



September 5, 2013

Commissioner Bob Martin
New Jersey Department of Environmental Protection
401 East State Street
7th Floor, East Wing
P.O. Box 402
Trenton, New Jersey 08625

RE: Remediation of the Rahway Arch Property (former American Cyanamid) Site, Carteret, New Jersey, PI Number G000007844

Dear Commissioner Martin:

I am the Licensed Site Remediation Professional (LSRP) retained by Rahway Arch Properties LLC and the Borough of Carteret to remediate the Rahway Arch Properties site in Carteret. While remediation of this site has overwhelming public support, as evidenced throughout the multiple public hearings; a few vocal groups continue to oppose the remediation and are spreading technical misinformation about the project. Numerous public statements have been made by these groups, including the August 14, 2013 letter to you from Mayor Clifton People of Union Township. These statements containing numerous technical errors and misinformation are intended to influence the Department against remediation of this property.

My purpose in writing this letter is to provide you with the facts regarding the site and its necessary remediation, which is required under SRRA. I will provide you with an accurate description of the site and the remediation. Then, using Mayor People's letter as an example, I will identify the errors and misinformation and provide the correct information.

Site Description and Required Remediation

The Rahway Arch Properties site is a 124.7 acre property formerly owned by Cytec Incorporated, successor to American Cyanamid Corporation. The site was used by American Cyanamid from the 1930s through the 1970s to dispose of approximately 2,000,000 tons of alum and yellow prussiate of soda (alum-YPS) sludge in six sludge lagoons, covering approximately 85 acres. The sludge and undocumented fill that have been placed on this site are contaminated with cyanide, metals and polynuclear aromatic hydrocarbons (PAHs). My investigations have shown PAH contamination up to 300 times the non-residential remediation standards. Previous investigations performed by the Department in 1991 and the NJ Turnpike Authority in 2006 also identified contamination above remediation standards.

The site requires remediation. At the present time, 25.5 million gallons of water per year percolate through the contaminated materials and into the groundwater and the adjacent Rahway River. The berms that form the impoundments were constructed in the 1930s and are not stable. A catastrophic berm failure will release the contaminated materials into the adjoining wetlands and the River. The surfaces of the impoundments are unstable and pose a safety

hazard to people and wildlife that enter the site. The Department has recognized the need to remediate the site and, following my remedial investigations, issued to Cytec a notice of intent to rescind the NFA/CNS that was granted in 2002.

To remediate the site, I have developed a comprehensive plan that uses a capping system to eliminate direct contact hazards, stabilize the impoundments and berms, eliminate infiltration into the groundwater and River and eliminate the on-site safety hazards. Upon completion of the remediation, the site will consist of approximately 65 acres of restored habitat providing fully functional wetland transition areas and approximately 20 acres of developable property. The remaining 40 acres of uncontaminated wetlands on the property will not be touched by the remediation activities, but will, in fact, be enhanced by the remediation of the contaminated areas on the site. A non-residential use deed restriction will be recorded.

The remedial action workplan (RAW) for this site remediation has undergone an intensive, nine-month long component review by the Site Remediation Program. While the remedial design remained unchanged through the component review, recommendations by the Department to ensure the protectiveness of the capping system were implemented. The component review was successfully concluded on August 26, 2013.

We are now in the final stages of obtaining approvals from the Division of Land Use Regulation to commence the site remediation. The opponents to remediating this site are attempting to block these permits as their means to prevent this site from being remediated. As I indicated initially, the opponents are using incorrect statements and misinformation to support their untenable position that the site should not be remediated.

Correction of Misinformation

Using the August 14 letter to you from Mayor People of Union Township as an example, I am providing you with the technically correct and accurate information regarding the site remediation. The Mayor states that he has obtained at least some of his information from "other sources". I am at a loss to determine who these other sources that provided information regarding this site are. No one from the Township has contacted the LSRP, Rahway Arch Properties or Soil Safe, the three entities that have the correct information. Therefore, I have to conclude that these other sources do not have knowledge of the site and are not credible sources of information. Clearly, the errors in the Mayor's letter support this conclusion. Note that most of these statements have been made by the other opponents of the site remediation during the permitting and review process and have been shown to have no merit.

