From:	Schindler, Jason
To:	Haklar, James
Cc:	Devorak, Coleen
Subject:	Hatco Offsite Access and Woodbridge Pond
Date:	Wednesday, January 27, 2016 3:27:11 PM
Attachments:	Crown Pacific Access Agreement.pdf Executed EPEC Access Agreement.PDF Fully-Executed ConRail Access Agreement.PDF Woodbridge Twp Oct 2013 Final.pdf 12-10-12 Fully-Executed Gredel Access Agreement.PDF 2015-11-12 Final Draft Woodbridge Pond Conceptual Remediation Approach.pdf

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Jim,

As a follow up to our discussion on Monday I have attached copies of our access agreements for the offsite properties and the draft scope of work for Woodbridge Pond. On Monday we received correspondence from an attorney for Woodbridge Township regarding the scope of work and we are currently responding. If this affects our plans or schedule I will provide an update.

The attachments are fairly large. Please confirm so I know you received this.

Thanks,

Jason

Jason Schindler
Principal Project Manager
Weston Solutions, Inc.
205 Campus Drive
Edison, NJ 08837
Tel: 732-417-5804
Cell: 732-740-5529
Fax: 732-417-5801
www.westonsolutions.com

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Norris
McLaughlin
& Marcus, P.A.
ATTORNEYS AT LAW

December 14, 2012

Mr. Daniel Kopcow, P.E.
Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837

Re: Property Access Agreement
1000 Industrial Avenue
Woodbridge Township, New Jersey

Dear Daniel:

Enclosed is a fully executed copy of the Access Agreement dated December 10, 2012 between GreDel Properties, L.L.C. ("GreDel") and Weston Solutions, Inc. Please disregard the inadvertent "Draft" watermark embedded on the signature page executed by GreDel. The client intends this to be a final effective signature for purposes of the Access Agreement.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

John A. Jakub

Enclosure

LAW FIRMS WORLDWIDE MERITAS
NJ: 721 Route 202-206, Suite 200 P.O. Box 5933 Bridgewater, NJ 08807-5933 • P: (908) 722-0700 • F: (908) 722-0755
NY: 875 Third Avenue, 8th Floor New York, NY 10022 • P: (212) 808-0700 • F: (212) 808-0844
PA: The Paragon Centre, Suite 300 1611 Pond Road Allentown, PA 18104-2258 • P: (610) 391-1800 • F: (610) 391-1805
www.nmmlaw.com E: info@nmmlaw.com

ACCESS AGREEMENT

This **ACCESS AGREEMENT** dated this 10th day of December, 2012 ("Agreement") is made by and between **GREDEL PROPERTIES, L.L.C**, a New Jersey corporation ("GreDel") and **WESTON SOLUTIONS, INC.**, a Pennsylvania corporation ("Weston"). GreDel and Weston may be referred to herein collectively as "Parties" and individually as a "Party."

RECITALS

WHEREAS, GreDel is the current owner and operator of the premises located at 1000 Industrial Avenue, Woodbridge, New Jersey (the "Property");

WHEREAS, Weston seeks to enter the Property in order to conduct environmental investigation activities, as described in Exhibit A to this Agreement (the "Environmental Activities");

WHEREAS, GreDel agrees to grant permission to Weston and its employees, contractors, subcontractors, engineers, agents and consultants (collectively the "Weston Grantees") to enter upon the Property to perform the Environmental Activities, subject to the terms and conditions set forth in this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and intending to be legally bound, the Parties agree as follows:

1. Access.

a. Subject to the terms of this Agreement, GreDel hereby grants, as of the Effective Date as defined below, the Weston Grantees a temporary, non-exclusive license to enter the Property for the purpose of performing the Environmental Activities. Weston shall be solely responsible for all costs and expenses to perform the Environmental Activities.

b. Access for future work not authorized by this Agreement shall be pursuant to a separate written agreement between the parties or an amendment to this Agreement.

c. Except as set forth herein, the Weston Grantees may, upon at least four (4) days written notice to GreDel in advance of accessing the Property, enter the Property pursuant to such temporary, non-exclusive license to perform the Environmental Activities during the term of this Agreement. Such written notice ("Weston Notice") shall include: (i) a written description of the Environmental Activities that the Weston Grantees intend to conduct at the Property; (ii) the number and identities of any persons entering the Property, including any representatives of the NJDEP or the USEPA; (iii) the dates and times of entry; (iv) the areas of the Property to be affected by the Environmental Activities; (v) the anticipated duration of the Environmental Activities; and (vi) an estimate of the number of vehicles and other equipment that will be on the Property. The Weston Notice shall be given to the individuals identified in section 7 m below.

d. GreDel understands that either the NJDEP or USEPA may require access with less than four (4) days notice. If the NJDEP or USEPA require access with less than four (4) days notice, the Weston Grantees shall give GreDel the Weston Notice at the earliest opportunity by facsimile or other means of electronic transmission to the individuals identified in section 7 m below.

e. Upon the Weston Grantees first arrival at the Property following the Weston Notice, the Weston Grantees shall meet with at least one (1) representative, designated by GreDel, for the purpose of coordinating the Environmental Activities.

f. Any entry upon the Property by the Weston Grantees shall be during week days from 8:00 a.m. to 6:00 p.m., unless GreDel consents in writing with respect to a specific Environmental Activity or in the event of an emergency.

g. All access by the Weston Grantees to the Property shall be at the sole risk and expense of the Weston Grantees.

h. Weston acknowledges that the Property is an active commercial warehouse facility, and tractor trailers often enter upon, and depart from, the Property. Weston further acknowledges that the commercial warehouse facility on the Property is occupied by tenants. Weston and the Weston Grantees shall use due care and diligence in the exercise of its rights hereunder, and it will at all times exercise its rights hereunder at such times and in such manner that will not result in (a) any unreasonable material interference with the business operations on the Property, (b) any unreasonable material interference with the customary access to or from the Property, or (c) any damage or injury to the Property, or any agents, servants, employees or invitees of GreDel. The Weston Grantees are strictly prohibited from taking any photographs or videos of the Property, including any improvements thereon, and of the commercial or tenant operations being conducted on the Property, except to the extent that photographs or videos are reasonably necessary for the performance of the Environmental Activities or the generation of Environmental Information, as defined herein in section 4 below.

i. At GreDel's sole cost and expense, GreDel, its consultants and attorneys shall have the right, but not the obligation, to be present during the performance of any Environmental Activities. GreDel shall have the right, at GreDel's sole cost and expense, to conduct concurrent testing, sampling, and analysis, or to receive from Weston split samples of all samples at GreDel's request, so long as GreDel does not interfere with the Environmental Activities being conducted by the Weston Grantees.

