WILDWOOD

March 14, 2014

David P. Williams, Chief
Planning and Preparedness, North Section
Superfund Division
U. S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

RE: Strecker Forest / Bliss-Ellisville Site Removal Action

Dear Mr. Williams,

This is to acknowledge receipt of your response, dated March 10, 2014, to the City's letter and reports from our environmental consultants expressing concerns regarding aspects of the planned Site Removal Action dated February 18, 2014, and our subsequent meeting to discuss the Agency's plans on March 5, 2014.

Your letter and the Agency's plans in general were discussed with the City Council again during the March 10, 2014 Council Meeting Work Session. Although the City and its consultants still contend, among other things, that the Removal Action should be based on the environmental criteria set-forth in the City's letter of February 18, 2014, the City recognizes that, based on EPA's stated position, clean-up at this time as planned by EPA is a better outcome than leaving the area in its current condition.

Following due deliberation, the City Council authorized that a letter be sent to EPA indicating the City's acceptance of the planned Site Removal Action. In particular, the City supports the Agency's intentions to apply land use controls by means of an Environmental Covenant on areas of the subject property that would restrict future land development and site disturbance activities. It is further understood from your letter that the Agency will continue to monitor, oversee future development-related activities, and enforce the Environmental Covenant within the restricted area.

The City of Wildwood desires to work in close communication and cooperation with EPA as the planned Site Removal Action proceeds and throughout any future development plans and activities on the Strecker Forest Site.

Thank you for your cooperation.

Sincerely yours,

Timothy Woerther, Mayor

cc. Wildwood City Council Members
Daniel E. Dubruiel, City Administrator
Lynne Greene-Beldner, Deputy City Administrator/City Clerk
Rob Golterman, City Attorney
Bruce Morrison, Special Legal Counsel
Joe Vujnich, Director of Planning and Parks
Ryan Thomas, Director of Public Works

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

MAR 10 2014

The Honorable Timothy Woerther
Mayor of Wildwood
16860 Main Street
Wildwood, Missouri 63040

Re: Strecker Forest/Bliss-Ellisville Site Removal Action

Dear Mayor Woerther:

Shawn Grindstaff and I appreciated the opportunity to meet with you, Dan Dubruiel, and Bruce Morrison on March 5, 2014. We welcomed your further explanation of concerns that the community continues to have regarding the planned removal action, as well as those articulated by consultants hired to review EPA's planned actions. We also appreciated the opportunity to more fully explain EPA's position on these matters, and the rationale behind key decisions and issues.

As a "next step," you suggested that EPA draft a letter that describes, as simply but comprehensively as possible, some of the issues we discussed during this meeting. This letter is an attempt to do just that, the hope being that issues raised by the community and the city's consultants will be adequately addressed, or at least a more fundamental understanding is attained.

The following is our attempt to describe the EPA's position with respect to these issues.

1. Exposure scenario

The full rationale for the exposure scenario utilized for this site is described in "Preliminary Remediation Goals (PRGs) for Dioxin in Surface Soil," dated July 25, 2013. The "simple" version would be along the lines of what we discussed: when the EPA considers cleanup goals in soil, our policy is to look at a "reasonable maximum exposure" for the area in question. For the area north of the proposed Strecker Forest development, we looked at an "upper end" number of days that a youth could frequent the area. After some discussion, this upper end number of days equated to 96 days per year (or 384 hours per year), which is based on "reasonable maximum exposure" assumptions described in the July 25, 2013, memorandum. In reality, this would appear to greatly overestimate the amount of time that a youth would spend in what amounts to a very small subset of the area north of the proposed Strecker Forest development. Another way to say this is that youths would be expected to be physically present 96 days per year, every year, for 10 years straight in a few isolated areas near the barn/arena/creek—and *just those areas.* In addition, our risk equations assume a certain amount of direct contact and related exposure, with highest exposures generally occurring when there is bare soil; vegetation, or grass, would likely significantly reduce such exposure. That is, children are less likely to ingest dirt or get it on their skin when the area is covered by grass or vegetation. Finally, when the