Correction Regarding Engineered Fill for the Cap System

In his first paragraph, Mayor People states: "*Based upon articles that have been published and from information gathered from other sources, it is our understanding that Soil Safe Inc. of Maryland is poised to import several hundred thousand yards of contaminated soil mixed with construction debris in order to cap six lagoons on the former American Cyanamid landfill adjacent to the Rahway River.*"

This statement is totally incorrect. It is important to note that the use of construction debris has never been proposed or discussed and is not part of the planned remediation at this site. The cap system will be constructed using engineered fill manufactured by Soil Safe in a permitted Class B recycling center that will be temporarily located on the site only for the time needed to complete the remediation. The soil that will be recycled by Soil Safe is petroleum contaminated soil. No construction debris will be accepted at the recycling facility or will be used in the cap. Neither the RAW nor any of the permit applications ever mentioned construction debris as a possible capping material, and as the LSRP, I have no intention of allowing any construction debris on the site.

To achieve the remediation requirements, the engineered fill must be manufactured to a tight geotechnical specification that the geotechnical consultant for the project, Michael J. Baker, Inc., and the LSRP will be monitoring. The in-place engineered fill must have consistent properties and be well compacted to meet the low permeability and high strength requirements needed for the cap system. Soil mixed with construction debris cannot meet this specification. The Soil Safe process mixes the soil to meet gradation requirements, screens out oversized and deleterious materials and treats the soil with pozzolonic additives to achieve the strength and reduced permeability. I have successfully used this product to remediate other sites in the State.

While the incoming soil is classified as petroleum contaminated soil, the engineered fill product will meet residential remediation standards for petroleum hydrocarbons and all analytical parameters, except six PAH compounds that already exist on the site at concentrations well above the remediation standards. The RAW requires that the concentrations of these PAH compounds will be significantly below the mean of the existing on-site concentrations.

Correction Regarding the Department Review and Permitting

Continuing on in that paragraph, the Mayor states: *"Further, reviewing the permitting process for this project, it suggests that the NJDEP evaluation was not sufficiently thorough to pick up the serious impacts to the environment caused by this project."*

This statement, which implies that the Department did not fully examine this project, is completely wrong as evidenced by:

- ❑ The RAW was submitted to SRP on November 27, 2012. SRP spent nine months in a component review before concluding that the remedial action was protective and met the regulatory requirements for site remediation on August 26, 2013.
- ❑ The land use permit applications were submitted to the Division of Land Use Regulation on November 28, 2012. DLUR spent six months examining the Land Use permit applications before issuing conditional permits on May 24, 2013. DLUR is still in the process of reviewing the supplemental information we have submitted in response to the conditions precedent to the start of remediation.

- The Class B facility approval was thoroughly examined by the Borough of Carteret, Middlesex County Solid Waste Advisory Council and Middlesex County Board of Chosen Freeholders before the Freeholders passed a resolution amending its Solid Waste Plan in March 2012. You reviewed and approved this Plan Amendment in August 2012.
- The Class B recycling facility permit application was submitted to the Bureau of Solid Waste in May 2012, has been thoroughly reviewed.
- The air permit application for the Class B facility was submitted to the Air Quality Permitting Program in July 2012, has been thoroughly reviewed.
- The application for the NJPDES-DGW permit the temporary stormwater pond for the Class B facility was submitted to the Bureau of Non-point Pollution Control in August 2012 and the permit was approved in January 2013.

Beyond these permit applications, the property owners have been in discussion with the Department regarding remediation of this site since June 2009, approximately seven months before they purchased the property. The Department has been fully involved in reviewing the information regarding the site conditions and the need for remediation since that time. To suggest that the Department has not been thorough in its review of this project is wrong to say the least, and fully reveals the uninformed or intentionally misleading nature of the Mayor's sources.

Correction Regarding Local Flooding Upriver

In the same paragraph the Mayor indicates that capping the site will "... *aggravate local flooding conditions.*" presumably in Union Township. Since he provides no explanation regarding this statement, I cannot determine how he arrived at that conclusion.

In making this statement, the Mayor is obviously implying that the site, as it exists today, provides storage and a flow path for flood waters; thereby reducing flooding 10 miles upstream in Union. Before even examining the river hydraulics, I must state that how anyone could endorse the concept of flooding an 85 acre site that was previously contaminated with cyanide, metals and PAHs as a sound environmental engineering practice is beyond me. As an LSRP, my primary responsibility is to protect human health and the environment. Allowing this site to flood would be in direct conflict with that responsibility.

