

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)
Current Human Exposures Under Control

Facility Name: Former C&D Technologies, LLC
Facility Address: 401 Washington Street, Conshohocken, PA 19428
Facility EPA ID #: PAD053285557

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?
- If yes - check here and continue with #2 below.
- If no - re-evaluate existing data, or
- If data are not available, skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		X		sampling results are below MCLs
Air (indoors) ²		X		not active site, no VOCs at site
Surface Soil (e.g., <2 ft)	X			sampling showed Pb above DC standard
Surface Water		X		no SW on site, Schuylkill River at border
Sediment		X		no SW on site, Schuylkill River at border
Subsurf. Soil (e.g., >2 ft)		X		sampling below soil to GW standards
Air (outdoors)		X		not active site, no VOCs at site

If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale:

Primary site operations consisted of manufacturing and testing of lead-acid batteries. The plant opened in 1925, and was demolished in 2005. The main constituents of concern at the site are lead, arsenic benzo[a]pyrene, benzo[b]fluoranthene and dibenzo[a,h]anthracene.

Sampling in 2001, 2002, and 2003, conducted for Pennsylvania’s Act 2 Land recycling Program, identified and delineated areas of metals and PAHs contamination above direct contact standards. Excavation and off-site disposal was conducted in specific areas where lead was found above 5000mg/kg, which PADEP defined as site-specific hot-spot standard for this site. Supplemental sampling was conducted in 2012 and 2013 for post-excavation confirmation of the 2003-excavated areas and characterization beneath former site structures demolished in 2005. Some additional hot-spots were delineated and will be removed as detailed in the site Cleanup Plan. The Cleanup Plan also identifies that the entire site will be capped with asphalt, concrete or 2 feet of soil/landscaping at conclusion of the construction.

Reference:

Act 2 Combined Remedial Investigation Report and Cleanup Plan for Soil – Revised, prepared by Roux Associates, Inc. on behalf of 401 Washington Street Associates, L.P., dated Oct. 24, 2014 (RIR/CP)

Footnotes:

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

“Contaminated” Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	_____	_____	_____	_____	_____	_____	_____
Air (indoors)	_____	_____	_____	_____	_____	_____	_____
Soil (surface, e.g., <2 ft)	_____	_____	_____	Yes	_____	_____	_____
Surface Water	_____	_____	_____	_____	_____	_____	_____
Sediment	_____	_____	_____	_____	_____	_____	_____
Soil (subsurface e.g., >2 ft)	_____	_____	_____	Yes	_____	_____	_____
Air (outdoors)	_____	_____	_____	_____	_____	_____	_____

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
- If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

Rationale:

Fencing currently surrounds the site during construction activities eliminating potential pathways for all but construction workers.

After construction, the surface of the Site will be entirely capped by paved areas, roadways, parking, landscaping (ie, concrete, asphalt and clean soil). The planned redevelopment consists of two 4-story apartment buildings over surface parking, with a related leasing office and swimming pool (also located above surface parking), and landscaped areas. In addition, open space is proposed along the

riverfront through a trail and green space that sits above underground storm water basins. The approved redevelopment calls for the extension of the Borough's walking trail along the Schuylkill River, providing connections from Washington Street to the trail along Cherry Street, through the development, and along the eastern side of the development.

With the entire site being capped, there is no complete exposure pathway from soil, except for potentially construction workers during earth-disturbance activities.

Reference:

Act 2 Combined Remedial Investigation Report and Cleanup Plan for Soil – Revised, prepared by Roux Associates, Inc. on behalf of 401 Washington Street Associates, L.P., dated Oct. 24, 2014 (RIR/CP)

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?
- If no (exposures cannot be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
- If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
- If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale:

Construction workers are expected to have Health and Safety Plan and appropriate training to prevent any exposures to remaining contaminants.

Reference:

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the “significant” exposures (identified in #4) be shown to be within **acceptable** limits?
- If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).
 - If no - (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.
 - If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code.

Rationale and Reference(s):

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI (event code CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the **Former C&D Technologies, LLC, PAD053285557**, located at **401 Washington Street, Conshohocken, Pennsylvania, 19428** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature) *Linda A. Matyskiela*
(print) Linda Matyskiela
(title) Project Manager

Date: 09/23/2015

Supervisor (signature) *Paul Gotthold*
(print) Paul Gotthold, Associate Director
(title) Office of PA Remediation
(EPA Region or State) EPA Region 3

Date 9-24-15

Locations where References may be found:

US EPA Region III
Land and Chemicals Division
1650 Arch Street
Philadelphia, PA 19103

Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

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