proposed cleanup is complete, the vast majority of remaining surface soil in the area north of the proposed development does fall below the residential screening number of 50 parts per trillion, with the few remaining areas showing an average concentration of approximately 200 parts per trillion. The point is that it is more likely that a potential youth visiting this area would travel all across the area—including areas near background concentration for dioxin—so their actual exposures would be much less than that predicted by our risk-based cleanup number. All of these factors suggest that our common number one priority goal—protection of human health—has been met at a very, very high level of protectiveness.

2. Consistency

The EPA needs to be consistent in its risk assessments, and is bound to certain policies and procedures. We understand your concern that areas north of the proposed development are near residences, but it simply does not meet the criteria of "residential," which assumes that someone is on that soil on their property 24 hours per day, 350 days per year, for 30 years straight, and that they never leave except to take a 2-week vacation. To include areas north of the proposed development, and perhaps areas north and northeast of the creek, would be inconsistent with previous EPA decision-making, and could also be considered arbitrary.

3. Land use controls and Future Modifications

The landowner has agreed to impose an Environmental Covenant on the affected area consistent with the Missouri Environmental Covenants Act. This covenant will, among other things, place activity and use limitations on that particular portion of the property. This will include a "no residential dwelling" component and a soil component that will require EPA notification and approval, prior to any soil disturbance in the area. The EPA will serve as the "department" in the covenant, with full authority to enforce it. Such a covenant will apply to future landowners of the removal action area as well. In addition, the EPA is willing to consider other possible ways to work with any future subdivision association or subsequent landowners as may be necessary regarding informational devices.

As we discussed, the EPA is willing to work with you on future modifications to areas north of the proposed Strecker Forest development area. For example, if improvements such as drain lines or holding ponds were proposed for the area, the EPA would be willing to work with those proposing such modification(s), with the ultimate goal of implementing whatever was needed in that area.

4. Other contaminants

We did not have a chance to fully discuss this during our meeting, but this issue was described in great detail in the memorandum "Evaluation of Soil and Groundwater Data, Proposed Strecker Forest Development and Callahan Property, Wildwood, Missouri," dated June 13, 2012. The Action Memorandum for this site, dated September 26, 2013, includes an analysis of data collected at the site, and corresponding recommended response actions. Simply put, if you look at the entire data set, there is nothing to suggest that other contaminants are an issue. There are some analyses (for certain chemicals) where reporting limits exceed screening levels, but the vast majority of data shows screening levels below reporting limits, and the "picture painted" is one of negligible risks due to contaminants other than dioxin. We would be happy to go through these data sets with you if you would like, as there is a fair amount and it may be difficult to decipher. A good starting point is the "Site Assessment Report for an Expanded Site Review" document dated June 2012.

5. Creek/stream areas

This issue was raised during our March 5, 2014, meeting. The EPA was not aware that there were additional concerns in the creek/stream areas. That being said, after further review, the creek/stream areas fall outside the area evaluated for this site and this removal action.

6. Cost vs. incremental mass reduction

The estimated additional volume that could be required to meet a 50 part per trillion standard north of the planned development area is 11,000 tons. Transportation of 11,000 tons of material, for 20 ton capacity dump trucks, would require about 550 dump trucks—550 trucks in, 550 trucks out, to a (projected) location in Oklahoma. The cost of such excavation and disposal is estimated at $4-5 million. The amount of dioxin contained in 11,000 tons of material, at an average concentration of 200 parts per trillion, is about 0.07 ounces, or 2 grams (about half a teaspoon).

EPA's authority to conduct Superfund removal responses is capped at $2 million [40 CFR 300.415(b)(5)] for most situations. In addition, a $4-5 million cleanup would represent over half of our "removal action" budget, which is used to fund high risk cleanups such as childhood exposures to lead from historic mining, sites which present an immediate risk with irreversible neurological harm to children.

