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Gainesville/Alachua County

Local Intergovernmental Team

Comments and Recommendations on USEPA Superfund Proposed Plan Cabot Carbon/Koppers Superfund Site, Gainesville, Alachua County, Florida (July 2010)

By

City of Gainesville
Gainesville Regional Utilities
Alachua County

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DRAFT

Table of Contents

DRAFT

1.0 GROUNDWATER & SUBSURFACE REMEDY

INTRODUCTION

The nature and extent of contamination and the geology of the Koppers site will make successful remediation of the site challenging. Creosote Dense Non-Aqueous Phase Liquid (DNAPL) has been recovered from wells in the Surficial Aquifer and Upper Hawthorn Group (UHG) and, based on multiple lines of evidence, has penetrated the Lower Hawthorn Group (LHG) and the Upper Floridan Aquifer (UFA). Given the high polyaromatic hydrocarbon (PAH) concentrations in groundwater, DNAPL also appears to have migrated laterally offsite to the east in the UHG. Much of this DNAPL likely continues to be mobile, and unless removed or immobilized, will slowly continue to migrate vertically and horizontally, causing increasing groundwater contamination. Of particular concern is that further contamination of the UFA will pose a material threat to the Murphree wellfield.

Dissolved-phase plumes of PAHs exist in the Surficial, UHG and LHG strata and in the UFA, and likely extend off-site in all formations. Beazer has constructed a relatively detailed UFA monitoring network at the site. Most of the UFA monitoring wells indicate PAH concentrations below cleanup standards. However, there are regions in the interior of the site (i.e., identified by FW-6, FW20B, FW-12B and FW-21B) where PAH concentrations are well above cleanup standards; these zones will likely continue to expand without appropriate treatment. Of particular concern are two locations (FW-22B and FW-16B) at the periphery of the site and a third location, FW-12B, in the interior of the site where contamination increases with depth. The fact that PAH contamination in the UFA has reached these boundary wells is a clear indication that off-site migration of contaminants is occurring in the UFA – and in the case of FW-16B - has been occurring for some time. Hydraulic containment has been initiated as an interim action in the area of FW-22B, however actions have not yet been undertaken at FW-16B, or in the interior of the site.

Treatment or removal of contaminants to reduce downward migration of DNAPL and mass flux of dissolved contamination are important in reducing the amount of contamination reaching the UFA. However, it will not be possible to treat all of the DNAPL, particularly within the LHG. Therefore, hydraulic containment in the UFA is essential in order to protect the Floridan Aquifer and community's water supply.

Although Remedial Action Objectives are described generally in the USEPA Proposed Plan (p. 12), we strongly believe that specific priority goals (related to groundwater) can, and should, be stated in the remedial plan in the upcoming ROD (Record of Decision) and should include the following:

a) Contain the contamination in the UFA using hydraulic containment

(1) Reduce interior contaminant plumes by groundwater extraction within the UFA at rates sufficient to contain them (our preliminary estimates indicates flow rates of at least 100 gpm will be required to do this); and
(2) Prevent off-site migration of contaminants at all locations including FW-22B and FW-16B.

b) Remove or immobilize creosote to the fullest extent possible in the UHG, LHG and Surficial Aquifer in order to:
(1) reduce vertical and horizontal migration of creosote DNAPL, and
(2) reduce dissolution and mass flux of contaminants into LHG and UFA groundwaters.

c) Contain Surficial Aquifer and UHG contamination by using hydraulic containment and slurry walls to minimize migration of contaminants.

COMMENTS AND RECOMMENDATIONS

The proposed plan does include, generally, elements intended to address each of the primary goals summarized above. We request that the upcoming ROD explicitly include these elements in relation to the Koppers site. We have the following comments and recommendations regarding the groundwater related elements of the Proposed Plan:

1. **Hydraulic containment in the Floridan Aquifer must be more robust and effective. The ROD should contain specific criteria that, when exceeded, will trigger additional remedial actions in the Floridan Aquifer.**

The plan appropriately requires hydraulic containment in areas where contaminants exceed federal MCLs and Florida GCTLs outside of source areas. It also requires construction of additional extraction wells as necessary. The plan includes on-going monitoring in areas where constituents do not exceed cleanup goals. We support these provisions.

As we understand it, based on these provisions, hydraulic containment should be initiated to address UFA contamination in the interior of the site (as indicated by FW-12B), as well as at the eastern border (FW-16B).

In addition to these provisions, we request that the ROD require a contingency plan to be implemented in areas where there is a definable increasing trend in constituents of concern (COCs), even if cleanup goals have not been exceeded.

The installation of extraction well FW-31BE is an essential element in containing the Floridan contamination because migration off site in this area is occurring now. This well is intended to address contamination leaving the site in the northwest region of the site around well FW-22B. Additional monitoring wells are needed off-site to characterize the extent of off-site contamination at that location, and to ensure FW-31BE is adequately containing it.

Additional hydraulic containment will also be necessary to address Floridan Aquifer contamination at other locations on the site. This conclusion is based on:

a) The results of the low rate pumping Interim Remedial Measure (IRM) at FW-6 and FW-20B (received August 3, 2010) indicate no significant improvement from the low rate pumping and no evidence that annular casing seepage is the cause of UFA contamination;

b) Very high concentrations of naphthalene persist at several interior wells. Of particular concern is FW-12B which shows higher concentrations with depth; and

c) Concentrations persist above GCTLs at boundary well FW-16B.

The analytical results from the most recently installed on-site Floridan monitoring wells (FW-27B, FW-28B and FW-30B) should provide further information on the extent of contamination in the UFA.