2. Exercise of License.

a. The Weston Grantees shall conduct all Environmental Activities (i) so as to not unreasonably interfere with GreDel's and its tenants, agents, servant, employees or invitees use of the Property, and (ii) in a good and workmanlike manner. The Weston Grantees shall minimize, to the extent practicable, the area of the Property used for the purpose of the Environmental Activities.

b. Upon the completion of the Environmental Activities, the Weston Grantees shall cause all land, landscaping, foliage, surfaces, utilities and/or improvements

disturbed or damaged by the Weston Grantees while accessing the Property or performing Environmental Activities thereupon, to be repaired and/or restored either to as close to their original condition or its equivalent as practicable in a commercially reasonable manner.

c. Any drill cuttings, sediment, dewatering decant water, equipment or other decontamination water, soil, groundwater, waste, samples or other materials generated by the Environmental Activities are referred to herein as the "Wastes." The Weston Grantees shall be responsible, at their sole cost and expense, for the proper management, characterization, storage, labeling, manifesting, transport and disposal of the Wastes. All Wastes manifests shall designate a Weston Grantee as the generator. The Weston Grantees shall remove the Wastes as soon as is reasonable but shall not permit Wastes to remain on the Property for more than thirty (30) days. Any Wastes to be stored at the Property, pending transportation and disposal, shall be appropriately stored, labeled, and placed in a designated area of the Property. The availability of any designated area of the Property for this purpose shall be approved by GreDel in writing prior to its use by the Weston Grantees. GreDel shall not unreasonably withhold approval of any such designation. The Weston Grantees shall be solely responsible for ensuring that the areas so designated comply with all applicable environmental, health, safety or other regulations pertaining thereto. At Weston's sole cost and expense, Weston shall cause clean up and remediation of any discharge, leakage or spillage, whether or not involving hazardous substances, hazardous materials, hazardous wastes, pollutants or contaminants on the Property resulting from the Environmental Activities and/or Weston Grantees activities, in accordance with applicable laws and regulations at the time. GreDel disclaims any and all responsibility for the Weston Grantees' compliance with the applicable environmental, health, safety or other regulations pertaining to the handling, storage, or transportation of the Wastes.

d. Any equipment and vehicles used for purposes of the Environmental Activities are referred to herein as "Equipment." The Weston Grantees shall be responsible for ensuring that use of the Equipment by the Weston Grantees complies with all applicable environmental, health, safety or other regulations pertaining thereto. GreDel disclaims any and all responsibility for Weston Grantees' compliance with applicable environmental, health, safety or other regulations pertaining to the use of the Equipment.

3. <u>Compliance With Laws</u>

a. Weston agrees and warrants that the Weston Grantees will comply with the terms and conditions of this Agreement and the Weston Grantees will comply with all applicable federal, state, and municipal laws, regulations and ordinances (collectively "Laws"), including but not limited to Laws intended to protect workers or bystanders and Laws regulating the generation, handling, storage, importation or disposal of waste, including contaminated soil or groundwater, as well as the directives, requirements, or orders of any agency or governmental authority asserting jurisdiction over the Weston Grantees while accessing the Property or performing Environmental Activities on the Property.

b. While on the Property, the Weston Grantees shall comply with all Laws requiring the contact of appropriate utility authorities with respect to the locating of underground water, telephone, electric, sewer, plumbing, gas, and other utility lines and other underground

apparatus (collectively, "Underground Apparatus.") and shall not damage, disturb or interfere with Underground Apparatus in any servicing the Property, including the improvements thereon.

c. Weston shall be solely responsible, at its sole cost and expense, for obtaining all governmental permits, consents and approvals for the Environmental Activities and removal of the Wastes. GreDel shall cooperate, at no cost to GreDel, with Weston's reasonable requests in obtaining such permits, consents, and approvals, and GreDel shall promptly execute any reasonable documents prepared by Weston to obtain such permits, consents, and approvals. Any request to execute a permit application or permits shall be deemed unreasonable if it increases the cost or affects the ability of GreDel to obtain permits for the site in the future. GreDel shall not be required to sign any waste disposal manifests.

4. Environmental Information. Weston shall provide GreDel with a copy of (i) all analytical results of samples arising from the Environmental Activities within thirty (30) business days after receipt of the laboratory report by the Weston Grantees; and (ii) all plans, photographs, videos, data, test results and reports relating to the Property ("Environmental Information") prior to submission to the NJDEP or USEPA, for GreDel's review and comment. Whenever possible, Environmental Information shall be provided sufficiently in advance of submission to the NJDEP and USEPA to provide GreDel a reasonable time for review. The Parties agree that ten (10) business days is generally considered a reasonable time to review Environmental Information. Weston shall also provide GreDel, within five (5) business days, all final documents it generates or receives regarding any Environmental Activities.

5. Indemnification. To the extent permitted by law, Weston shall defend, indemnify and hold harmless GreDel and its respective agents and employees (the "Indemnified Parties") from and against all claims, damages, fines, penalties, losses, or expenses, including attorneys' and experts' fees and costs ("Indemnified Claims"), arising from the Weston Grantees' use of the Property or performance of Environmental Activities thereupon. Nothing in this Agreement shall be construed to require Weston to indemnify an Indemnified Party for an Indemnified Claim to the extent that any such claim, damage, fine, penalty, loss or expense was caused by, or resulted from, an Indemnified Party's own negligent, reckless, or willful conduct.