The EPA continues to welcome further discussion on these issues. We hope that the numerous discussions we have had with the community over the past six months, as well as the advance sharing of key documents for this removal action that have been shared since September 2013, have demonstrated a desire to be as open and straightforward as possible. We also hope that the January 15, 2014, meeting/question and answer session with the community, a meeting designed to describe/explain our path forward, was helpful in this dialogue.

As discussed during our March 5, 2014, meeting, the EPA does have deadlines for moving forward on this action. Postponing or delaying the start of the proposed action beyond late March 2014 jeopardizes allocated funds.

Let me know if you have questions or need further clarification. I can be reached at (913) 551-7625.

Sincerely,

David P. Williams, Chief
Planning and Preparedness North Section
Superfund Division

WILDWOOD

February 18, 2014

David P. Williams
U. S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

RE: Strecker Forest / Bliss-Ellisville Site Removal Action

Dear Mr. Williams,

The City of Wildwood wishes to express its thanks to the EPA for the January 15, 2014 public meeting held by the Agency and further described in various environmental reports and documents prepared for this Removal Action.

While the City of Wildwood appreciates the intentions of the EPA to remove dioxin-contaminated soil confirmed during recent testing by the Agency from the site, the Wildwood City Council disagrees with the Agency's intent to apply a Recreational clean-up standard to the portion of the property for the Removal Action. The site of the Removal Action is in very close proximity to a planned residential development, and is in close proximity to residentially developed and residentially zoned properties located both within the City of Wildwood and within neighboring Ellisville, Missouri. Therefore, the City of Wildwood contends that no Removal Action be undertaken unless it is based on the Residential clean-up standard.

The City has come to this conclusion following reports provided by environmental consulting firms Mundell & Associates, Inc. and Environmental Stewardship Concepts, LLC. They have independently reviewed and evaluated the documentation describing the planned Removal Action. Copies of their reports are enclosed for your information.

These reports articulate the concerns shared by the City of Wildwood. Of particular concern is the use of a "Youth Recreational" exposure scenario which would result in leaving in place after the Removal Action soil dioxin concentrations of up to 820 ppt. in surface soil, and much higher concentrations in subsurface soil, instead of a "Residential" exposure standard resulting in PRGs of approximately 50 ppt. The City does not believe this exposure standard is sufficiently protective of public health for current or future residents. Also of concern is the testing limitations applied to other dangerous contaminants, including PCB's, heavy metals, SVOCs' and VOC's, and the remedial effort needed to achieve a safe condition for residential development of the site.

Although there are to be deed restrictions applied to the residentially developed properties and, presumably, the anticipated Common Ground area that would be expected to be part of any residential development, to date, no information regarding the type and scope of deed restrictions has been provided.

In conclusion, the planned Removal Action should not be undertaken unless a Residential clean-up standard is applied and the concerns expressed by the City in it's consultant's reports have been addressed satisfactorily. Furthermore, no site preparation activities should be undertaken until these issues have been addressed.

The City is requesting that there be a timely response to this communication particularly in light of the Agency's stated intent to commence the Removal Action work early this spring.

Thank you for your attention to this and should you have any questions, please contact me.