Looking at the river hydraulics, the site is not in the floodway. The floodway is adjacent to this site and will not be changed by the remediation. The site was filled long ago with the alum-YPS waste material. The berms that form the impoundments are approximately 12 feet high along most of the riverbank. In fact, observations made onsite last year during and after Sandy showed that the majority of the site was not flooded, even with the storm surge created by Sandy.

The River in the vicinity of the site is tidal. Flooding from a severe storm area is caused by storm surge coming from the ocean, not water flowing down the river. The problems associated with upstream River flooding are caused by existing constrictions upstream from this location that restrict the normal flow of water during storms. Remediation of this site will not have any impact on those constrictions or flooding upstream.

Correction Regarding Solid Waste and Hazardous Materials in a Flood Plain

In his second paragraph, the Mayor states *"In particular that a waiver from DEP regulations that forbid processing and storage of solid waste and hazardous materials in a flood plain would even be considered likely for this project has left Union Township stunned."*

The Class B facility will be recycling petroleum contaminated soils. This soil is neither a solid waste nor a hazardous substance. The material to be processed through the Class B facility is a recyclable material, not solid waste. Solid waste is defined by N.J.A.C. 7:26-1.6:

"Solid waste is any garbage, refuse, sludge or any other waste material except that it shall not include the following:...

2. Recyclable materials that are exempted from regulation pursuant to N.J.A.C. 7:26A."

The N.J.A.C. 7:26A-1.3 rule to which the solid waste exemption refers includes:

"Recyclable material means those materials which would otherwise become solid waste and which may be collected, separated or processed and returned to the economic mainstream in the form of raw materials or products...."

N.J.A.C. 7:26A-1.3 defines

"Class B recyclable material to include source separated concrete, asphalt, brick, block... and petroleum contaminated soil."

Pursuant to these regulations, the Bureau of Solid Waste has advised that the petroleum contaminated soil is not considered solid waste.

The petroleum contaminated soil is also not an environmentally hazardous substance (incorrectly termed hazardous materials by the Mayor.) The average concentration of extractable petroleum hydrocarbons (EPH) in the soil will be well below 5,100 mg/kg, which is the Department's most stringent soil clean-up standard for residential properties. The mere presence of minute quantities of petroleum products does not make the soil a hazardous substance. Based on the EPH concentrations, the Department would consider these soils clean.

Further, the listing of hazardous substances adopted by the Department pursuant to the Spill Act, Appendix A to N.J.A.C. 7:1E et seq., does not list petroleum impacted soils as a hazardous substance.

That said, the Class B facility design drawings, submitted to the Department with the Land Use permit applications; show that the facility will be located above the new FEMA Advisory Base Flood Elevation (ABFE) for the site. This makes any discussion regarding the recyclable materials moot, since the materials and the Class B facility will not even be in the flood plain.

Correction Regarding Eliminating a Wetland

In the same paragraph regarding the waiver, the Mayor states: *"In effect it would be eliminating a wetlands area that stores flood waters during storm events ..."*

The 124.7 acre site contains 40 acres of wetlands, all of which are located outside the containment berms and the impoundments. These wetlands are not contaminated, and all of the wetlands are outside the limits of remediation. The capping system will not impact these wetlands. The Class B facility will be located on one of the contaminated impoundments and will not be located in a wetland area.

In fact, this site remediation will have a positive impact on the wetlands areas. The wetland transition areas within the impoundments were destroyed when the site was used for alum-YSP disposal, making them unsuitable as transition areas. Once remediated, these areas will be planted with native grasses and will be left as habitat, forming truly protective wetland transition buffers.

Please note that the RAW does require additional investigation in the wetland areas directly adjacent to the impoundments to ensure that they have not been adversely impacted by the contaminated site.

Correction Regarding Flooding and a Wing Dam

Also in the same paragraph, the Mayor states: *"In effect it would be eliminating a wetlands area that stores flood waters during storm events into a contaminated site functioning as a wing dam that provides no flood water storage. Further, the structure could slow the ability of the river to drain."*

The comments regarding the wetlands and the ability of the river to drain have already been discussed. Remediation of this site will not create any new impediment to the flow of the Rahway River or wing dam. River flow in this area of the Rahway is tidal, and flow down the River is controlled by upstream constraints.

The site remediation will not place any fill in the River's floodway and will not obstruct the passage of floodwaters in the floodway. The River is tidally influenced and the 100-year floodplain requirements in the site area are governed by tidal flooding. In accordance with N.J.A.C. 7:13-10.4(c)1 and (d)1, remediating the site is not subject to the flood storage volume displacement limits of Section N.J.A.C. 7:13-10.4. Potential reductions in the flood storage volume resulting from remediating this site are minor in comparison to the magnitude and extent of the 100-year tidal flood.