2. The Groundwater Contamination section of the Proposed Plan misstates the degree of contamination in the Floridan Aquifer. The ROD should more accurately describe site conditions.

The most important objective of the groundwater/subsurface remedy is to contain and clean up contamination in the UFA. However, the Groundwater Contamination section of the Proposed Plan makes several incorrect statements, and vastly misrepresents the continuing contamination of the UFA. For example: (a) it makes no mention of the off-site contamination identified by monitoring locations FW-22B and FW-16B at the site boundary, and (b) the discussion regarding the groundwater contamination in the UFA is inaccurate and incomplete (Conceptual Site Model and Groundwater Contaminations sections, p. 8 through 11). The Conceptual Site Model (Figure 3, p. 9) shows no contamination in the UFA or contaminant migration pathways through the LHG.

The Proposed plan (p. 11) refers to a single monitoring well near the former north lagoon which exceeded GCTLs but in which naphthalene concentrations "have decreased substantially since July 2004". This is incorrect; the statement can only refer to FW-6 because only that well existed in the Upper Floridan on the July 2004 date mentioned. Naphthalene concentrations in the well (FW-6) did decline between July 2004 and January 2008. However, since that time

concentrations have fluctuated dramatically. August 2009 data were the highest yet measured (i.e., 2600 ppb naphthalene. More recent data have varied between approximately 600 and 1,300 ppb. At a minimum, the Conceptual Site Model and Groundwater Contamination descriptions in the ROD should acknowledge:

- Likely off-site migration of COCs in the SA;
- Apparent off-site migration of DNAPL to the east in the UHG;
- PAH concentrations at FW-6 have fluctuated, but not shown a decreasing trend in FW-6 since its installation in 2004;
- PAH Concentrations in other interior wells (i.e. FW-21B & FW-12B) in excess of GCTLs, with FW-12B showing increasing PAH levels with depth;
- PAH concentrations exceeding GCTLs at boundary wells FW-22B and FW-16B; and
- COC's have been detected at levels below COCs at several other boundary wells.

EPA's statement in the Proposed Plan gives the impression that contamination in the Floridan at the North Lagoon is of minimal concern, and that minimal or no action is needed to contain it. We request that EPA review this section of the Proposed Plan closely and that the description of the Groundwater Contamination contained in the ROD better reflect actual site conditions. Also, we are submitting comments to Beazer's draft report on the Floridan IRM that EPA should consider when evaluating contamination in the Upper Floridan.

3. Financial assurance should be provided for the final remedy selected, including on-going operation of Floridan Aquifer containment

The site will likely require containment of the Floridan Aquifer plumes via pump and treat for an extended period of time (i.e. decades). Beazer should be required to provide a form of financial assurance to ensure that sufficient funds will be dedicated to completion of the final remedy, including the continued operation of the Floridan Aquifer Containment system.

4. The ROD should include expansion of the Floridan Aquifer monitoring network to further delineate off-site and on-site plumes.

Beazer has installed an extensive UFA monitoring well network at the Koppers site. However, as described above, additional wells are needed off-site adjacent to FW-22B (and FW-31BE) to the northwest and FW-16B to the east. Depending on the results from the newly installed wells (FW-27B, FW- 30B) additional wells may be required on-site.

5. **We support the use of In-Situ Solidification/Stabilization (ISS/S) in the UHG source areas. However, we do not support ISBS in the Surficial Aquifer (SA) or UHG source areas. We recommend either excavation of the impacted soils in the SA in conjunction with ISS/S in the UHG, or use of ISS/S for both the SA and UHG source areas.**

The need to remove or immobilize DNAPL to the fullest extent possible in the UHG and LHG (in addition to the surficial aquifer) is a primary concern to the LIT, and was emphasized in our responses to the August 2009 Draft Feasibility Study. The goal of this treatment is to reduce vertical and horizontal mass flux of DNAPL and dissolved phase constituents, with vertical mass flux being the most critical component. The proposed plan includes treatment of source areas using ISS/S in the UHG, and ISBS in the SA. As we understand it Beazer has proposed an approach utilizing ISBS in the UHG in combination with ISS/S or ISBS in the SA.

We believe that EPA's proposal to use ISS/S for the UHG is appropriate. ISS/S is a comparatively well-proven technology, although the depths and the clay layers present in the UHG at the site are likely to make implementation of any technology challenging. ISS/S provides the best technical approach for effectively treating the UHG source areas.

For the Surficial Aquifer source areas, our first preference would be to remove and dispose off-site all DNAPL impacted sediments from the SA, with ISS/S in the UHG. However, it is the opinion of our technical team that the use of ISS/S in the SA, concurrently with ISS/S in the UHG, would provide a similar level of protection and reliability with regard to groundwater protection.

We do not support the use of ISBS to treat SA or UHG source areas. In our previous correspondence (*GRU & ACEPD Proposed Performance Metrics for ISGS, May 10, 2010*) we expressed concern about the effectiveness of ISBS. Upon further review we feel that ISBS is not appropriate for application in the SA or UHG source areas at the Koppers Gainesville site for the following reasons:

a) **ISBS is not a proven technology (in contrast to ISS/S which is well-proven).** There is very little information in the peer-reviewed literature to indicate that ISBS has been successfully applied at any site, and certainly not on the scale proposed at the Koppers Site. The application of ISBS technology reported for the Denver Koppers site used soil boring data to make conclusive statements about the treatability of a heterogeneous NAPL impacted zone. Results from these data were mixed and no attempt was made to quantify changes in mass loading. Using a similar technology, Thomson reported a material decrease in mass discharge and/or total plume mass during monitoring performed 1 and 2 years post-treatment; however, 4 years after treatment, mass discharge and total plume mass for all monitored

compounds rebounded to pre-treatment values. (Thomson et al., 2008).