Sincerely yours,

Timothy Woerther
Mayor

cc. Wildwood City Council Members
Heath Smith, EPA On-Scene Coordinator
Rob Golterman, City Attorney
Bruce Morrison, Special Legal Counsel
Daniel E. Dubruiel, City Administrator
Lynne Greene-Beldner, Deputy City Administrator/City Clerk
Joe Vujnich, Director of Planning and Parks
Adam Paul, Mayor, City of Ellisville
Ellisville Council Members

KEY ISSUES SUMMARY

U.S. EPA Preliminary Remediation Goals (PRGs) for Dioxin in Surface Soil and
Addendum to the Expanded Site Review Work Plan with Related Documents
Proposed Strecker Forest Development Site
Wildwood, Missouri 63011

INTRODUCTION

The most important question that needs to be answered as it relates to the future use of the Proposed Strecker Forest Development Site is: what is an acceptable level of cleanup to ensure that the interests of the City of Wildwood, its citizens, and adjacent residents are being met? There are two fundamental drivers that influence the level of remedial effort required for site surface and subsurface soils:

1) The distribution and concentration of dioxin and other Chemicals of Concern (COCs) across the Site; and
2) The exposure conditions that are assumed to be relevant and protective for the Site.

Generally, it is expected that the needed removal action efforts to address non-dioxin COCs will be included in the remediation of dioxin-related impacts since the two types of contamination are generally intermixed. Therefore, the possible range of Site removal action alternatives for the proposed Strecker Forest Development Site and adjacent areas that should be explicitly considered and discussed by the U.S. EPA with the Wildwood community includes the following:

1) No removal action, with associated institutional controls only (*e.g.*, fencing and signage);
2) Removal of existing waste materials and impacted soils to reduce chemical levels to below the U.S. EPA non-cancer (toxicity index of 1) Preliminary Remediation Goals (PRGs) for the residential exposure scenario;
3) Removal of existing waste materials and impacted soils to reduce chemical levels such that the associated risks are below the U.S. EPA target excess cancer risk level selected (e.g., a value between 1 x 10- 4 to 1 x 10^{-6}) for the residential exposure scenario; and
4) Removal of all existing waste materials and impacted soils to reduce chemical levels to below background dioxin levels.

The following key issues based on what the U.S. EPA has proposed are summarized in the following paragraphs.

Issue No. 1 – The Exposure Scenario Used to Set the PRGs Is Inappropriate

In its analysis, the U.S. EPA assumed that a 'Youth Recreational Exposure Scenario' was suitable for portions of the proposed Strecker Forest Development Site for protecting the Wildwood community and neighboring residences. The U.S. EPA developed PRGs for Dioxin TEQ (which accounts for the relative toxicity of the various dioxin-like compounds using toxicity equivalence factors) for both cancer and non-cancer health effects. The calculated PRG based

on a non-cancer hazard index of 1 is 820 ppt. The PRG range for a cancer risk range of 1×10^{-4} to 1×10^{-6} is 63 to 6,300 ppt. These PRGs have been calculated assuming a '*youth recreational exposure*' scenario, with the receptors exposed via incidental ingestion, dermal contact and inhalation of particulates.

Response: MUNDELL believes that the selection of the 'recreational' exposure scenario to determine PRGs for the Site is inappropriate considering the area conditions. Adjacent abutting properties are currently residential in land use. The Strecker Forest Development Site is also proposed for residential land use. Arbitrarily assuming a 'recreational' exposure on one side of a property line that, in the absence of access restrictions, can easily be crossed by youth receptors residing on an adjacent residential parcel is not a conservative assumption that is protective of human health. Also, leaving a permanently deed-restricted property with cleanup levels above acceptable residential levels of concern within Wildwood is likely also unacceptable to a significant portion of the community.

Impact: Assuming a residential exposure scenario requires that any proposed investigation be completed to define the area specifically that exceeds the agreed upon 'residential exposure scenario' PRG. Once appropriately defined, that area would require a removal action that meets the residential exposure scenario PRG (with confirmation sampling to confirm it) without deed restrictions or access limitations. The U.S. EPA plan does not currently propose this and, to date, there has been no effort to achieve consensus with the affected community regarding this issue. Instead, the U.S. EPA, without input from the local community, has decided it is appropriate to leave in place concentrations of dioxin of up to 820 ppt in surface soil and presumably higher concentrations in subsurface soil in the midst of a residential area. This decision is furthermore based on 'recreational exposure' assumptions that are not even considered conservative for that kind of exposure scenario (*e.g.*, an exposure frequency (EF) of only 96 days per year (4 days per week for 24 weeks from May through September, and an exposure time (ET) of 4 hours per day are much less than the potential maximum that could be expected from children playing on a daily basis in areas immediately adjacent to their own backyards). At a minimum, additional investigation and also input from the local community is needed with the objective of reaching agreement on an appropriate PRG based on realistically conservative exposure assumptions.