GreDel shall promptly notify Weston of any action, administrative or legal proceeding, or investigation to which Weston's indemnification of the Indemnified Parties may apply, and Weston, at Weston's expense, shall assume on behalf of the Indemnified Parties the defense thereof, provided that GreDel or any other Indemnified Party shall have the right to be represented therein by advisory counsel of its own selection and at its own expense.

6. Insurance. Prior to entering the Property, and at all times during the Environmental Activities at the Property, the Weston Grantees', at their sole cost and expense, shall secure and maintain the following insurance:

a. Commercial General Liability. Commercial general liability ("CGL") insurance, written on an occurrence basis, covering claims for bodily injury and property damage (including sub-grade structures/explosion/blasting coverage), with limits of liability in the amount of $2,000,000 for each occurrence and in the aggregate;

b. Commercial (Business) Automobile Liability. Commercial (business) automobile liability insurance, and including coverage for all vehicles used by the Weston Grantees, with combined single limits of liability of at least $1,000,000 for each occurrence and in the aggregate;

c. Commercial Umbrella/Excess Liability. Excess or umbrella liability insurance policy with limits of liability of at least $5,000,000 for each occurrence and in the aggregate, following the form and in excess of the underlying CGL, and commercial automobile liability policies, with an effective date that is concurrent with such liability policies; and

d. Contractors' Pollution Liability. Contractors' pollution liability/professional liability policy covering losses caused by pollution conditions that arise from the operations of the Weston Grantees under this Agreement. Such insurance shall apply to bodily injury and property damage (including loss of use of damaged property or of property that has been physically injured) and contain limits of liability of at least $5,000,000 for each occurrence or claim and in the aggregate.

The insurance required by this Agreement shall include a waiver of subrogation for the benefit of the GreDel. GreDel shall be included and named on all policies required by this Agreement as an additional insured for claims against GreDel arising out of the Weston Grantees' use of the Property or performance of the Environmental Activities, and shall provide that such policies provide primary coverage, without any right of contribution by applicable insurance of GreDel. In advance of accessing the Property or the performance of any Environmental Activities, the Weston Grantees shall furnish to GreDel certificates of insurance evidencing the insurance policies required by this Agreement. These insurance requirements shall not release or diminish the liability of either Party, including, without limitation, liability under the indemnity provision of this Agreement. Damages recoverable by GreDel shall not be limited by the amount or scope of the required insurance policies. The obligation to carry the insurance policies shall neither limit nor modify any other obligations assumed by Weston hereunder, nor shall GreDel be under any duty to examine such certificate or to advise Weston or its subcontractor(s) in the event their insurance is not in compliance with this Agreement. The Weston Grantees will not perform any Environmental Activities at the Property until said certificates of insurance are provided to GreDel, nor will they continue such Environmental Activities in the event any required insurance is terminated or materially changed.

7. Miscellaneous.

a. This Agreement, and its exhibits, contains the entire understanding of the parties hereto with respect to the subject matter hereof, and may not be amended except by an instrument in writing signed by the Parties hereto.

b. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

c. This Agreement shall be interpreted and enforced in accordance with the laws of the State of New Jersey without reference to principles of conflicts of laws.

d. The headings preceding the text of the sections of this Agreement are inserted solely for convenience of reference and shall not constitute a part of this Agreement, nor shall they affect the meaning, construction, or effect of this Agreement.

e. Except as set forth herein, the Parties agree that by entering into this Agreement, neither Party has waived and expressly reserves any of its rights, remedies, or defenses, in law or equity, against each other.

f. Neither Party shall have the right to assign this Agreement without the other Party's prior written consent.

g. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. The Parties further agree that a copy of or a pdf or facsimile signature to this Agreement shall be treated as an original for all purposes. The date of the last affixed signature to this Agreement by a Party shall be the "Effective Date" of this Agreement.

h. The Parties acknowledge that they each have had an opportunity to participate, and have participated, in the drafting of this Agreement, and they each agree that this Agreement shall be interpreted without reference to any principle which can operate in favor of or against a party that drafts a written agreement.

i. Each person signing this Agreement represents and warrants that he or she is duly authorized to execute this agreement on behalf of the Party on whose behalf it is indicated that the person is signing. Notwithstanding their respective corporate by-laws and procedures, the Parties agree that one signature from each entity shall bind that Party.

j. If any provision of the Agreement is deemed invalid or unenforceable, the balance of this Agreement shall remain in full force and effect.

k. The right of access conferred by this Agreement shall not be construed as any form of tenancy interest, ownership interest, control of the GreDel Property, or any type of real property interest.

l. This Agreement shall not be construed as creating a partnership between the parties, nor to create any form of legal association which would impose liability upon one party for the act or failure to act upon another party.

m. Any notice, request, demand, consent, approval or other communication required or permitted under this Agreement, including the Weston Notice, which is not specifically set forth herein as being oral notice, will be written and will be deemed to have been given (i) when personally delivered; or (ii) on the following day after delivery to any nationally recognized express delivery service; or (iii) on the fifth day after it is deposited in any depository regularly maintained by the United State Postal Service, postage prepaid, certified or registered mail, return receipt requested; or (iv) on the day transmitted by facsimile or other means of electronic transmission together with either (i), (ii) or (iii) above, if confirmation receipt is obtained, and addressed to the respective parties, at the same time, as follows:

To GreDel Properties L.L.C.:

c/o Frank A. Greek & Son, Inc.
Attn: Frank A. Greek, Jr.
33 Cotters Lane
East Brunswick, New Jersey 08816
Telephone: 732-257-7353
Facsimile: 732-257-9647
Email: frankg@greekdevelopment.com

With a copy to:

John A. Jakub, Esq.
Norris McLaughlin & Marcus, PA
721 Route 202-206
P.O. Box 5933
Bridgewater, NJ 08807-5933
Telephone: 908-252-4309
Facsimile: 908-722-0755
Email: jajakub@nmmlaw.com

[signatures on next page]

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties as of the day and year written below.

GREDEL PROPERTIES, L.L.C.:

By: Andy Sitzer

Name: Andy Sitzer

Title: Vice President

Dated: Dec 10, 2012

WESTON SOLUTIONS, INC.:

By: _____

Name: _____

Title: _____

Dated: _____

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties as of the day and year written below.