b) **Delivery of the ISBS reagent to contaminants under the conditions at the Koppers Gainesville site will be very difficult.** Delivery of the ISBS reagent to the surface of the creosote mass is critical. Beazer's hypothesis is that the ISBS will follow the same high conductivity features as the creosote DNAPL did. However, this phenomenon is likely to be limited by factors including:

(1) DNAPL itself is likely blocking at least some of the pathways through which the DNAPL migrated (ISBS solution will not displace creosote DNAPL);

(2) ISBS will preferentially flow to highest conductivity pathways that are not blocked by DNAPL, and will have limited contact with creosote that has migrated into more moderate conductivity pathways or pathways which are blocked or partially blocked by DNAPL. Creosote DNAPL likely has migrated into moderate conductivity as well as high conductivity features because it has had 50 or more years under varying hydrologic conditions to do so; and

(3) Much of the DNAPL mass is likely interconnected, which provides the mechanism by which DNAPL can continue to migrate. Even if the ISBS reagent is successful in contacting the outside surface of the DNAPL mass, this may not prevent DNAPL from continuing to migrate within the interior of the interconnected DNAPL mass. As you are aware, we disagree with Beazer's conclusion that DNAPL within the UHG and LHG exists primarily as disconnected deposits.

Adequate distribution of the ISBS reagent was not obtained in the field pilot study at the Koppers Gainesville site.

c) **At this time there is no reliable way to determine if treatment goals are being achieved with ISBS.** The treatment goals are to reduce the vertical and horizontal mass flux of DNAPL and dissolved phase constituents. Determination of the effectiveness of ISBS treatment in meeting these goals will require comparison of pre- and post-treatment flux measurements. Technologies exist to measure horizontal mass flux, however to date no method has been proposed to reliably measure vertical mass flux, which is the most critical parameter. Horizontal mass flux is not an adequate indicator of vertical mass flux since the transport pathways are different. The ability of core data to assess performance of ISBS is limited because cores represent a limited snapshot of subsurface conditions, which are

likely to be highly heterogeneous due to heterogeneities in the geology, DNAPL architecture and ISBS solution distribution.

One method for measuring vertical mass flux which was discussed is to estimate mass flux into the UFA based on UFA extraction system data. This will require full containment of the UFA source area plumes, which we feel is necessary as part of the site remedy. On-going measurement of the mass flux to the UFA, over the long term, will be very valuable in assessing the success of the overall site remedy. However, it will take many years for UFA COC trends to respond to treatments in the SA and UHG. It would take too long to know whether the ISBS application was effective.

d) **It would take several years to determine if a pilot study of ISBS was successful.** If EPA were to select ISBS as a remedy in the SA or UHG, it would need to be pilot tested. Even if EPA assumes that a reliable method could be devised to measure downward flux in the pilot study, it would take several years of monitoring the pilot test area before it could be determined if the remedy was successful in the pilot. As described above, in research performed by Thomson et al (2008) at the Borden site, which was under much more controlled conditions with more homogeneous geology, it took 4 years for the system to re-establish equilibrium after treatment. Having to wait 4 or more years for completion of a pilot study before full-scale implementation of a remedy to address DNAPL is highly objectionable to our community.

In contrast to ISBS, ISS/S is not plagued with the issues described above. It is a well-proven technology which has been used at multiple sites. Since it involves mechanical mixing of soils, distribution of the solidification agents is much less of an issue. In addition, cores of the solidified material can be collected and tested using standardized techniques, and will provide definitive indication of the mass flux and the success of the treatment. It will still be necessary to measure mass fluxes in-situ to the extent practical in order to help assess the effectiveness of the ensemble of treatments; however, we would not be relying solely on this measurement to determine if the DNAPL source treatment was successfully implemented.

As we understand it EPA's basis for proposing ISBS in the SA in conjunction with ISS/S in the UHG is that the ISS/S in the UHG will provide a "floor", so that even if the ISBS in the SA is only partially successful, downward flux through the UHG will be limited. This concept has some technical merit. However, to be effective this ISS/S floor will have to be implemented over an area extending well beyond the UHG source zones to ensure that DNAPL from the SA does not migrate downward. The disturbance of the SA soils due to the augering during ISS/S will change the characteristics of the SA. Therefore, a pilot study would have to be carried out demonstrating the proposed ISS/S and ISBS treatment combination.

As described above it is uncertain if the effectiveness of ISBS could be adequately assessed, and it would take years to complete this study.

Since ISS/S in the UHG will require auguring through the SA source area, we believe it makes the most sense to apply ISS/S in the SA at the same time that it is applied in the UHG (per Alternative OnR-5F). Although EPA's cost estimate for the proposed plan ($65 million) indicates a cost savings as compared to Alternative OnR-5F, in reality we feel there would little or any cost advantage of the proposed remedy compared to use of ISS/S in both the SA & UHG (Alternative OnR-5F), particularly in light of the considerable risk that ISBS will not be successful, and the likelihood of unforeseen complications with this remedy. Given the length of time the community has waited for a final remedy for the site, it is important that the final remedy be as robust as possible and the need to minimize the need for future remedial actions.

6. We support the Slurry Wall and cap components of the Proposed Remedy. However, the ROD should also address UHG source areas east of the property boundary that are outside the slurry wall shown in the Proposed Plan.