Issue No. 2 – Target Excess Cancer Risk Selection in Defining PRG is not Appropriate.

Previous work by MUNDELL (MUNDELL, 2012) indicated that based on the historical approaches previously used within the Federal Superfund program and the State of Missouri, for cases in which a site is being proposed for future residential use and in which the local community is also concerned about surrounding residential properties, it is appropriate that the target excess cancer risk level being considered should be selected at the more conservative (and protective) end of the target cancer risk range (*i.e.*, within the 1×10^{-5} to 1×10^{-6} range) rather than its least conservative end (i.e. between 1×10^{-4} and 1×10^{-5}). This is based on the likelihood that some level of exposure will occur because of the intensity and proximity of residential use and consequently the large number of potential number receptors.

Response: Based on previous analyses performed by the U.S. EPA, the non-cancer 'residential exposure scenario' resulted in a preliminary PRG of 50.5 ppt, with the cancer residential exposure scenario providing a PRG range of 4.5 to 450 ppt for the target excess cancer risk range of 1×10^{-4} to 1×10^{-6}. Therefore, the conservative PRG for the Site is expected to be in the range of 4.5 to 45 ppt to more appropriately address future exposure concerns.

Impact: Lower PRGs that address potential 'residential exposure' and remove property deed restrictions and access controls will require additional investigation for delineating the extent of the 'area requiring removal action' and will ultimately increase the amount of wastes and impacted soils removed to achieve acceptable risk levels for residential exposure.

Issue No. 3 – Elevated Analytical Reporting Limits Above Levels of Concern and MCLs

The actual analytical testing results reporting limits for the previous U.S. EPA investigation in many instances exceeded the U.S. EPA project Level of Concern (LOC) for selected chemicals, including:

1) PCBs (Aroclor 1221 and 1232 in groundwater);
2) Heavy metals (arsenic, hexavalent chromium, lead in groundwater);
3) Semivolatile organic chemicals (SVOCs) (benzo(a)pyrene, dibenz(a,h)anthracene, and n-nitroso-di-n-propylamine for soil, and 4,6-dinitro-2-methylphenol, benzo(a)pyrene, bis(2-chloroethyl)ether, dibenz(a,h)anthracene and n-nitroso-di-n-propylamine for groundwater); and
4) Volatile organic compounds (VOCs) (1,2-di-bromo-3-chloropropane, 1,2-dibromoethane, and vinyl chloride for soil).

Response: These elevated laboratory reporting limits relative to the U.S. EPA LOC and the typical residential LOC effectively reduced the number of chemicals 'appearing' to exceed risk-based cleanup levels, and underestimated the remedial effort necessary to achieve a 'safe condition' for residential development and protection of adjacent residential dwellers.

Impact: Additional investigation needs to be completed to address the actual LOCs and define the extent of removal action needed to achieve an acceptable residential exposure PRG.

Issue No. 4 – Removal Action Should Not Be Undertaken Based on Current Data

The investigation work completed by the U.S. EPA to date has not adequately defined the 'area requiring removal action' or the final suitable PRG. As such, proposed removal action activities should not proceed until such time as these tasks have been completed and there has been an adequate effort in reaching consensus with the Wildwood community on an appropriate PRG.

