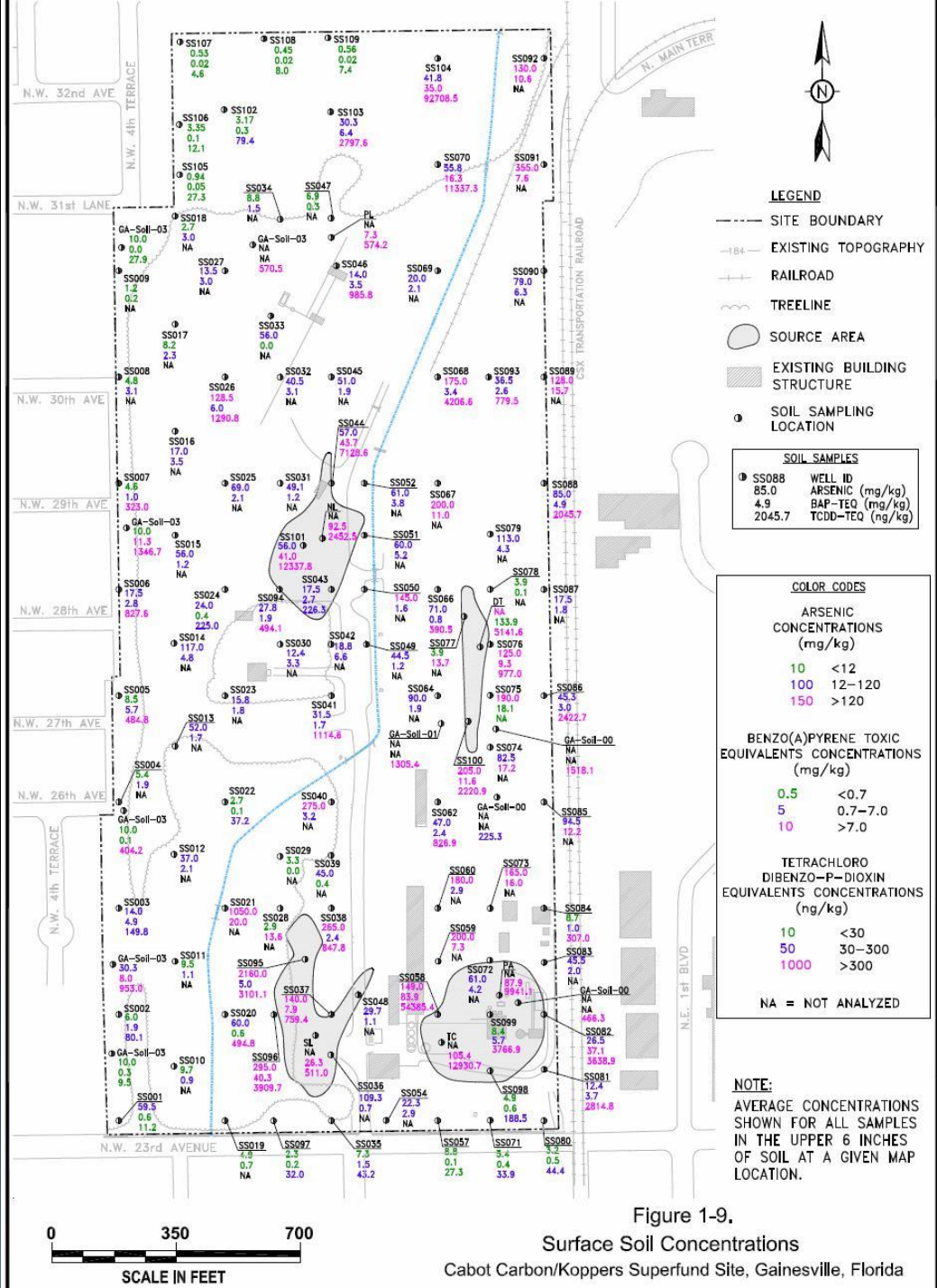
circa: 1971



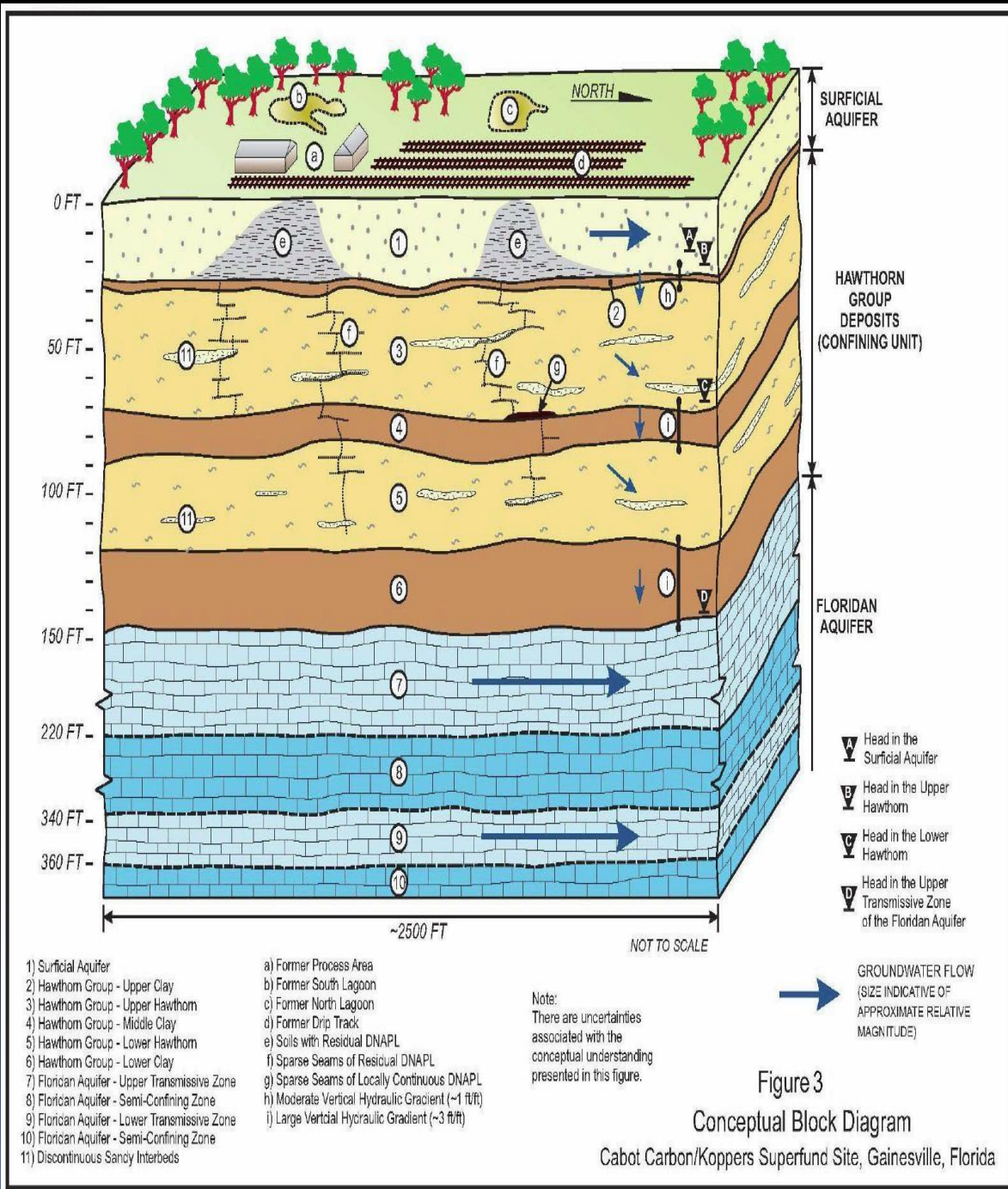


Primary Surface Soil Contaminants:

- Arsenic
- Benzo(A)Pyrene
- Dioxin



Primary Sub-surface Contaminants: Creosote (DNAPLs)

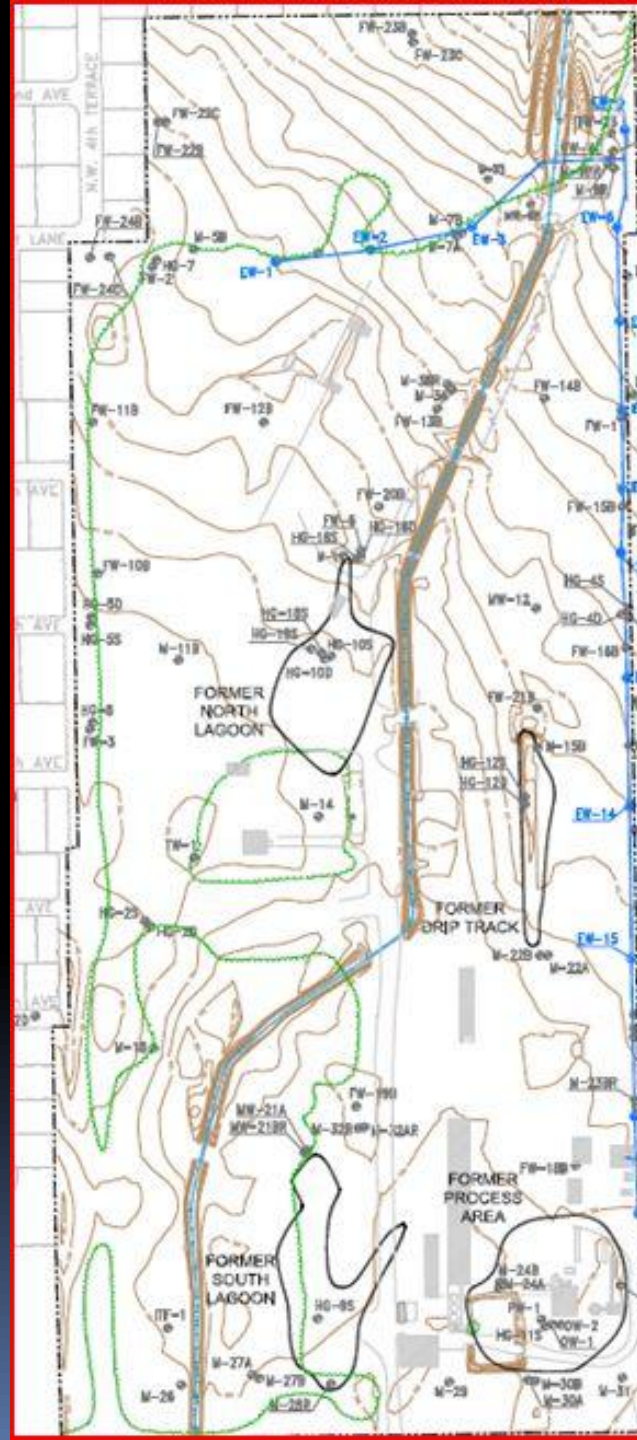


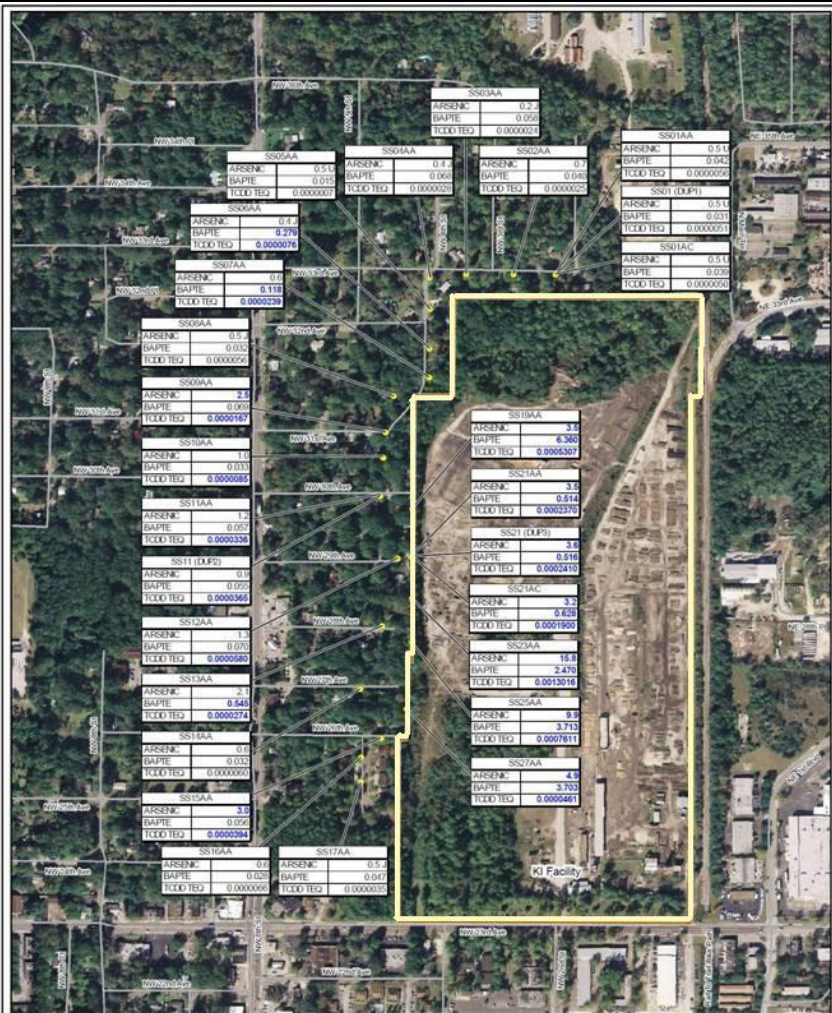
In 1984, Cabot-Koppers was designated a Federal Superfund Cleanup Site and placed on the National Priorities List (NPL).





No
Stormwater
Capture/
Detention





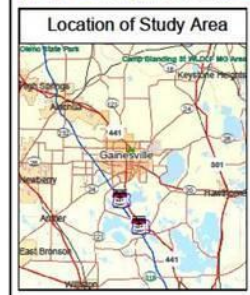
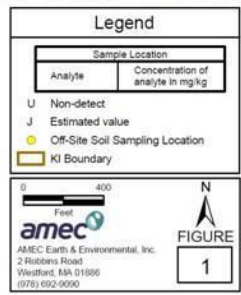
Off-Site Soil Sampling Results

Koppers, Inc. Facility
Gainesville, Florida

Beazer East, Inc.
Pittsburgh, Pennsylvania

Notes & Sources

Aerial Imagery source: <http://nlkios.atlacha.fl.us>, 2005.
Results in BLUE are above the residential direct exposure soil cleanup target levels of 2.1 mg/kg for ARSENIC, 0.1 mg/kg for BAPTE, and 0.000007 for TCDD TEQ. All soil samples collected from 0 to 6 inch below ground surface.



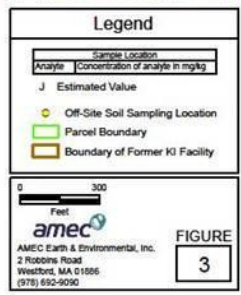
September 2010 Off-Site Sample Results to the South, East, and North

Cabot Carbon/Koppers Superfund Site
Gainesville, Florida

Beazer East, Inc.
Pittsburgh, Pennsylvania

Notes & Sources

Aerial Imagery source: <http://nlkios.atlacha.fl.us>, 2005.
All samples collected between 9/12/2010 and 9/14/2010 from 0 to 6 inch depth interval.