Slurry walls are a well demonstrated technology for the purposes they are designed for. We believe the slurry wall will minimize lateral movement of contaminants within the SA and UHG. It will not (and is not intended to) affect vertical movement of contaminants in any aquifer unit, or lateral movement of contaminants in the LHG or UFA. Even with the most effective treatment of the DNAPL in the SA and UHG, there will continue to be a dissolved phase plume (or plumes) that will need to be contained. Therefore, the slurry wall will be an important component of the remedy.

However, there is evidence of DNAPL within the UHG to the east of the Koppers site which is outside of the proposed slurry wall. Based on borings along the eastern boundary of the site and dissolved phase contamination in UHG wells, it is evident that DNAPL has migrated off-site within the UHG to the vicinity of the HG-26 well cluster on the Cabot Carbon Site. The Proposed Plan does not address these off-site source areas. Treatment of these areas should be included in any final remedy since they are ongoing sources of groundwater contamination.

The CSX rail line on the eastern property boundary is unused to the south and terminates at 23rd Avenue. It is our understanding that to the north the closest user is Harwood Brick Distributors, Inc. (northeast of the Koppers site) at 3302 NE 2nd Street. It is important to consider the potential of this unused segment of railroad bed to be incorporated into the Koppers site and used to expand the area of the slurry wall to the east. Although this is a small area, it would provide additional area for containment of contamination in the surficial and UHG.

7. We support use of Chemox or ISBS in the LHG. However, existing LHG monitoring wells should either be retained or replaced.

Treatment of creosote DNAPL to reduce mobility and migration of contaminants into groundwater in the Hawthorn Group to the maximum extent possible is a high priority. We support the concept of injecting Chemox or ISBS into the LHG to immobilize DNAPL to the extent practicable. Although we have concerns about the performance of ISBS, the ability to deliver the reagent to the DNAPL, and the ability to measure the performance of ISBS (described above), we recognize that it is not possible to deploy ISS/S, excavation or other more robust remedies at the depth of the LHG with current technology. The depth, limited permeability and heterogeneity of the geological strata also make injection of Chemox, ISBS or other chemicals difficult*. Limitations of the ability to treat the LHG DNAPL make it all the more critical to employ effective monitoring and hydraulic containment in the UFA.*

The existing LHG monitoring wells are important for monitoring the status of the site and effectiveness of the site remedies. They will be particularly useful in long term monitoring any remedies employed in the LHG. It would be preferable to retain the existing LHG wells, however, if they cannot be retained, they should be replaced. It is important to note that at the present time there are no LHG monitoring wells in the Process Area or South Lagoon – and we believe wells in the LHG are required at both of those source areas.

We do not object to injecting ISBS into a LHG well that must be removed and replaced anyway. However, where possible, existing LHG wells should be retained and used, in conjunction with additional new LHG monitoring wells for long-term monitoring (ISBS or Chemox cannot be injected into wells that will be retained). ISBS or Chemox injection should be performed using new dedicated injection wells.

We propose that the ROD include a provision that Chemox or ISBS will be employed in the LHG using dedicated injection wells with existing, and new monitoring wells (as appropriate) being used to monitor the success of this action. We recommend that implementation of LHG remedies be staged to occur after implementation of the other site remedies. The exception to this would be that chemox or ISBS will be deployed to the existing DNAPL impacted LHG monitoring wells that must be removed as part of the SA and UHG remedies.

8. Additional characterization is needed to delineate DNAPL source areas and dissolved phase plumes.

The Proposed Plan appropriately includes: “Expansion of surficial aquifer and HG monitoring network for: (1) establishment of sentinel locations; (2) demonstration of active natural attenuation processes; and (3) establishment of trigger locations for contingency actions.” We request a fourth objective be added to “further

delineate DNAPL source areas to define the lateral limits of source zone treatment in the Surficial Aquifer and Hawthorn Group". Source areas should be defined on the basis of naphthalene concentrations in excess of 1,000 ug/L (ppb). Note that the "source areas" presented on plan view figures presented in the FS and other documents are based on estimated footprints of the lagoons and other areas that existed at the site at one time and do not represent the area over which DNAPL has spread. The areas contaminated by residual and mobile DNAPL need to be identified as accurately as possible in all aquifer units as part of the remedial design so that remedies will be implemented as effectively as possible and so that costs can be estimated with much higher confidence than is possible at present.

The expansion of the surficial aquifer and Hawthorn Group monitoring network should include additional LHG wells. At the present time there are no LHG monitoring wells in the Process Area or South Lagoon – we believe the ROD should require those wells be installed.

Additionally, the ROD should include characterization to locate potential as-yet unidentified source areas. This includes investigations to determine if buried drums exist at the site, and to determine if there is contamination from other process or waste treatment areas that might have existed outside of the identified source areas.

9. The soil consolidation (if implemented) and cap, and any future development of the site should be configured so as not to significantly obstruct the ability to further treat source zones in the future.

Due to the uncertainties associated with the DNAPL treatments, particularly in the LHG, there may be a future need to further treat source areas in the future and/or to add additional monitoring wells. In addition, there may be advances in technology which will allow more effective treatment. Therefore, the cap and soil consolidation, and any future development should be configured so as to not significantly obstruct the ability to access and treat source areas.