GREDEL PROPERTIES, L.L.C.:

By: _____

Name: _____

Title: _____

Dated: _____

WESTON SOLUTIONS, INC.:

By: Sally Jones

Name: Sally Jones

Title: Vice President

Dated: 12/5/12

EXHIBIT A

Table 1
Gredel Property Delineation Sample Summary

GreDel Property Samples				
Sample Designation	Matrix	Depth below fill material	Analysis	Lab direction
CDG_363	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_364	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_365	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_366	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_367	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_368	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_369	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_370	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_371	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_372	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_373	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_374	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_375	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold

Table 1
Gredel Property Delineation Sample Summary

Sample Designation	Matrix	Depth below fill material	Analysis	Lab direction
CDG_376	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_377	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_378	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_379	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_380	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_381	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_382	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_383	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_384	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_385	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_386	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_387	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_388	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold

Table 1
Gredel Property Delineation Sample Summary

Sample Designation	Matrix	Depth below fill material	Analysis	Lab direction
CDG_389	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_390	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_391	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_392	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_393	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_394	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_395	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_396	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_397	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_398	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold
CDG_399	sediment	0-0.5'	PCBs, BEHP	3-day
	sediment	2-2.5'	PCBs, BEHP	extract/hold
	sediment	3.5-4'	PCBs, BEHP	extract/hold

Southern Gredel Lot
Property Sampling and Analysis Plan
Hatco Site – Fords, New Jersey
May 2012

Background and Rationale

Weston Solutions, Inc. (Weston®) has prepared this Sampling and Analysis Plan (SAP) to address the completion of delineation sampling of the southwestern portion of the Gredel property, in a wetland which lies south of the EPEC property. This investigation serves to delineate Hatco-related contamination present along the southern portion of Channel D, based upon the results of Weston's 2011 and 2012 remedial investigations. Weston proposes additional soil and sediment sampling across the southern portion of Channel D to determine the vertical and horizontal extent of contamination. This area includes Gredel's parcel identified as Block 77, Lot 100.01.

Weston has prepared this SAP to better define the extent of polychlorinated biphenyl (PCB) and bis,2-ethylhexyl phthalate (BEHP) contamination affiliated with historical Hatco operations, identified within the Channel D floodplain. Samples will be collected from the following locations:

- Along three north-south transects to evaluate for potential Hatco impacts in drainage channels and saturated wetland areas, as shown on Figure 1.

The property that Channel D runs through is owned by EPEC; the wetland area continues south of EPEC into a parcel owned by Gredel, and continues south of Gredel toward the Raritan River. Channel D (also known as Crow's Mill Creek) is a low-gradient stream which collects flow from Channels A, B and C, as well as the pond located north of Industrial Avenue. The area of Crow's Mill Creek referred to as Channel D begins at the culvert on the south side of Industrial Avenue downstream of the Hatco property. Channel D cuts through a forested wetland area, and is lined with sand, silt and organic material.

Previous sampling conducted by URS on behalf of Hatco and W. R. Grace, as well as sampling conducted by two EPEC consultants (Sovereign Consulting, LLC and Brown & Caldwell) detected elevated concentrations of PCBs in soil and sediment, as well as BEHP above the applicable residential cleanup criteria in sediment, within the Channel D parcel owned by EPEC. For off-site excavation areas such as Channel D, the applicable remedial standard for Hatco-related PCBs is 0.49 mg/kg in soils and 1 mg/kg in sediments, as approved by the NJDEP in various report and workplan approvals. For non-PCB contaminants of concern, the off-site applicable remedial criteria for soils are the 1999 residential (unrestricted use) criteria. In addition, BEHP results for samples collected from the Channel D wetland area will be compared to NJDEP's ecological screening criterion of 0.925 mg/kg, to NJDEP's lowest effects level/screening criterion of 0.182 mg/kg, and NJDEP's Severe Effect Level of 0.75 mg/kg.

Sediment and Soil Distinction

The Channel D investigation area contains both sediment and soil matrices, with each matrix determined on a sample-by-sample basis. The Weston field geoscientist will determine sample matrices using the criteria outlined below as a means for classifying samples in the field. Weston has utilized and will continue to utilize the system outlined below; these definitions were approved by the NJDEP for use during the Hatco remediation in a June 2007 email.

Sediment is defined by the State of New Jersey (N.J.A.C. 7:8-1.2) as solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion. Soil is defined in the same regulations as "all unconsolidated mineral and organic material of any origin." Because the distinction between the two may be difficult to apply in the field in some situations, Weston is basing the delineation between soil and sediment on past experience, actual field conditions encountered during delineation sampling, and past discussions with NJDEP. Any samples collected from areas falling outside of delineated wetland boundaries will be considered soil.

Within areas delineated as wetlands, but located outside of the actual stream channels, the classification of soil versus sediment will depend upon the degree of saturation of the soil matrix. NJDEP distinguishes between emergent wetlands (freshwater marsh), and forested wetlands. Emergent wetlands are characterized by rooted hydrophytes present for most of the growing season. NJDEP classifies material present within emergent wetlands as sediment. At the Hatco site these areas consist of wetlands dominated by common reed and other emergent species that have not been historically filled and still maintain saturated conditions during the growing season. Forested wetlands adjacent to the Hatco property are characterized by hydric soils; these are undrained soils that are saturated, flooded, or ponded, that develop anaerobic conditions that favor the growth of hydrophytic vegetation. The material collected within these areas will be classified as soil.

Sample Collection

This Channel D SAP has been developed to collect additional samples in order to meet the remedial action objectives described in Addendum 3 to the Consolidated RAWP, specifically the removal of contaminated stream sediment and floodplain soils in Crow's Mill Creek southwest of the Hatco site to the applicable unrestricted use standard. The SAP has been developed in accordance with the *New Jersey Technical Requirements for Site Remediation* (TRSR, N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual* (August 2005) to ensure the collection of necessary data to determine the complete extent of contamination and refine excavation boundaries for off-site sediments

and soils in Channel D. A Quality Assurance Program (QAPP) developed in accordance with NJDEP requirements was submitted as part of Weston's 2009 *Addendum3 to the Consolidated* RAWP, and provides specific sample collection methodology and laboratory analyses requirements. An overview of the sampling effort and Weston's overall technical approach is presented below.