Corrections Regarding Height and Stability

Further in the same paragraph, the Mayor states: *“And the stability of this site, reported to be ultimately 29 feet high, does not seem to have been assured as part of the review process. It takes little imagination to realize the devastation a structural collapse of the site would create.”*

Again, this statement is wrong; plus it implies that the site remediation plan has not been properly designed and the Department has been negligent in reviewing the design.

First, let me clarify the issue of height once and for all. Many opponents have been quoted as saying the cap will be 29 feet thick. This is wrong. The maximum elevation of the cap will be 29 feet above MSL. At that point on the site the existing elevation is approximately 14 feet above MSL, making the cap approximately 15 feet thick at its thickest point.

As with all of the aspects of this remedial design, the elevation of the cap has been dictated by the engineering considerations necessary to achieve the remedial objectives. One of the necessary requirements for remediating this site is to ensure that stormwater runs off and does not percolate through the cap into the contaminated materials and the groundwater. To provide run-off the cap will be graded with a 2.5% slope, and runoff will be directed into stormwater basins where it can be properly managed and safely discharged. Grading up from the existing berms, the size of the site and the lengths of the flow paths resulted in the high point of the cap being at elevation 29 feet. This design is described in detail in the RAW and has been fully vetted through the Department’s review processes.

The Remedial Investigation included a five month long geotechnical investigation and study by Michael J. Baker, Inc. From this investigation they developed a plan of action to construct the cap system and ensure both short term and long term stability of the site. Included in the plan of action are both geotechnical and groundwater monitoring of the cap system construction that will provide real time data to ensure stability is maintained and no contaminants are being released.

The current site is unstable. The alum-YPS sludge is saturated and has no shear strength. It will not support vehicle weight and an object can easily be pushed into the sludge with light hand pressure. The berms were constructed with permeable soils, do not have impervious cores and are not keyed to the underlying natural materials. Berm failures have occurred in the past and failure to remediate the site will result in additional failures and release of the contaminated materials into the wetland and the River. Using the geotechnical data, the cap system has been designed to stabilize the site and prevent any future failures or releases.

The LSRP has fully reviewed the investigation and report and is in agreement that this plan of action will ensure the stability of the site. This plan of action has been reviewed by the Department as part of the component review. Although portions of the geotechnical report are considered confidential, an un-redacted copy of the report was submitted to, and reviewed by, SRP. Therefore the claim that the stability was not addressed as part of the review process is incorrect.

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Summary and Conclusion

Remediation of the contaminated Rahway Arch Property site is necessary to protect human health and the environment and is mandated under SRRA and Department regulations. The site has been thoroughly investigated and the design has been well engineered to achieve all of the remediation requirements and all ARARs. The RAW and the remedial design are complete, have been extensively vetted through the Department and are ready to be implemented as soon as the necessary permits are issued.

While several groups have been vocal in attempting to block the remediation of this site, as can be seen from the details in this letter, the arguments they have been making to keep this site from being remediated lack any technical merit and are simply incorrect.

As required under SRRA, I have been fully diligent in responding to all questions presented to me regarding this site and the proposed remediation project. Moreover, the property owners and Soil Safe have consistently made themselves available to any interested party for discussion regarding the project. This includes multiple invitations, all of which were rejected, to these few opposition groups to participate in the process during the remedial design phase. The property owners, Soil Safe and I would be more than happy to meet with you and/or any of your staff to again discuss this project, the need for remediation and the information contained in this letter in greater detail. If you have any questions or would like any additional information, please call me at (410) 290-8777.

Sincerely,
EastStar Environmental Group, Inc.



Albert P. Free, P.E., CSP, LSRP
President

cc: Mr. Chet Pucillo – Rahway Arch Properties, LLC
Mr. Ron D'Argenio – Rahway Arch Properties, LLC
The Honorable Daniel Reiman – Mayor, Borough of Carteret
Mr. Mark Smith – Soil Safe Incorporated
Mr. Bill Roberts – Soil Safe Incorporated
Ms. Marilyn Lennon, NJDEP, Land Use Management
Mr. Mark Pederson – NJDEP, SRP
Mr. Ken Kloo – NJDEP, SRP
Ms. Suzanne Dietrick – NJDEP, ODST
The Honorable Clifton People, Jr. – Mayor, Township of Union