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2.0 ON-SITE / OFF-SITE SURFACE SOILS REMEDY

COMMENTS AND RECOMMENDATIONS

10. The USEPA Proposed Plan remedy for the surface soils and the future land use assumptions made by USEPA have not been sufficiently coordinated with the City of Gainesville and local stakeholders. Additional coordination with the City of Gainesville and local stakeholders is needed regarding the future land use vision. The final remedy for the Koppers site must meet the following minimum criteria:

- **It should be based on an explicit redevelopment vision;**
- **It should be compatible with a redevelopment scenario that includes a step down in land use types from east to west on the site;**
- **At a minimum, the plan should provide for clean-up of soils in the western 300 ft of the site that will allow redevelopment with any residential land use category that is consistent with the adjacent residential land use; and**
- **It should recognize that heavy industrial land use is not an appropriate land use for the site.**

The USEPA's efforts to solicit input from the City of Gainesville and the local community on the final site remedy and especially surface soil remediation and future land use issues has not been timely nor adequate and has not allowed sufficient time to solicit appropriate community input on impacts of the EPA proposed soil remedy. The reuse vision for the site discussed by USEPA's Reuse contractor, E^2, in presentations to the community has assumed a pre-selected remedy for soils that is not compatible with the City of Gainesville future redevelopment vision for the site. Insufficient time has been allowed to provide adequate and appropriate involvement from the City and local stakeholders in the remedy selection process.

The Code of Federal Regulation (CFR) Chapter 40, Section 300.430 prescribes clear requirements for EPA's obligations for community involvement during the RI/FS process and through ROD development. EPA has not met many of these obligations. For example, the required Community Involvement Plan was ignored for over 20 years and was only recently updated. Additionally, the required local information repository at the Alachua County public library was not kept up to date for many years. These inactions on EPA's part denied local Gainesville residents the right to review key documents in the administrative record and provide input to EPA during this period.

The City of Gainesville has previously provided input to EPA regarding its vision for future redevelopment of the site. It is not clear and it has not been communicated to the local community how the USEPA's proposed remediation scenario for the site will impact or limit future redevelopment of the site and how it may comply with the City's redevelopment vision. In particular, USEPA's proposal to meet FDEP commercial soil clean-up target levels (SCTLs) and not residential SCTLs for surface soils in the areas outside of the containment area as well as the construction of a large soil consolidation area will significantly impact future land use. Additional coordination with the City of Gainesville and local stakeholders is needed regarding the future land use vision. The City of Gainesville and the LIT believe it is critically important to the local acceptance of any final remedy for the Koppers site that it meet the following minimum criteria described above.

11. **Landfilling of contaminated on-site and off-site soils and sediments in a large on-site consolidation area is unacceptable to the community. USEPA did not evaluate off-site disposal of excavated surface soils and sediments despite statements in the FS that evaluation of offsite soil disposal would be completed.**

    The massive soil consolidation area should be eliminated as part of the final remedy and offsite disposal of excavated contaminated soils should be evaluated in an amended FS and considered as part of the final remedy.

    USEPA should implement offsite disposal of excavated soils that originate from the area outside of the containment area as well as soils and sediments removed from adjacent residential and commercial properties, rights of way and creeks.

The LIT and the local community strongly object to the creation of a large, thirty-two acre soil consolidation area on top of the source area containment cap which could contain from 190,000 to 240,000 cu yds of soils contaminated with dioxins, arsenic, polynuclear aromatic compounds (PAHs) and other toxic soil contaminants. According to the presentation given to the local community on June 14, 2010 by E^2, the land reuse consultant hired by USEPA, the height of this soil consolidation area may be as high as 8 to 10 feet above current land surface with a 3:1 slope on the sides. The community finds the magnitude of this soil consolidation area filled with toxic soils to be highly objectionable. The LIT requests that this massive soil consolidation area be eliminated as part of the final remedy and that offsite disposal of excavated contaminated soils be evaluated in an amended FS and considered as part of the final remedy. Should soil cover be required as part of the low permeability cap over the source areas it should be constructed with the minimum height necessary for proper cover and drainage and the soils used should be uncontaminated clean soils.

The LIT believes that the creation of a significant soil consolidation area will significantly limit the types and amount of redevelopment possible for the property in the future. It will create a permanent mound of contaminated soils in the middle of the City of Gainesville that is incompatible with the adjacent urban residential and commercial areas.

In the Feasibility Study report, Section 2.6 presents "the technologies that will be carried forward in the evaluations based on the screening evaluations presented in Sections 2.4 and 2.5." (See page 2-44 of the FS report). Specifically included in Section 2.6.6 in the list of technologies to be evaluated in detail in the FS for untreated soils is "offsite landfill disposal". (See page 2-46 of the Koppers site FS report).

In spite of making a commitment in Section 2.6.6 to evaluate offsite soil disposal in detail, not a single remedial alternative in the FS report included an evaluation of offsite soil disposal, even for minimally contaminated soils. In fact the complete set of alternatives evaluated is consistent in that none of them considered the removal of any contamination from the site.

It appears that USEPA made a pre-determined decision during the FS to not evaluate any off-site disposal alternatives and to, in effect, turn the Koppers site into a permanent waste disposal facility for all on-site and off-site contamination. This decision was made without any effort to assess the benefits that removal of contaminated soil would have on the redevelopment potential of the site or other factors and with disregard to its statements in the FS report that offsite disposal would, in fact, be evaluated.

The LIT requests that USEPA complete the evaluation of remedial alternatives that include offsite soil disposal as stated in the FS. The LIT requests that USEPA should implement offsite disposal of excavated soils that originate from the area outside of the containment area as well as soils and sediments removed from adjacent residential and commercial properties, rights of way and creeks.

12. The USEPA Proposed Plan remedy for surface soils for the area outside of the containment area is excessively vague about the specific actions that will be taken to meet FDEP SCTLs in this area. It is not clear if FDEP SCTLs will be met by covering contaminated soils or by removal of contamination followed by appropriate clean fill cover. There is also no detailed discussion of how FDEP Leaching Criteria will be met.

USEPA should provide more detail in an amended FS and commitment regarding specific actions to be taken to remediate soils in the western and northern areas outside of the proposed containment area.