Off-Site Soil Sample Results

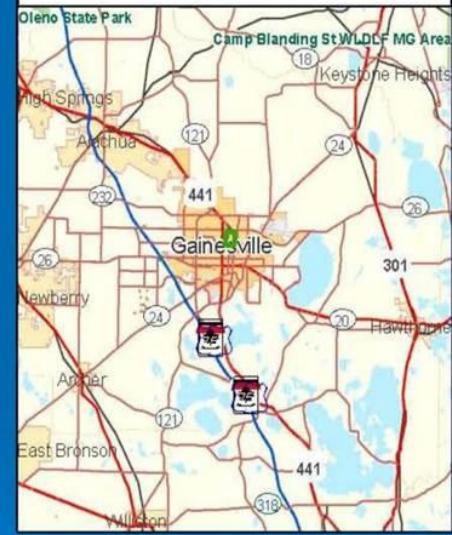
Cabot Carbon/Koppers
Superfund Site
Gainesville, Florida

Beazer East, Inc.
Pittsburgh, Pennsylvania

Notes & Sources

Aerial Imagery source: <http://nikos.alachua.fl.us>, 2005.
All soil samples collected from 0-0.5 ft below ground surface.

Location of Study Area



Legend

Sample Location	
Analyte	Concentration of analyte in mg/kg
U	Non-detect
J	Estimated value

- Existing Soil Sampling Location
- ▭ Parcel Boundary
- ▭ Boundary of Former KI Facility



Charlie Crist
Governor

John Henry Thomas, M.D.
Health Center

Ana M. Viamonte Ros, M.D., M.P.H.
State Surgeon General

Friday, May 15, 2009

TO:

RE: Cabot Carbon/Koppers Off-Site Soil Samples

The purpose of this letter is to notify you that the Health Department has reviewed the results of recent soil samples taken from the easement along the west border of the Koppers industrial site and in street rights-of-way approximately 100 feet west of the Koppers site. Levels of dioxins, arsenic, and benzo(a)pyrene in some surface soil samples tested are above the State residential standards.

While the preliminary test results do not indicate an immediate health hazard to area residents, the Health Department recommends the following precautions:

Children should avoid playing in the 15'-20' City of Gainesville easement just west of the Koppers facility western boundary fence between NW 26 Avenue and NW 30 Avenue. Children under the age of six are at a higher risk of exposure from incidental ingestion (swallowing).

Area residents should practice good general hygiene including hand washing with soap and water after contact with bare soil in the street rights-of-way within 100' west of the Koppers facility western boundary fence.

The US Environmental Protection Agency is the lead agency for environmental monitoring and clean-up of the Cabot/Koppers Superfund site and has indicated they will require the responsible parties to conduct additional sampling to further define the area and extent of contamination. The Health Department will continue to evaluate the health risks as more test data becomes available.

The Alachua County Health Department will continue to work with Alachua County, and the City of Gainesville to inform citizens about health risks associated with this issue. The three agencies will be working to schedule a public meeting in the near future.

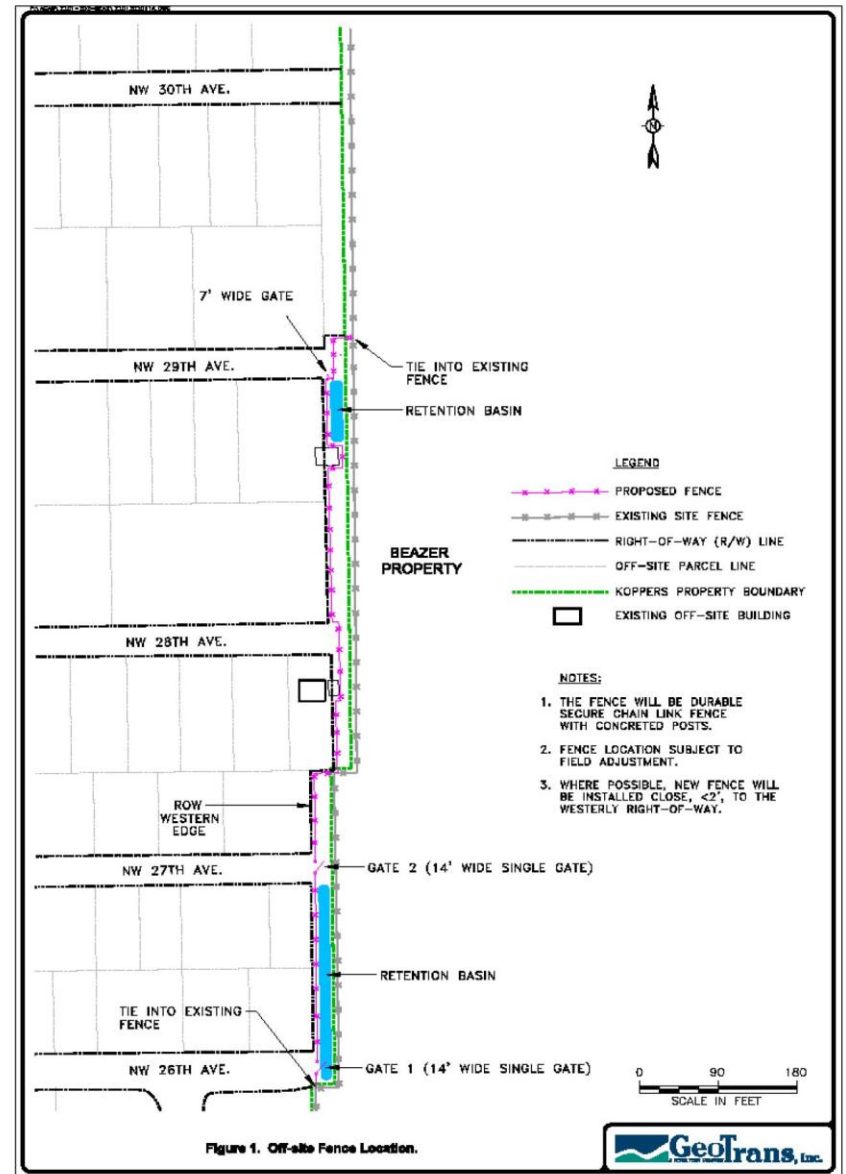
If you should have any questions concerning these findings, do not hesitate to call our office at 334-7930.