Sediment samples will be collected to horizontally and vertically delineate the extent of contamination on the Channel D parcel owned by Gredel, as shown in Figure 1. Sample locations will be biased toward depositional areas where applicable. Weston will analyze for PCBS and BEHP. Table 1 summarizes the proposed sampling locations and depths, analytical parameters, and sampling methods for the soil and sediment samples. The sample collection methodology is discussed below.

Weston proposes to install a series of three north-south transects to determine if Hatco-related containments are present in drainage channels and saturated wetland areas as depicted on Figure 1. The boring locations will be collected at regular intervals along each transect. Both sediment and soil samples will be collected, depending on matrix type encountered at each location. Samples will be collected from three designated intervals, and analyzed as shown in Table 1. Contingent samples will be collected and placed on hold. Should sample locations depicted on Figure 1 be located on dry upland areas, those samples will not be collected. This will be determined during a site walk of the work area prior to initiation of sampling activities.

Sampling Procedures

The soil and sediment sampling procedures will follow the guidelines documented in the *NJDEP Field Sampling Procedures Manual* (August 2005) as described below, and are detailed in Weston's 2009 QAPP. Lithologic description, field measurements (such as presence of LNAPL) and comments will be recorded using electronic Borehole Logging Forms such as Weston's GeoFAST program.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, standard chain-of-custody forms will be completed for all samples. Each form will be completed in the field and signed and dated by a member of the field team who will verify the exact sample shipment. This form will accompany the samples to the laboratory. Signed and dated custody seals will then be applied to the shipping container. Sample collection methodologies are described in more detail in the following sections.

Any sampling equipment (e.g., hand auger, cutting shoe, etc.) coming in contact with the soil or sediment will be decontaminated before and after each sample location. Decontamination procedures will follow technical requirements as set forth in the NJDEP *Field Sampling Procedures Manual* (August, 2005). Equipment will be washed in the following sequence: 1) a steam/high-pressure water wash; 2) a potable water and soap wash; and, 3) a distilled and deionized (ASTM Type II) water rinse.

Samples will be placed in a cooler and chilled with ice, and will be picked up by the laboratory.

Soil Sample Collection

Delineation soil samples will be collected to determine the horizontal and vertical extent of potential contamination as depicted on Figure 1. Delineation samples will be collected from discrete 6-inch intervals from designated depths, as outlined in Table 1.

The soil samples will be field-screened with a properly calibrated photoionization detector (PID), organic vapor meter (OVM) or other suitable instrument. Delineation sample locations will be biased based on professional judgment to ensure that all necessary data is collected to ensure that historical contamination is adequately delineated, both horizontally and vertically.

Analytical samples will be collected utilizing NJDEP protocols. Dedicated disposable scoops and bowls will be utilized for sample collection. Soil samples will be collected at discreet six inch intervals from designated depths at each location. Surficial organic matter (grass, twigs) will be scraped away prior to sample collection. Samples are to be collected directly with dedicated, disposable scoops, homogenized as necessary in dedicated, disposable beakers, and placed directly into sample containers.

Sediment Sample Collection

Delineation sediment samples will be collected to determine the horizontal and vertical extent of contamination as depicted on Figure 1. Delineation samples will be collected from discrete 6-inch intervals from designated depths at each location.

Sediment samples may be collected using a variety of methods and equipment, depending on the depth of the aqueous layer, the portion of the sediment profile required (surface versus subsurface), the type of sample required (disturbed versus undisturbed), contaminants present, and sediment type. Sediment samples will be collected from beneath an aqueous layer either directly, using a hand-held device such as a shovel, trowel, or auger; or indirectly, using a remotely activated device such as an Ekman or Ponar dredge.

Quality Assurance and Quality Control

Quality assurance/quality control (QA/QC) samples will be collected in accordance with Weston's Quality Assurance Project Plan (QAPP), included as part of Addendum 3. Blind field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a rate of 1 per 20 samples per analytical parameter. Field blanks will be collected once per day per matrix and analyzed for the same parameters as the field samples.

A record of all field procedures, tests, and observations will be recorded in a field logbook and in Weston's electronic field log program, FieldFAST. Entries in the log book and FieldFAST will include the individuals participating in the field effort, date and time, and the initials of the individual responsible for recording the observations.

Field Sample Identification

During sample collection, a variety of data will be collected and managed electronically to eliminate the potential for transcription errors. Field data is defined as all information generated during the field effort, such as field notes, COC information, geotechnical information (i.e., soil descriptions, well construction information, etc.), and survey data.

Each sample will be assigned a unique field sample identification code and labeled accordingly. This field sample identification code provides the tracing of the sample from the location in the field, through laboratory analysis, and finally to data evaluation and presentation, and contains information traceable to the type, location where the sample was collected, and other information appropriate to that sample. This code will be used for references to this particular sample in field and project documentation and reports. It is essential that the integrity of the field sample identification (ID) code not be compromised.

Delineation and post-excavation soil samples will be identified slightly differently, depending on the type of sample and the location from which the samples will be collected.

General Sampling Scheme:

The sample identification code consists of three fields, separated by underscores, in the following format:

AC_YY_Z_R

AC = Sample area of concern or grid designation
YY = Sample Boring Location / Sequence (1, 2, 3....)
Z = Depth Interval (see discussion below)

R = Sample type identifier
(1=sample, 2= duplicate, 3 = field blank)

Delineation Samples:

For delineation samples, the code "AC" above will be replaced by a sample area of concern (e.g., A, B, C or similar designation) and the symbol "_B_" to designate that the sample is a boring location.

Sample Depth:

The location within the vertical sample column will be identified through the use of a systematic sample naming convention. Following the sample location designator, as described in more detail in the following subsections, the depth will be identified through use of the code "_##-##" where the "##" is substituted by an alphabetic depth designator, as follows:

AA	0 Feet
AB	0.5 Feet
AC	1 Feet
AD	1.5 Feet
AE	2 Feet
AF	2.5 Feet
AG	3 Feet
AH	3.5 Feet
AI	4 Feet
AJ	4.5 Feet
AK	5 Feet

For all sample types, duplicate sample pairs will have the designators "_1" for the environmental sample and "_2" for the duplicate sample added to the end of the sample ID, and field blanks will be designated with "_3" appended to the sample ID.