Specific actions to be taken to remediate or address the elevated "hot spots" needs to be specified in the plan or ROD.

The proposed remedy for on-site non-source area surface soils is extremely vague regarding specific remedial actions to be implemented at specific areas of surface soil at the site. According to the proposed plan, some surface soil could be excavated and consolidated under caps in the source zones (the Consolidation Area), some surface soil could be graded, and some surface soil could be graded and placed beneath a cap of unspecified composition outside of the source zones. The Feasibility Study (FS) report includes an even longer list of potential actions that might be implemented at any particular location for on-site surface soil, including:

- Excavation only
- Excavation with a 2 ft cover
- Placement of a two-foot soil cover without excavation
- Placement of a two-foot thick impermeable cover/cap
- Covering with a road and or paved parking area
- Covering with structures (e.g., buildings) that prevent soil exposure
- Placement of a lined treatment pond over exposed soil

The Proposed Plan does not specify at what locations any of these potential remedial actions will be applied. There are costs presented in the FS for excavation of 24 acres of surface soils, however it is not clear the source of this estimated amount of excavated soils and the locations from which it is to be excavated. This vagueness makes it impossible to understand what the site will look like after remediation, and most importantly, to understand the impacts of the remedial action on the potential for future site redevelopment.

The LIT objects to this vagueness and believes that USEPA should be much more specific about remedial actions proposed for each area of surface soil at the site. The LIT is concerned that the potential surface soil remedies listed above will be applied in a hodgepodge manner that will seriously reduce the ease of and could in fact hinder redevelopment of the site. The LIT is also concerned that the remedial approach will be to simply cover contaminated soil with clean fill in an attempt to minimize the need to remove contaminated soils.

USEPA should especially provide more detail and commitment regarding specific actions to be taken to remediate soils in the western and northern areas outside of the proposed containment area. In particular, specific actions to be taken to remediate or address the elevated “hot spots” where contamination at levels significantly above FDEP SCTLs exists in the surface soils such as in the central western boundary of the site and in the northern wooded area should be described in detail (that is, whether this area will be excavated, if so, to what depth, or whether two feet of clean soil will simply be dumped on it). Greater specificity will enable all parties to understand the degree to which the selected

remedial approach will facilitate or hinder future site development and provide details on how much contamination will remain on site.

13. **Covering of contaminated soils outside of the containment area leaves permanent soil contamination and limits options for future redevelopment. Removal of contaminated soils in areas outside of the containment area should be prioritized before any soil covers are applied.**

    Achieving FDEP Residential soil clean-up criteria for the entire area outside of the containment area but especially the areas near the western and northern boundary of the site should be targeted by the plan as the preferred alternative. This is a strong preference of the local community.

    USEPA should amend the FS and provide separate cost calculations for the alternatives of removal of contaminated surface soils outside of the containment area that are above FDEP residential and commercial SCTLs and leaching criteria.

The Koppers site is located in the heart of the City of Gainesville amidst an area of long established residential communities. The City of Gainesville has promoted "infill development," as opposed to urban sprawl, for many years. Maximizing the potential for redevelopment of the site is a crucial concern for the City and community.

For these reasons, the selected remedy should:

- Maximize removal and not covering of soils in areas outside the containment area and,
- Require removal of contaminated surface soils outside of the containment area that exceed FDEP SCTLs or FDEP leachability SCTLs down to the water table.

USEPA should amend the FS and provide separate cost calculations for the alternatives of removal of contaminated surface soils outside of the containment area that are above FDEP residential and commercial SCTLs and Leaching criteria. By doing so, a decision can be made as to the feasibility of cleaning up these surface soils to meet commercial or the more stringent residential SCTLs by excavation. For example, review of the surface soil data from the site appears to indicate that removal of up to 2 feet of soils in several areas of the approximately 300 foot wide area near the western boundary and in several additional locations in the areas outside of the consolidation area may allow reaching of FDEP residential SCTLs for dioxin and benzo-a-pyrene toxicity equivalents (TEQ) and potentially for arsenic impacts as well. Such a removal of surface soils along with a commitment to remove soils from "hot spots" in this

boundary area and in the northern area will provide more flexibility for future redevelopment of this property and minimize concerns about contamination from adjacent residential areas. This approach is a strong preference of the community. The LIT would like to see serious commitment to approaches that maximize removal of contamination in the area outside of the containment area.

14. **Other unknown, potential source areas outside of the containment area may exist and may be covered or not identified in the soil remedy. These potential additional source areas need to identified and remediated in the final remedy.**

Inspection of historic aerial photographs for the site indicates the potential presence of disposal trenches in the northern portion of the site. In addition, former site workers and local residents have indicated that some portions of the site may have been used for buried drum disposal or other waste disposal activities. Considering that the site was used as a heavy industrial facility for nearly 100 years, there is a significant possibility that areas of the site in addition to those currently being considered for remediation to have been used for waste disposal practices. USEPA should implement a site-wide screening and investigation to evaluate the presence of additional disposal or source areas at the site and conduct appropriate removal or treatment any additional source areas identified.

15. **The off-site delineation of soil contamination is incomplete and must be expedited, in particular in the adjacent residential neighborhood in which residents continue to be exposed to Koppers' contamination.**

    The LIT strongly supports the proposed USEPA plan to complete the delineation of dioxin and other offsite contaminants to the state of Florida residential SCTLs for residential properties and FDEP commercial SCTLs for commercial properties. The LIT is against any effort to develop alternate clean-up standards for these offsite properties that will provide a lesser degree of protection of our citizens.

    Additional offsite soil sampling needs to be performed sufficiently beyond the point where the FDEP SCTLs are initially achieved to confirm that soil concentrations remain at or below the FDEP SCTL levels.