Anthony Dennis

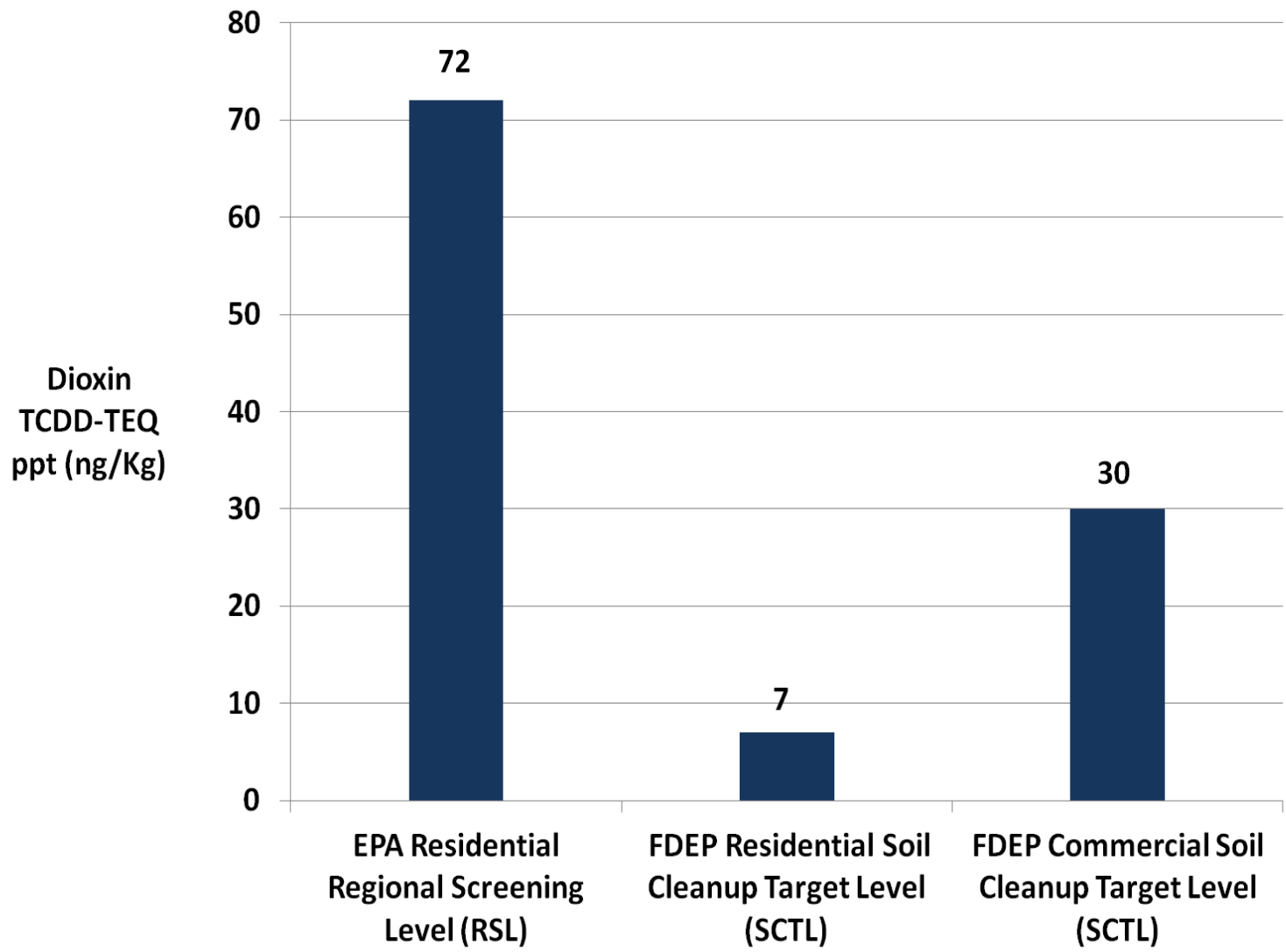
Environmental Health Director
Alachua County Health Department
Florida Department of Health

Alachua County Health Department • Environmental Health
224 SE 24th Street • Gainesville, FL 32641

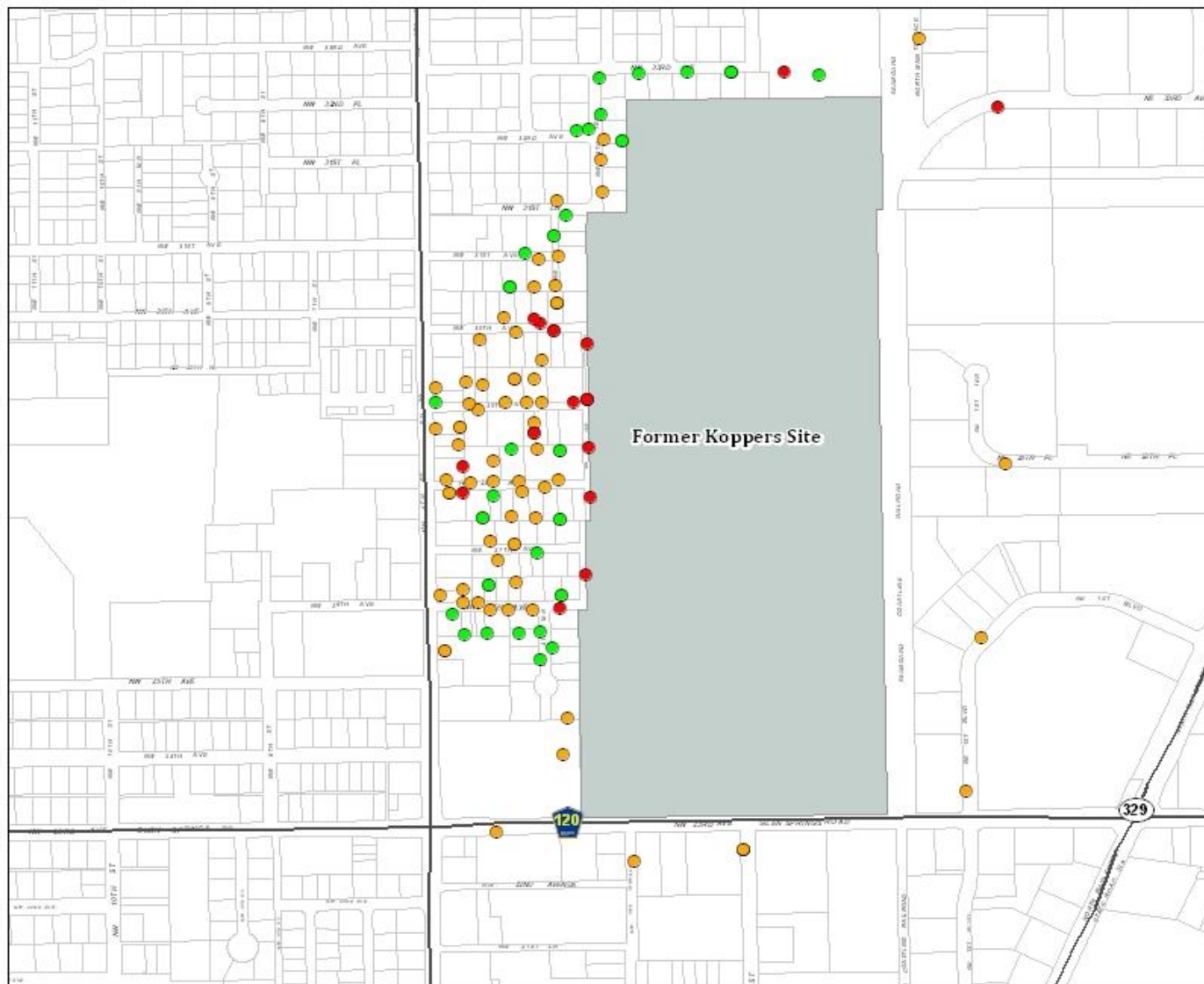
Figure 1. City of Gainesville Easement Fence



EPA Regional Screening Levels (RSLs)/FDEP Soil Cleanup Target Levels (SCTLs)



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



TCDD-TEQ ng/kg

- ≤ 7
- ≤ 30 and > 7
- > 30



0 450 900 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.