The field duplicate sample will be disguised to the laboratory for analysis but its location from which it was taken will be documented in the electronic field log for future reference.

Investigation-Derived Waste Management

All investigation-derived waste generated during off-site sampling activities will be containerized and temporarily staged at the Hatco Site. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, and decontamination fluids. All investigation-derived waste generated during on-site sampling activities will be handled in accordance with applicable Federal and State requirements. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, soil cuttings, and decontamination fluids, then containerized in 55-gallon drums or other DOT-approved containers.

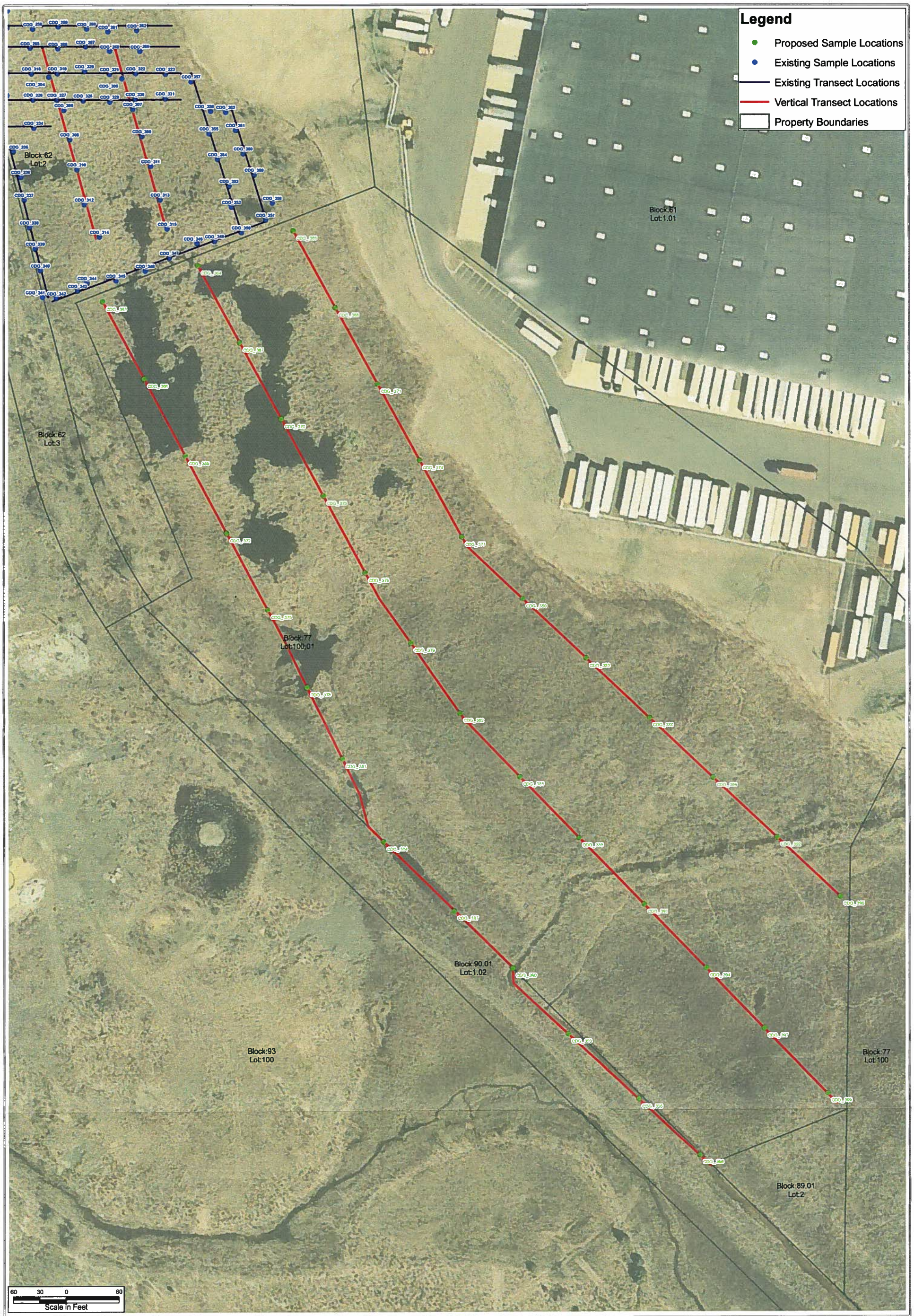
Composite soil and sediment samples will be collected for waste characterization in accordance with the frequency instituted by the disposal facility and will be compared to EPA regulatory limits established under the Resource Conservation and Recovery Act (RCRA). The results will also be compared to levels established by TSCA. At a minimum, waste classification samples will be analyzed for Toxicity Characteristic

Leaching Procedure (TCLP) volatile organic compounds (VOCs), TCLP SVOCs, TCLP pesticides/herbicides, TCLP metals, PCBs, and RCRA characteristics. For TCLP VOA analysis, discrete samples will be collected using an EnCore sampling device.

Staffing Plan

The following personnel are tentatively scheduled to work on this sampling event:

Personnel	Responsibility
Leeron Tagger	Weston field leader for delineation sampling event
Robert Sellers Robert Croskey	Weston field support staff



WESTON SOLUTIONS

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http://www.westonsolutions.com

N W E S

REPORT DATE: April 2012	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Hatco Corporation	DRAWING TITLE: Hatco Channel D Proposed Sample Locations 04/26/2012
DRAWING: 11176_CD_Prop_loc_041112.mxd PATH: P:/Hatco/GIS/MXD/2012_02_ChannelD	CHECKED BY: A. Garrison		
REVISION No. 0	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Hatco Remediation	
WORK ORDER No. 13067.001.003.8020	DRAWN/MODIFIED BY: S. Poultney DATE CREATED: 04/11/2012		FIGURE: X · SCALE: 1" = 60' · DATE: 04/18/2012

ACCESS AGREEMENT

THIS AGREEMENT, entered into this 18 day of January ~~2004,~~ 2006 by and between Weston Solutions, Inc., a Pennsylvania corporation, located at 1400 Weston Way, West Chester, PA, 19380 ("Grantee"), and Crown Pacific New Jersey Corporation, located at ~~60 Executive Avenue, Edison, New Jersey~~ 200 mac Lane Keasbey NJ 08832 ("Owner").