    Additional offsite sampling should also be performed across NW 6th Street west of the Koppers site to assure that commercial and residential areas west of NW 6th Street have not been impacted.

The investigation into the extent of contamination at this site has been ongoing for several decades and is still incomplete. Based on recently obtained offsite soils data, it appears that residents adjacent to the site have been exposed to contamination from the Koppers site that has migrated onto their property. The LIT is concerned about the length of time it has taken USEPA to complete the

offsite delineation of contaminated properties and reduce the exposure potential to offsite residents. The LIT urgently requests that USEPA expedite the delineation and remediation of off-site contaminated areas.

The LIT is concerned that planned USEPA delineation of contamination on residential and commercial property in the neighborhood west of the Koppers site may cease when FDEP Residential SCTLs are reached on residential properties or FDEP commercial SCTLs are reached on commercial properties near the east side of NW 6th Street. Since commercial standards are higher than residential standards and the potential that windborne contaminants may have historically impacted a wider area, the achievement of commercial standards on the properties east of NW 6th Street may not provide assurance that either commercial or residential SCTLs are achieved on commercial and residential properties west of NW 6th Street. There are residential properties immediately west of NW 6th Street that should be investigated to assure residents that there are no impacts from Koppers contamination. The LIT is requesting that delineating the extent of soil contamination must include soil sampling west of NW 6th Street.

In addition, offsite sampling needs to be performed sufficiently beyond the point where the FDEP SCTLs are initially achieved to confirm that soil concentrations remain at or below the FDEP SCTL levels. In particular, the LIT and the local citizens are requesting that USEPA collect and analyze additional soil samples in the residential areas to the north of NW 33rd Ave north of the Koppers site. Although several soil samples along the southern right of way along NW 33rd Avenue were found not to contain contamination above the FDEP residential SCTL, considering the statistical variability and imprecision associated with sampling and testing for very low levels of dioxins in soils, the long term nature of historical discharges from the Koppers site, the shifting wind patterns, variable tree cover and stormwater flows which may have created pathways for the spread of contamination, it is important to confirm that areas north of the 33rd Ave and other such assumed limits of contamination are in fact free from impacts. This is especially important due to the increased citizen concern and apprehension about impacts to their health and property values from being perceived to be close to a contaminated zone.

16. **The LIT, City of Gainesville and nearby residents are concerned about long term safety of USEPA proposed remedial plan for offsite contaminated soils which will allow property owners to select either excavation or engineering controls or institutional controls as the remedy for offsite properties. USEPA should consider restricting the use of engineering or institutional controls for offsite properties.**

Allowing engineering or institutional controls to be an option at the discretion of the property owner instead of requiring excavation of contamination and restoration for all impacted offsite properties raises significant concerns if the current property owner or future property owner does not abide by the

engineering or institutional restrictions. This could cause the contamination in the soils to be exposed and cause a health risk to the new property owner and adjacent neighbors. This would be of particular concern with residential properties, although it is also a concern for commercial properties. The LIT requests that USEPA not allow the use of engineering or institutional controls on offsite properties.

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3.0 OTHER OFFSITE IMPACTS

COMMENTS AND RECOMMENDATIONS

17. Neighboring residents to the Koppers site have expressed concern about the potential for indoor contamination of their homes. EPA needs to conduct appropriate investigations and, if necessary, remediation activities to address this issue.

Residents living west of the Koppers site have communicated to local government officials their concerns about potential indoor contamination of their residences based on independent testing using a USEPA screening analytical method for dioxin-like chemicals. The reliability of these test data have not been evaluated by the City, County or local Health Department. However, because much of the migration of contamination from the Koppers site to offsite residential property likely occurred via air-borne transport of small particulates (i.e., contaminated dirt and dust) it is reasonable to expect that offsite properties with soil contamination may also have experienced deposition of these same particulates inside the homes. Because of this reasonable assumption and the increasing anxiety of local residents concerning this issue, the LIT requests that USEPA expeditiously take whatever actions are necessary to investigate and address this issue including sampling if appropriate within the homes to determine the degree to which the interiors of these homes may have been impacted by contamination from the Koppers site and take appropriate remedial actions.

18. The LIT recommends that USEPA identify and facilitate the mobilization of resources to address adverse health effects of individuals via a door-to-door health study in the neighborhood affected by the Koppers Superfund site contaminants, including but not limited to dioxins.

Neighboring residents to the Koppers Superfund site have expressed to the local City and County officials and the Alachua County Health Department/Florida Department of Health their concern about what they believe to be adverse health impacts to residents in the neighborhood west of the Koppers site that they believe may be linked to Koppers site contaminants. The LIT believes it is important to investigate these concerns and requests that USEPA identify and facilitate the mobilization of resources to address adverse health effects of individuals via a door-to-door health survey in the neighborhood affected by Koppers site contaminants, including but not limited to dioxins.

19. USEPA should provide relocation assistance during off-site and on-site remediation to residents adjacent to the site. USEPA should also calculate the lost property value of homes impacted by contamination from the Koppers site and address the issue of providing compensation for property owners.

Relocation assistance for residents adjacent to Superfund sites has been provided or required by USEPA at other Superfund site with similar contamination as the Koppers site and with similar proximity to residential property and receptors. Such relocation assistance is appropriate during remediation activities involving a large degree of soil disturbance such as is contemplated in the proposed plan. Such actions have a significant potential for creating further offsite impacts.

For these reasons, USEPA should provide appropriate relocation assistance to residents adjacent to or near the site during soil remediation activities. This relocation assistance is especially important for residents that are most vulnerable to potential health impacts, such as the elderly, very young or pregnant residents, or those with existing respiratory or related health problems.