In 2010:

- Koppers sold back to Beazer East
- EPA issues Feasibility Study and Proposed Plan

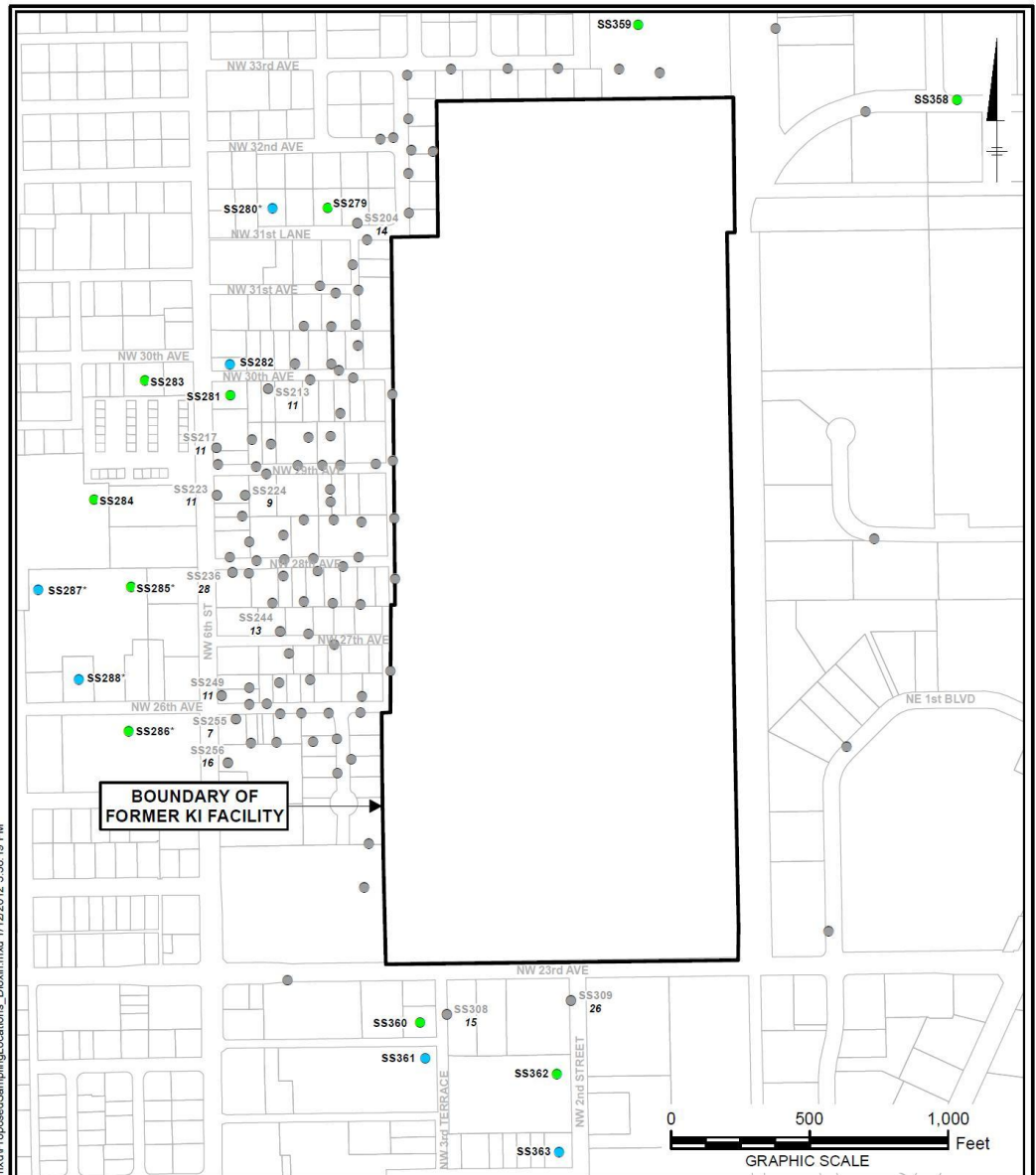
In 2011:

- EPA issues Record of Decision (ROD)
 - Off-site surface soils to be cleaned to Florida SCTLs

FDEP Soil Clean-up Target Levels (default)

<u>Component</u>	<u>Residential</u>	<u>Commercial/Industrial</u>
Arsenic	2.1 mg/Kg	12 mg/Kg
Benzo(a)pyrene (BAPTE)	0.1 mg/Kg	0.7 mg/Kg
Dioxin (TCDD-TEQ)	0.000007 mg/Kg 7 ppt	0.000030 mg/Kg 30 ppt

Recent Testing



C:\Syr\Div\Group_SED_Created By: K\SINSAUGAUGH_Last Saved By: japp
 BEAZER\GAINESVILLE (80039196_0002_00001)
 Q:\Beazer\Gainesville_FL\Office\Sampling\2011\mxd\ProposedSamplingLocations_Dioxin.mxd 11/22/2012 3:38:19 PM

- LEGEND:**
- EXISTING SOIL SAMPLE LOCATION
(CONCENTRATION AT THAT LOCATION
SHOWN IN ITALICS IN NG/KG)
 - PROPOSED DIOXIN/FURAN SAMPLE
 - PROPOSED CONTINGENT DIOXIN/FURAN SAMPLE

NOTE:

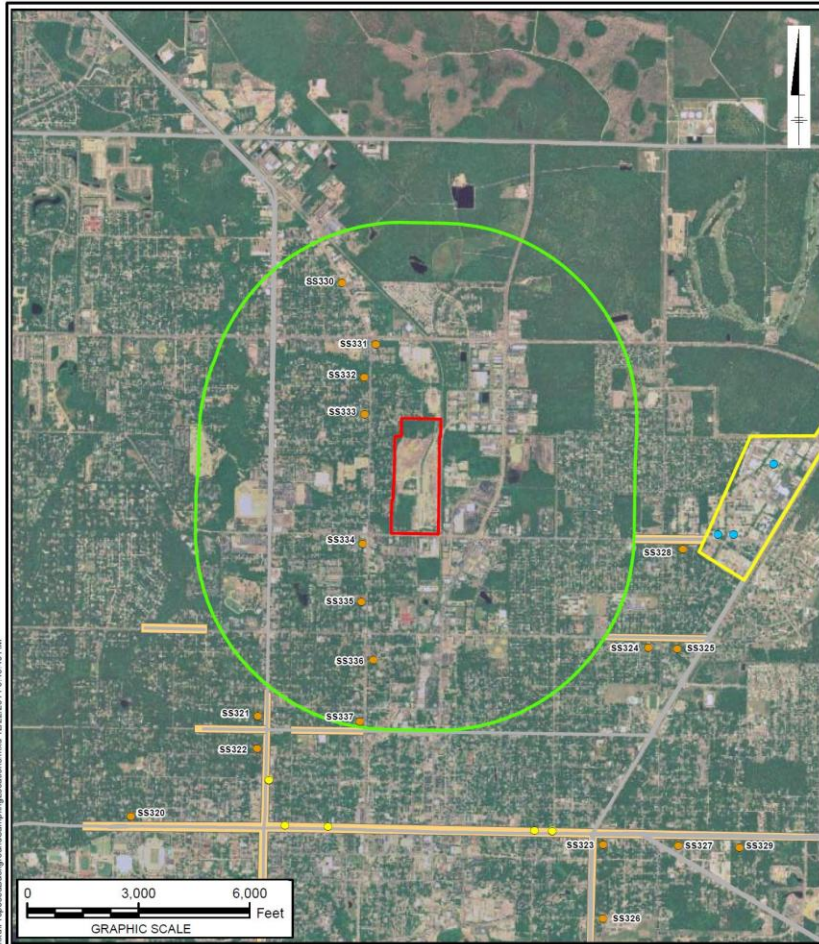
* AS OF 10 JANUARY 2012 ACCESS AGREEMENTS HAVE NOT BEEN RECEIVED FOR SS280 AND SS286 AND ACCESS TO SS285 HAS BEEN DENIED. ABSENT SIGNED ACCESS AGREEMENTS AT THE TIME OF SAMPLE COLLECTION, SS288 WILL BE COLLECTED IN LIEU OF SS286 AND NO SAMPLE WILL BE COLLECTED IN LIEU OF SS286. SS287 WILL BE COLLECTED IN LIEU OF SS285.