Response: In order to effectively achieve cleanup on a portion of the Ellisville Superfund Site, consideration should be made for the timing of the removal action activities relative to the future development at Strecker Forest. For example, the proposed Strecker Forest site currently represents a potential ingress/egress route should consideration of heavy machinery be required for a soil removal action. Development and residential occupancy will likely hamper the ability to access these areas in the future if excavation equipment and dump trucks need to be staged and routed in portions of the Site. Therefore, consideration for completing any remaining remedial activities for the Solid Waste Disposal Area, the Eastern Disturbed Area and the NPL Area (including the Bliss Site) prior to any residential development should be given a priority.

REFERENCES

Missouri Department of Health and Senior Services, 2013, Department of Health and Senior Services Comments on the Memorandum on Preliminary Remediation Goals (PRGs) for Dioxin in Surface Soil Proposed Strecker Forest Development, Wildwood, Missouri, August 29, 2013.

Mundell & Associates, Inc., 2010, Phase II Environmental Site Assessment Report, Proposed Strecker Forest Development Site, 165, 173 and 177 Strecker Road, Wildwood, Missouri.

Mundell & Associates, Inc., November 8, 2012, Technical Comments Regarding U.S. EPA Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site.

Tetra Tech EM Inc., 2011, Expanded Site Review Work Plan for the Proposed Strecker Forest Development, Wildwood, Missouri, Superfund Technical Assessment and Response Team (START) Contract EP-S7-06-01, Task Order No. 0230.000, September 1, 2011.

Tetra Tech EM Inc., 2012, Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site, Wildwood, Missouri, Superfund Technical Assessment and Response Team (START) Contract No. EP-S7-06-01, Task Order 0002.058, prepared for the U.S. Environmental Protection Agency, June 13, 2012.

Tetra Tech EM Inc., 2013, Addendum to the Expanded Site Review Work Plan for the Proposed Strecker Forest Development Site, Wildwood, Missouri, Superfund Technical Assessment and Response Team (START) Contract EP-S7-06-01, Task Order No. 00023.058, prepared for the U.S. Environmental Protection Agency, June 13, 2012.

U.S. EPA, July 25, 2013 Memorandum, Preliminary Remediation Goals (PRGs) for Dioxin in Surface Soil, Proposed Strecker Forest Development.

U.S. EPA, September 18, 2013 Memorandum, Request for Concurrence on Proposed Nationally Significant or Precedent-Setting Removal at the Ellisville Site, Wildwood, St. Louis County, Missouri.

U.S. EPA, September 26, 2013 Action Memorandum, Approval and Funding for a Removal Action at the Ellisville Site, Wildwood, St. Louis County, Missouri.

MEMO

From: Peter deFur, Environmental Stewardship Concepts, LLC
Date: February 4, 2014
Re: EPA Work Plan for Strecker Forest

We reviewed the documents pertaining to the cleanup at the Strecker Forest property, adjacent to the Bliss property that is the location of the Bliss-Ellisville Superfund Site. A list of the documents received and reviewed is attached to this memo.

The documents include several that are routine descriptions of how the contractor will perform the site remediation. These documents are the Quality Assurance Project Plan (QAPP) and Work Plan. In these documents, there is a list of staff that are responsible for different steps. The Work Plan explains that the excavation will be conducted according to the EPA standards for remediation, with a Remedial Action Level for dioxin.

The remediation is based on sampling that was conducted August 2011 - February 2012 and in July 2013. These sampling efforts were intended to determine levels of dioxin compounds in soil.

The remediation is using a cleanup level, or Remedial Action Level (RAL) of 820 ppt (parts per trillion) dioxin (2,3,7,8 TCDD) in surface soils (up to 12 inches deep) and 2460 ppt in subsurface soils. Neither soil cleanup level is a residential RAL that would be used in a yard for unrestricted use by children as well as adults.

Our examination of the basis for the 820 ppt RAL indicates that this value is based on use of the property for fewer days and shorter hours per day than EPA uses for residential exposures.