Neighboring residents to the west of the Koppers site have reported to local government that their property values have been significantly negatively impacted by the recent discovery of contamination above FDEP SCTLs in the rights of ways in their neighborhood. Planned residential property sampling in the neighborhood may confirm that the contamination is widespread in the neighborhood. While USEPA's proposed plan calls for the clean-up of contaminated offsite soils, there is a contamination stigma now attached to these properties. The City and County request that USEPA address this situation by calculating the lost property value of the homes impacted by the contamination in the neighborhood and providing compensation to impacted property owners.

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4.0 STORMWATER REMEDY

COMMENTS AND RECOMMENDATIONS

20. The Proposed Plan is overly brief in stormwater strategy and controls that are integral elements of the remedial action plan for the Site. The Plan does not include strategy, design criteria, essential site data and final cover landscaping descriptions. This information is essential to the City of Gainesville and the public to assess the quality of the plan in addressing pertinent stormwater issues and assessing the consistency of the associated redevelopment benefits/barriers of the Plan with the City's 'Vision' for this piece of Gainesville. The LIT requests that USEPA acknowledge these critical issues in the ROD and that USEPA commit to addressing them in the Remedial Design document.

Critical stormwater design and control issues that should be acknowledged and addressed in the ROD and Remedial Design documents include options for: 1) management of westerly neighborhood stormwater flows; 2) major ditch flows in conflict with the containment area, and; 3) east side site stormwater flows where the containment area is very close to the property line. Conceptual level descriptions of these will aid in the review and understanding more fully the consequences of the choices posed in the proposed plan.

Control issues should include development of: 1) design criteria for stormwater; 2) soils data for the remaining former work area of the Site, and; 3) landscaping descriptions. The stormwater design criteria should include local industry standards as well as City of Gainesville requirements for the Hogtown Creek basin. These criteria should also include an analysis that determines the likely soil particle size to provide transport to site pollutants during storm flows. This analysis can then be used to determine the appropriate detention time for the basin(s) needed to capture the majority of those particles.

Soil data is needed on the remainder of the former work area to determine thickness and extent of the compacted soil. This data will lead to an action plan to return the parent soil infiltration rate. Finally, outline work descriptions and specifications are needed for landscaping. This information is essential to evaluating elements of the stormwater design criteria and making judgments on how 'finished' the Site will be for future use.

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5.0 CREEK SEDIMENT REMEDY

COMMENTS AND RECOMMENDATIONS

21. Cleanup of the sediments in Hogtown and Springstead Creeks is proposed only for those areas where contaminants exceed benthic Probable Effects Concentrations (PECs). However, FDEP has determined that exposed creek sediments potentially pose human health risks.

Contaminated sediments in both Hogtown and Springstead Creeks must be excavated to the more stringent of the FDEP residential SCTL or the PEC for each chemical of concern. Excavated sediments should not be consolidated on-site.

In the Proposed Plan, USEPA has indicated that it plans to remediate creek sediments only where contamination exceeds the benthic Probable Effects Concentrations (PEC). This is inadequate.

FDEP has concluded that the exposed contaminated soils in the streambed and in other exposed sediments in these creeks pose a potential human health risk.

For these reasons, contaminated sediments in both Hogtown and Springstead Creeks must be excavated to the more stringent of the FDEP residential SCTL or the PEC for each chemical of concern. Appropriate sediment confirmation sampling must be done after remediation to confirm that the excavation of these sediments is adequate.

The USEPA proposed plan states that contaminated sediments above FDEP criteria will be excavated from the creeks. Since the creek contamination may be linked to historical discharges from the former Cabot site as well as from the Koppers site, it is not clear which responsible party will be responsible for the remediation. The LIT understands that the Cabot Corporation has proposed a plan to remove tarry contamination from several locations in Springstead and Hogtown Creek. Review of this plan indicates that contaminated sediments will be disposed of off-site at an approved landfill. Therefore the USEPA proposal to move sediments on site is confusing and contradictory. The LIT requests that USEPA require that excavated, contaminated creek sediments be disposed of properly in an approve landfill and not stockpiled on site.

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6.0 ADDITIONAL COMMENTS

22. The USEPA should make available in the local repository a complete Site file containing all project documents, correspondence and data related to the remedial investigation, risk assessment, feasibility study and remedial technology evaluation for the Koppers Superfund site.

Additionally, the City and County request that additional relevant documents be added to the Administrative Record File. The documents requested to be added to the Administrative Record file are contained in the attached electronic files (CD attached).

The City and County support and acknowledge that certain requests have been made to USEPA from the local community, including the group Protect Gainesville's Citizen's, Inc. (PGCI), seeking local access to the complete Site File documents and requesting that additional relevant documents be added to the Administrative Record. On June 1, 2010, the Mayor of Gainesville sent a letter to USEPA requesting that the information requested by PCGI be provide as soon as possible. A complete Site File has not been made readily available by USEPA to the community in the local repository. USEPA has provided a CD containing the Administrative Record to the local repository. However, there are many documents that we and/or local citizens believe are relevant to the site which are not part of the AR and are not in the local repository. Therefore, the City and County request the following:

1) The USEPA make available in the local repository a complete Site file containing all project documents, correspondence and data related to the remedial investigation, risk assessment, feasibility study and remedial technology evaluation for the Koppers Superfund site, and

2) Additional relevant documents identified by our citizens and City and County staff should be added to the Administrative Record File. The documents requested to be added to the Administrative Record file are provided as electronic files in the CD attached to this document and should be considered part of this document.