WITNESSETH:

WHEREAS, Hatco Corporation ("Hatco") is the current owner and operator of a specialty chemical manufacturing facility at 1020 King George Post Road, Fords, Middlesex County, New Jersey, formerly owned and operated by W.R. Grace & Co.-Conn. ("Grace"); and

WHEREAS, the New Jersey Department of Environmental Protection ("NJDEP") is requiring environmental remediation of the Hatco facility and areas of environmental media impacted or potentially impacted by conditions at or emanating from the Hatco facility; and

WHEREAS, Weston has entered into an agreement with Hatco and Grace, to investigate and remediate historical environmental contamination at the Hatco facility; and

WHEREAS; Owner owns property designated as Lot 6 in Block 71 by the current Tax Map of the Town of Fords (the "Property"); and

WHEREAS, Grantee requires access to certain areas of the Property for the purpose of implementing a restricted use remedial action, including the use of institutional and engineering controls, well installation, and performing sampling attendant thereto, as specifically set forth on Schedule A attached hereto (the "Work") and conducting certain supplemental activities in accordance with NJDEP requirements to facilitate the Work; and

WHEREAS; the Grantee has requested permission to enter upon the Property to perform these activities; and

WHEREAS, it is Owner's intent to facilitate the Grantee's undertaking of the Work, including authorizing the use of institutional and engineering controls, subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements contained herein, the parties hereto, intending to be legally bound, agree as follows:

1. **Grant of Access.** Subject to the terms and conditions hereinafter set forth, Owner hereby grants a license to Grantee, its agents, employees, licensees, consultants,

contractors, subcontractors, the NJDEP and its contractors, and the United States Environmental Protection Agency ("USEPA") and its contractors, to enter upon the Property only for the purposes of conducting the Work and certain supplemental activities in accordance with NJDEP and USEPA requirements to facilitate the Work. This license shall not be deemed a lien, encumbrance, restriction or covenant affecting the land.

2. **Scope of Work.** Owner recognizes that the Work is being conducted pursuant to NJDEP oversight. Grantee may be required to undertake additional activities on the Property as required by NJDEP. If additional activities are required, Grantee shall provide Owner four (4) weeks' notice of such additional activities. If Owner requires that additional work be undertaken at a different time due to interference with activities at the Property, it shall so inform, within fourteen (14) days of this notice, Grantee and provide another more convenient date.

While on the Property, the Grantee agrees to take all reasonable steps to prevent material interference to or with Owner's operations, if any, on the Property.

3. **Term.** This Agreement shall remain in effect until an instrument, executed by the NJDEP, is filed in the office of the County Clerk of Middlesex County, New Jersey, expressly terminating the institutional control contemplated by this Agreement.

4. **Restoration.** Except for the area of the engineering controls identified in Exhibit A, Grantee shall restore those areas of the Property to the condition reasonably approximating the condition as initially found by Grantee. Grantee shall be responsible for the repair and security of the engineering controls and equipment it leaves on the Property.

5. **Compliance With Applicable Law.** The Grantee, its successors and assigns, agree that its activities on the Property shall be performed in accordance with the requirements of all applicable federal, state and municipal law, regulations and ordinances. The Grantee will obtain all permits or approvals necessary to undertake the Work at their sole cost and expense. Owner agrees to cooperate fully with Grantee in obtaining all such permits and approvals. Owner agrees to promptly execute any reasonable documents prepared by Grantee to obtain such permits and approvals including, but not limited to, a deed notice, as further described in Paragraph 11, herein. Grantee agrees to promptly notify Owner of any such required permits or approvals for which Owner's cooperation is required to so obtain.

6. **Owner's Obligation.** Owner shall provide to Grantee all information in its possession or control regarding underground utility lines or any other hidden obstacles in the areas where the Work set forth in Exhibit A or as supplemented pursuant to Paragraph 2 will be undertaken.

7. **Grantee Obligation.** Grantee shall afford reasonable prior written notice to Owner's designated representative as to the timing and scope of work to be conducted on

the Property. Any and all validated data collected by the Grantee and/or its representatives regarding the Property shall be reduced to writing with one (1) copy provided to Owner promptly after Grantee's receipt.

8. **Third Parties.** Owner represents that there are no parties other than itself and Middlesex Water Company having any interests in the Property.

9. **Insurance.** Prior to the undertaking of any Work on the Property by consultants or contractors, the Grantee shall deliver to Owner evidence of comprehensive general liability insurance coverage in the amount of at least $1 million naming the Owner as an additional insured.

10. **Indemnification.** The Grantee agrees to indemnify, defend and hold Owner harmless against claims, liabilities, demands and actions at law and equity for damages or injuries caused to the Property and actions or claims by any governmental agency, caused solely by the performance of the Work as supplemented pursuant to Paragraph 2, if conducted by Grantee or its authorized representative pursuant to this Agreement, except to the extent that such claim, liability, demand or action results in any way from the acts or omissions of Owner or its agents, employees, contractors, licensees or subcontractors or from the failure of the Owner to perform its obligations hereunder.

11. **Remediation.** The Owner agrees that Grantee may remediate the Property to restricted use standards. The final remedy at the Property will include institutional controls (such as a deed notice substantially similar in form to the model set forth at N.J.A.C. 7:26E, Appendix E, as may be amended from time to time, prohibiting the use of the Property for residential use), and engineering controls, including, without limitation, a cap. In addition, Grantee may implement a groundwater Classification Exception Area delineating the aquifer where the contaminants exist above the groundwater quality standards. Owner will promptly execute any documents necessary to implement the remediation, including, without limitation, the deed notice referenced herein. Grantee shall maintain any institutional and engineering controls in perpetuity, including performing any monitoring and reporting requirements.