CABOT CARBON/KOPPERS SUPERFUND SITE
GAINESVILLE, FL

OFF-SITE SAMPLING - 2012
ADDITIONAL PROPOSED
SAMPLING LOCATIONS:
DIOXINS/FURANS




Tests for Background Levels of Contaminants



- LEGEND:**
- 2010 BACKGROUND INDUSTRIAL SOIL SAMPLE LOCATION
 - 2010 BACKGROUND BUSY STREET SOIL SAMPLE LOCATION
 - ▭ PROPERTY BOUNDARY
 - ▭ PROPOSED RESIDENTIAL BUSY STREET BACKGROUND SAMPLING AREA
 - ▭ PROPOSED INDUSTRIAL BACKGROUND SAMPLING AREA
 - ONE MILE SITE RADIUS
 - PROPOSED BUSY STREET BACKGROUND SAMPLE
 - BUSY STREET

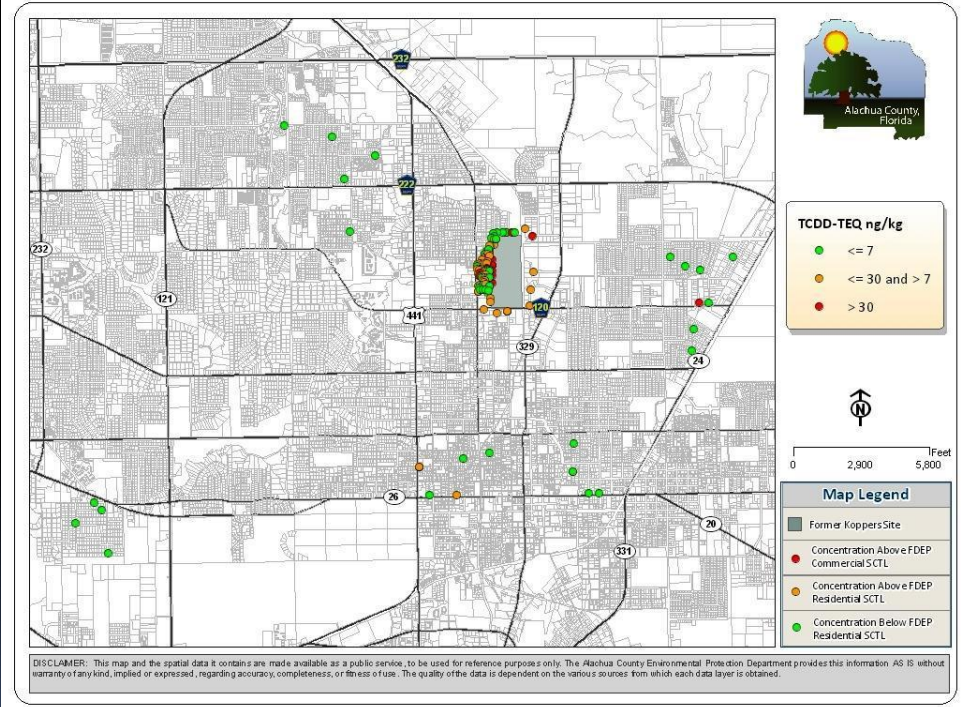
CABOT CARBON/KOPPERS SUPERFUND SITE
GAINESVILLE, FL

OFF-SITE SAMPLING - 2012
PROPOSED BUSY STREET
BACKGROUND SAMPLING
LOCATIONS

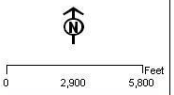
 **FIGURE 4**

City_SVR DivGroup_SED_Created By_K.SINSAUBAUGH_Last Saved By_fmpj AZERC GAINESVILLE (6009198.0002.0000) 05/11/2011 10:53:00 AM \\s01\GIS\Projects\BackgroundSamplingLocations.mxd 12/22/2011 9:48:40 AM

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



- TCDD-TEQ ng/kg**
- <= 7
 - <= 30 and > 7
 - > 30

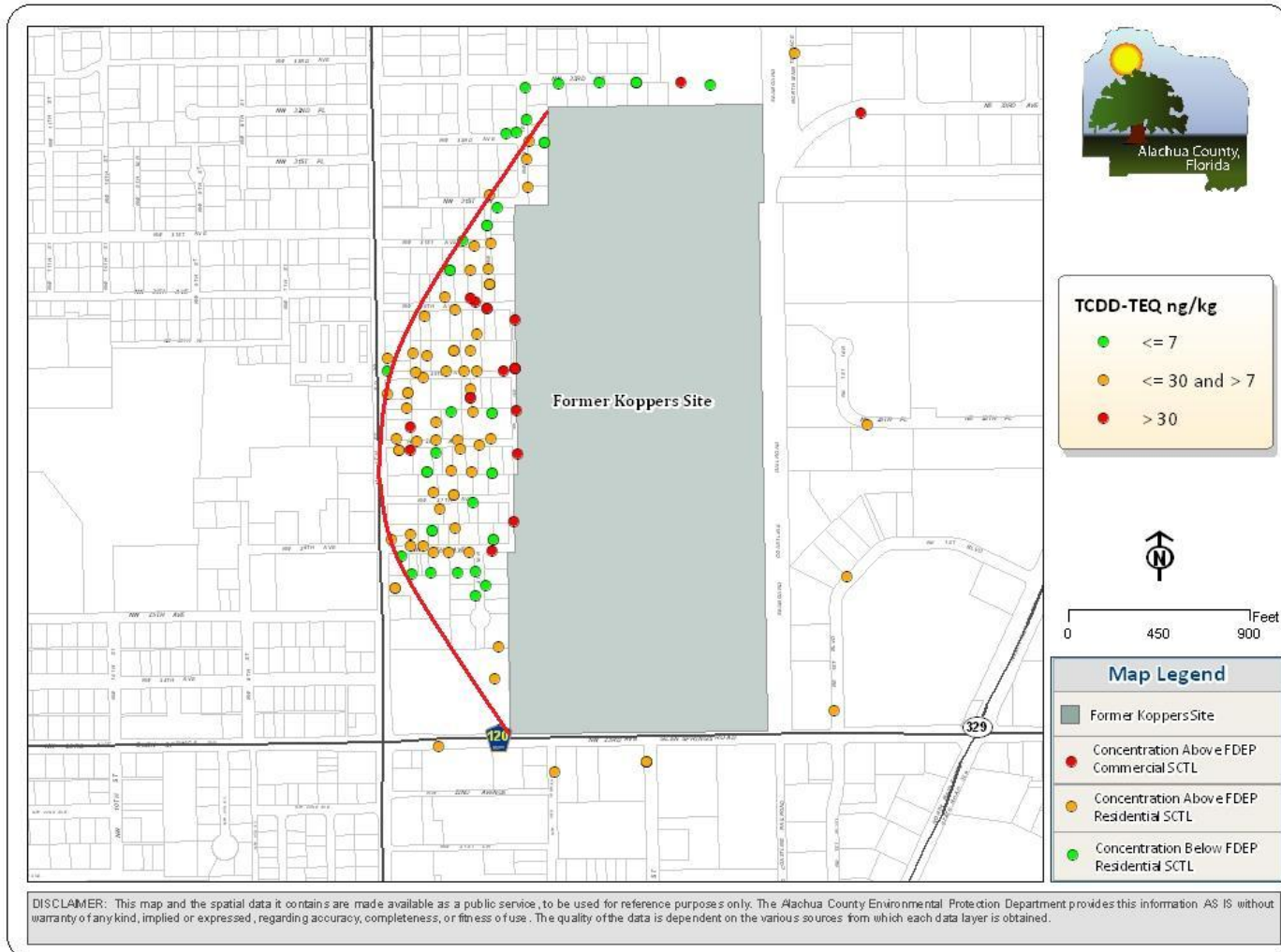


- Map Legend**
- ▭ Former Koppers Site
 - Concentration Above FDEP Commercial SCTL
 - Concentration Above FDEP Residential SCTL
 - Concentration Below FDEP Residential SCTL