In a memo dated July 25, 2013 EPA explains the derivation of the 820 ppt and the 2460 ppt. Based on a development plan, EPA determined that the land parcel in question was not within the boundaries of a residential property and therefore could be considered non-residential. The property was evaluated as a recreational use property, based on the plat submitted by the developer that indicates the location of residential structures and open space. The exposure conditions were based on a typical trespasser or youth recreational user coming on to the property as the Reasonable Maximum Exposure (RME).

The cleanup levels will not allow residential use of the property and would therefore require use restrictions in the form of engineering controls (a fence), deed restrictions, or some other means of limiting access to the property in question. The July 25, 2013 memo from EPA in fact states that "a portion of the property where dioxin contamination is present will be subject to deed restrictions in the form of land use controls prohibiting

residential development." The preliminary remediation goals are based on the assumptions that residential use will be restricted by deed, that the most frequent users will be adults and youth, and that children aged 0-6, the most sensitive to dioxin's effects, will not be the most frequent users. The dioxin remediation goals do not protect against dioxin's effects for young children ages 0-6 visiting the site at the same frequency as adults or youth. Future use for residential purposes would seemingly require further remediation to remove dioxin contaminated soil that exceeds true residential standards.

The specific exposure conditions assumed in the calculation of soil remediation goals are:

- youth ages 6-16
- visitation not more than 96 days/year, which is 4 days per week for 24 weeks in summer
- each visit would be 4 hours
- no exposure from consuming vegetables (because this activity would be considered a residential scenario)
- the incidental soil consumption of 100 mg/day for youth; young children have a higher rate at 200 mg/day

This memo also calculates that a soil remediation goal of 63 ppt would be needed to protect a youth recreational visitor against excess cancer at a risk level of 1 in a million.

The results of soil sampling in July 2013 are given in the Table labeled as follows:
Bliss-Ellisville (Strecker Forest) RSE
Table 1. Summary of Soil Samples Collected and Total Dioxin TEQ Results - July 2013
This table presents data on 2,3,7,8, TCDD in soil, and does not indicate that the values in the table include results for the other dioxin-like compounds (dioxins, furans and PCBs). The far right column heading and the table title should be labeled consistently; both should indicate these are 2,3,7,8 TCDD TEQs, if such is the case.

We note that the remediation is based on soil dioxin levels and does not address groundwater contamination or contamination in the creek. Groundwater contamination was documented by the state of Missouri in two locations: the area north of the creek and in a monitoring well along the Bliss/Strecker Forest border south of the remediation area. Similarly, dioxin was reported in the creek that lies on the northern border of the Strecker Forest property. Neither the site assessment nor the remediation addresses these two problems.

Conclusions

- The Remedial Action Level (RAL) of 820 ppt dioxin in surface soils and 2460 ppt in subsurface soils is based on use of the property for fewer days and shorter hours per day than what the EPA uses to determine the RAL under a residential scenario.
- Use of this RAL indicates that the EPA is not cleaning up the site to a residential level of cleanup.

- A decision by the City of Wildwood to require residential clean up in keeping with the residential zoning is in accord with EPA guidance in OSWER directive No. 9355.7-04 which directs cleanup decisions consider reasonably anticipated future land uses. The City of Seattle took such action on the Lower Duwamish River when interested in a cleanup that includes the most conservative future use of the site.

List of documents received and reviewed:

1. Action memorandum to request document approval of a proposed removal action
2. After excavation estimate
3. Before action estimate
4. DHSS memo on PRGs
5. EPA response 12092013
6. HQ concurrence September 201
7. PRG Strecker Forest July 2013
8. QAPP signature page
9. Strecker Forest Preliminary Removal Action Report July 24, 2013_Redacted
10. Table 1 summary Strecker RSE samples TEQs
11. Work plan Strecker-wildwood work plan final
12. EPA Proposed Preliminary Remediation Goals for Dioxin in Surface Soil Proposed Strecker Forest Development