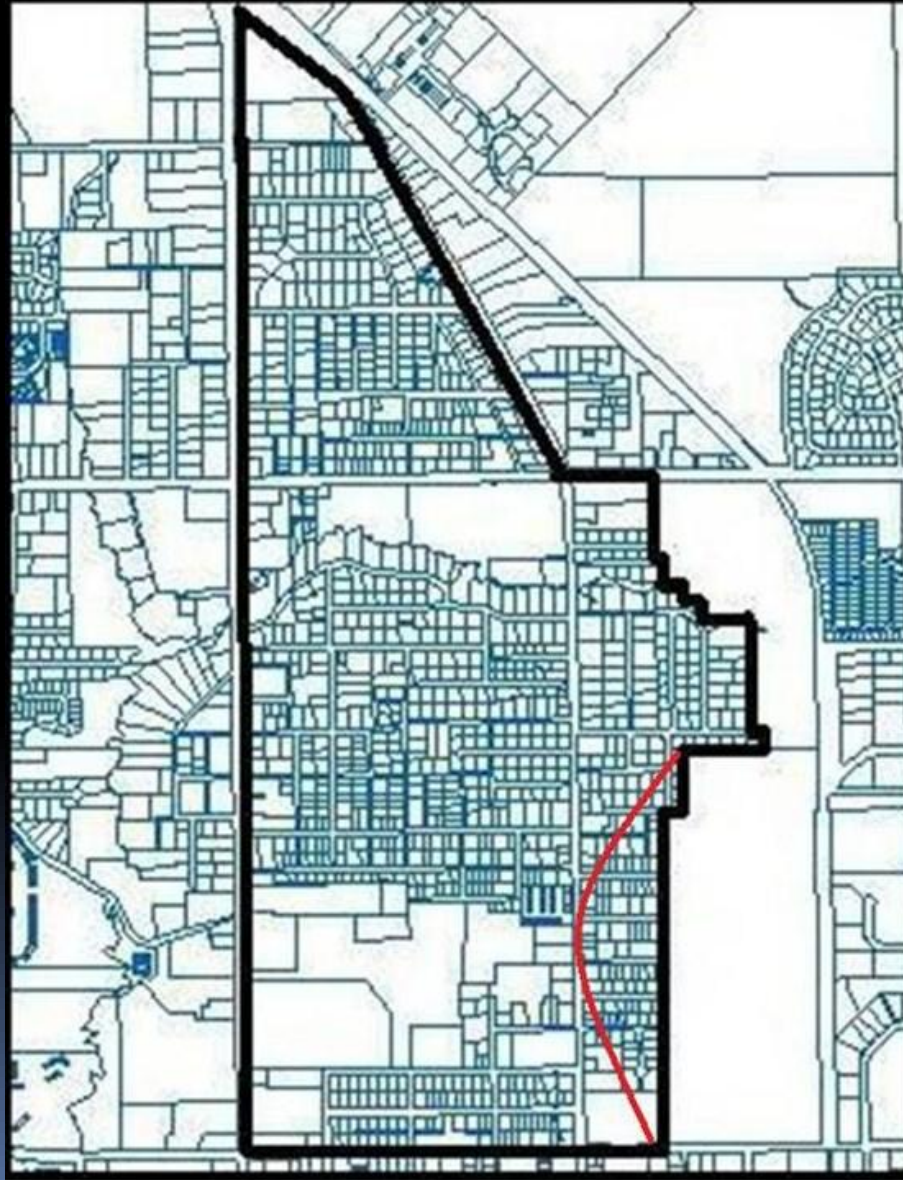
DISCLAIMER: This map and the spatial data it contains are made available as a public service, to be used for reference purposes only. The Alachua County Environmental Protection Department provides this information AS IS without warranty of any kind, implied or expressed, regarding accuracy, completeness,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

Estimated Line of Delineation Based Upon Test Results to Date

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



The Stephen Foster Neighborhood



Florida Department of Health/ Alachua County Health Department:

All measured levels of dioxin
in the soils of the 3 schools
nearest the site are below
Florida Residential SCTL



Rick Scott
Governor

February 10, 2011

Mr. Paul Collins
Environmental Safety Officer
Alachua County Public Schools
Facilities Department
3700 NE 53rd Avenue
Gainesville, Florida 32609

Review of Soil Sample Results Taken at Three Alachua County Schools:

Stephen Foster Elementary
Howard Bishop Middle School
Sidney Lanier Center

All of the measured levels of dioxin toxicity equivalence (TCDD-TEQ) in the school soils were found to be below the Florida Residential Soil Cleanup Target Level (SCTL).

The highest measured level of benzo[a]pyrene toxicity equivalence (BaP-TEQ) in the school soil is not likely to harm children. For adults, incidental ingestion (swallowing) of small amounts of soil with the highest BaP-TEQ concentration over a lifetime (70 years) could result in a "very low" theoretical risk of cancer. This cancer estimate uses the highest measured soil concentration, higher end estimate of incidental soil ingestion, and the upper range of the cancer potency. Thus, this is the highest estimated increased cancer risk. The actual increased cancer risk is likely lower and may be as low as zero. BaP-TEQ levels in three soil samples are, however, above the SCTL state standards and steps should be taken to minimize this already low exposure.

The fact that soil sample SL-3 is adjacent to a road and the BaP-TEQ concentration is almost 100 times the others, suggests that asphalt may be the source. Polycyclic aromatic hydrocarbons, including BaP-TEQ are commonly found in asphalt. The BaP-TEQ concentrations at the three schools are consistent with other data collected in control or background measurements.

Do not hesitate to contact me should you have any questions.

Sincerely,

Anthony Dennis

Environmental Health Director
Alachua County Health Department
Florida Department of Health

Alachua County Health Department
John Henry Thomas, M.D. Health Center
224 SE 24th Street • Gainesville, FL 32641

Florida Department of Health/ Division of Environmental Health:

- Cancer study did not show increased rates for any of the 18 cancers most closely related to dioxins/ furans, PAH's or arsenic
- Some cancers occurred at less than expected rates
- Addendum incorporating 2010 census data due in March



STEPHEN FOSTER NEIGHBORHOOD CANCER REVIEW ALACHUA COUNTY

June 2011

Florida Department of Health
Division of Environmental Health
Bureau of Environmental Public Health Medicine



Consent Decree Imminent

Remedial Design/Work Plan expected to be completed within 60 days thereafter

Off-Site surface soil cleanup can begin following notice to proceed from EPA

Includes:

- Private properties
- City rights-of-way
- Landscaped area between front property lines and the street edge

Each affected property owner will be contacted by Beazer East to discuss possible approaches

Property Owner Options (Koppers ROD pp. 129-131)

- Removal of contaminated soils, and/or
- Institutional and engineering controls, or
- Decline all remediation

Removal of soils

- Excavate about 6" of surface soil /vegetation
- Large trees to be preserved
- Stringent dust control to be implemented

Topsoil, lawns, and small plants are to be replaced

Record of Decision deemed Site does not meet EPA
criteria for permanent relocation

(1658_USEPA Relocation Guidance at Superfund Sites
June 2009 referenced in Koppers ROD 2-17-2011)

Temporary relocation of affected residents will be
provided during remedial process

Remediation of each street expected to take 7-10 days

What We Don't Want:

- Uninformed/misinformed property owners left to fend for themselves in their re-landscaping negotiations with Beazer East /likely less-than-optimal results
- Property owners to choose to opt out of remediation/ patchwork cleanup
- Disappointing re-landscaping outcome in the city rights-of-way along neighborhood streets

What We Do Want:

- Residents to be accurately informed about the levels and extent of contamination, remediation process, outcome
- Residents to be well-informed regarding the variety of re-landscaping options that might be available to them
- To explore every possibility of supplementing/enhancing the bare-bones minimum re-landscaping requirements
- Make remediation most attractive option/high resident buy-in
- The finest end-result possible

Potential Governmental, Institutional, Private Resources

- Alachua County Environmental Protection Department
- Florida Department of Environmental Protection
- Local Intergovernmental Team
- City Manager's Office
- Community Development Department
- City Arborist
- Parks and Recreation Department
- Public Works
- GRU
- UF Landscape Architecture Department
- Alachua County Agricultural Extension Office/IFAS
- Stephen Foster Neighborhood Association
- Protect Gainesville's Citizens
- CRA
- EPA Jobs Program

We request that the Gainesville City Commission, as an integrated endeavor with EPA and Beazer East, assign the appropriate staff necessary to organize and coordinate all of the relevant governmental and institutional agencies and departments, businesses, and private individuals that could contribute toward bringing about a superior off-site surface soils remediation process in the Stephen Foster Neighborhood.

End/

Supplemental Slides

Dioxin Levels in the Stephen Foster Neighborhood



Stormwater
Runoff to
Springstead
Creek
Prior to
Detention
Basin
Installation



New
Stormwater
Detention
Basins, Berms,
Silt Fencing







RECORD OF DECISION
SUMMARY OF REMEDIAL ALTERNATIVE SELECTION
CABOT CARBON/KOPPERS SUPERFUND SITE
GAINESVILLE, ALACHUA COUNTY, FLORIDA
PREPARED BY:
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA, GEORGIA
FEBRUARY 2011

(Excerpt pp. 129-131)

11.0 Selected Remedy

11.2.3 Off-Site Remedies

11.2.3.1 Remedial Strategy for Soil. At many sampling locations investigated to date, constituent soil concentrations are below cleanup goals. At other sampling locations, one or more contaminants exceed cleanup goals and further delineation is being undertaken.

Once the areas with concentrations exceeding cleanup goals are delineated, each affected private property owner will be contacted to discuss possible approaches to address the soil impacts on the private property. The private property owner may decline to allow remediation of soils. In general, two options exist: removal or institutional and engineering controls.

11.2.3.2 [not applicable/relates to sediments]

11.2.3.3 Removal Details for Soil. If the property owner is willing, then the surface soil requiring remediation would be permanently removed. Removal is disruptive of residential lives and privacy during implementation, but it is a one-time action that permanently eliminates the potential risk associated with potential off-Site exposure to the removed soil and does not require continual long-term maintenance. Such an excavation from residential areas will require a high level of attention to detail and care to minimize spread of impacted soil and to mitigate risks associated with the presence of large trucks and heavy equipment in a residential neighborhood. In addition, stringent dust control will be implemented. The exact soil area and depth to be excavated will depend on the results of the ongoing delineation activities.

Excavated soil will be transported to the on-Site consolidation area or may be disposed of off-Site. Access between the facility property and the residential areas immediately west should be easy given the proximity.

Residential yards (and any other properties) will be restored after soil is removed. Excavated areas in residential yards will be backfilled with clean borrow soil, graded for proper surface drainage patterns, and topped with clean top soil. Lawns and small plants will be replaced, and effort will be made to preserve large trees. Transporting clean fill soil back to the residential areas and restoring the excavation zones is likely to cause additional disruption and dust generation and will result in increased risks due to the presence of large trucks and heavy equipment in a residential setting. To the extent practicable, the restoration process will progress with minimal dust generation or disruption to local residents, and will end with reseeded and final grading, as necessary.

11.2.3.4 Institutional and Engineering Controls. The components of this remedy are (1) institutional controls designed to prevent people from using or disturbing soil posing potentially unacceptable risk and (2) engineering controls to prevent receptors from potentially contacting affected soil. Institutional controls would be implemented administratively through deed restrictions and other legal processes. Engineering controls envisioned for the affected residential soil would consist of simple technologies (e.g., soil cover, fencing, and/or other simple barriers to exposure).

Engineering controls such as soil covers and fences would require ongoing maintenance. Institutional controls and engineering controls require agreement from the property owner.

STEPHEN FOSTER NEIGHBORHOOD CANCER REVIEW

ALACHUA COUNTY

June 2011

Florida Department of Health

Division of Environmental Health

Bureau of Environmental Public Health Medicine

Executive Summary:

.....

As the site has been active since the early 1900s, and assuming that exposure to the community was occurring from the beginning of site activity, related cancers could theoretically have appeared during 1920-1980 which is in the years prior to cancer incidence data being routinely available (prior to 1981). Nevertheless, few environmental regulatory safeguards were in effect even in the 1950s and 1960s.

Since cancer latency often is 20 or more years, one could expect that cancer cases related to these time periods would appear in the 1980s (when cancer data are available).

The finding of no excess rates within 18 cancer types, particularly in the earlier years of analyses (closest to time period of assumed greater exposures) provides evidence for limited exposures to dioxins/furans, arsenic and PAHs to the community.

.....

Conclusions:

In conclusion, no increases in rates for 18 types of cancers were seen for the Stephen Foster neighborhood (census tract 3, Alachua County) for five year periods encompassing 1981-2000. The finding of no increases, particularly in the early period of analysis (1980s) which would reflect 20 to 30 years of latency past the higher community exposures to contaminants possible in the 1950s and 1960s suggests that any exposures in this community have not been great enough to cause increased cancer rates.

1658_USEPA Relocation Guidance at Superfund Sites June 2009 referenced in Koppers ROD 2-17-2011

The following list, although not inclusive, provides examples of the types of situations where permanent relocation may be considered. Generally, the primary reasons for conducting a permanent relocation would be to address an immediate risk to human health (where an engineering solution is not readily available) or where the structures (e.g., homes or businesses) are an impediment to implementing a protective cleanup. The examples are discussed in terms of how EPA could conduct an alternatives analysis applying several of the NCP nine criteria, leading to the consideration of permanent relocation as an appropriate option.

- Permanent relocation may be considered in situations where EPA has determined that structures must be destroyed because they physically block or otherwise interfere with a cleanup and methods for lifting or moving the structures safely, or conducting cleanup around the structures are not implementable from an engineering perspective. The methods may be technically infeasible because they are too difficult to undertake or success may be too uncertain. Additionally, these methods may prove not to be cost-effective when compared with other alternatives that are protective of human health and the environment.

- Permanent relocation may be considered when an alternative under evaluation includes a temporary relocation expected to last longer than one year. A lengthy temporary relocation may not be acceptable to the community. Further, when viewed in light of the balancing of tradeoffs between alternatives, the temporary relocation remedy may not be practicable, nor meet the statutory requirement to be cost-effective. Additionally, a shortage of available long-term rentals within the immediate area, may make any potential temporary relocation extremely difficult to implement.

Conclusion

Permanent relocation is a complicated process that can cause personal and social disruption and stress. It is EPA's preferred approach to address the risks posed by the contamination by using well-designed methods of cleanup so people can remain safely in their homes and businesses. Therefore, permanent relocation as part of a Superfund response action generally should not be necessary to protect human health and the environment. However, as indicated above, there are limited cases where permanent relocation may be an important part of a remedial action. Regardless of the remedy selected, EPA should continue to: involve the community as early as possible in the Superfund process; partner with the local, state, and tribal governments; and make every effort to implement the action in an expeditious, thoughtful, and fair manner.