12. **Limited Waiver.** Except as expressly set forth in this Agreement, Owner hereby waives any actions or demands, at law or in equity, whether known or unknown, it may have against Grantee, arising from the presence of contaminants on the Property that emanated from the Hatco facility.

13. **Severability.** In case one or more of the covenants, terms and provisions contained in this Agreement shall be held invalid, illegal or unenforceable in any regard, the validity of the remaining covenants, terms and provisions contained herein shall be in no way affected, prejudiced or disturbed and the remaining covenants, terms and provisions shall remain in full force and effect.

14. **New Jersey Law.** This Agreement has been executed and delivered in the State of New Jersey and shall be deemed to be a contract made under, and shall be

construed for all purposes in accordance with, New Jersey law, without regard to principles of conflicts of law.

15. **Successors and Assigns.** The provisions of this Agreement shall inure to the benefit of and be binding upon the parties hereto and their successors. This Agreement shall not be assigned, in whole or in part, to any other person or entity. If any party to this Agreement sells its property, it shall be obligated to disclose this Agreement to any new owner. Within thirty (30) days of execution, Owner shall record this instrument in the Office of the Middlesex County Clerk.

16. **Execution and Counterparts.** This Agreement shall be executed by an authorized representative of the Owner or Grantee and each party warrants and represents the authenticity of the representative signing on its behalf. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

17. **Captions.** The paragraph headings herein are for convenience only and shall not be construed to limit or affect any provision of this Agreement. This Agreement was drafted by counsel for the Grantee as a matter of convenience and shall not be construed for or against either party on that account.

IN WITNESS WHEREOF, the Grantee and Owner have caused this Agreement to be executed as of the date first written above.

WITNESS:

Jean L Bogoz

WESTON SOLUTIONS, INC.

By:

WITNESS:

Joseph J. Fonti Jr.

Edward M Cleary
Attorney at Law
State of New Jersey

CROWN PACIFIC OF NEW JERSEY CORPORATION

By: Joseph J. Fonti, Jr.
Joseph J. Fonti Jr.

872299.04

STATE OF ~~NEW JERSEY~~ PENNSYLVANIA)
)SS:
COUNTY OF Chester)

I CERTIFY that on January 31, ~~2004~~ 2006, DONALD B. BAUER, an authorized representative of WESTON SOLUTIONS, INC., personally came before me and acknowledged under oath, to my satisfaction, that this person:

(a) is named in and personally signed the attached document;
(b) signed, sealed and delivered this document as his act and deed.

NOTARY

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Jean L. Bogage, Notary Public
West Whiteland Twp., Chester County
My Commission Expires Apr. 25, 2009
Member, Pennsylvania Association of Notaries

STATE OF NEW JERSEY)
) SS
COUNTY OF)

I CERTIFY that on 8 Feb ~~2004~~ 2006, JOE FORTI, an authorized representative of CROWN PACIFIC OF NEW JERSEY CORPORATION, personally came before me and acknowledged under oath, to my satisfaction, that this person:

(a) is named in and personally signed the attached document;
(b) signed, sealed and delivered this document as his act and deed.

NOTARY
Atty at Law
State of New Jersey

872299.04

WOODBRIDGE POND CONCEPTUAL REMEDIATION PLAN

HATCO CORPORATION
FORDS, NEW JERSEY
Program Interest Number G000003943

November 12, 2015

DRAFT

Prepared by:

WESTON SOLUTIONS, INC.
205 Campus Drive
Edison, New Jersey 08837

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	Remedial Action – General Description	4
	Engineering and Institutional Controls	5
	Remediation Permits	5
	SITE RESTORATION	5

LIST OF ATTACHMENTS

Attachment	Title
1	USEPA Risk-Based PCB Disposal Approval Letter dated March 30, 2005
2	Summary of NJDEP Technical Consultation Meeting of March 6, 2015

LIST OF FIGURES

Figure	Title
1	Woodbridge Pond USGS Quad Map
2	Woodbridge Pond BEHP and PCB Results and Proposed Extent of Sediment Removal and Capping
3	Woodbridge Pond Cross Section

DRAFT

INTRODUCTION

The purpose of this Woodbridge Pond Conceptual Remediation Plan is to present Weston Solutions Inc.'s (Weston) planned remediation approach to address off-site contamination from the Hatco facility within the adjacent Woodbridge Pond for initial key stakeholder review and comment. Upon acceptance of this approach by the key stakeholders, Remedial Action Work Plan (RAWP) Addendum No. 4 will be prepared to satisfy the requirements of N.J.A.C. 7:26E 5.5 and the United States Environmental Protection Agency (USEPA) Toxic Substances Control Act (TSCA). The RAWP Addendum will be distributed to stakeholders for review and approval. The RAWP Addendum requires the following approvals:

- Property owner, Township of Woodbridge;
- New Jersey Department of Environmental Protection (NJDEP) for the proposed remediation standard;
- Licensed Site Remediation Professional (LSRP) for compliance with current Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) rules; and
- USEPA in accordance with the project-specific Remediation Agreement.

SITE DESCRIPTION AND BACKGROUND

The location of the Hatco site and adjacent Woodbridge Pond is shown on the attached Figure 1. Woodbridge Pond is approximately 2.5 acres in extent and located west of the Hatco site on an adjacent property owned by the Township of Woodbridge in Fords, Middlesex County, New Jersey. The precise origin of Woodbridge Pond is uncertain, but review of historical U.S. Geological Survey (USGS) topographic maps and aerial photography indicates that the pond is at least 50 years old. Surrounding land uses consist of industrial development (including the active Chemtura facility, Crown Pacific, and other industry), interspersed with remaining undeveloped wetland habitat, and restored wetlands on the Hatco site much of which is dominated by common reed (*Phragmites australis*), and some remnant forested wetlands. Woodbridge Pond receives stormwater runoff from upgradient areas. Outflow from Woodbridge Pond is at its southeast end, where it flows easterly and then southward under Riverside Drive into the Raritan River, about one mile downstream.

The Consolidated Remedial Action Work Plan (RAWP) for the Hatco site dated August 18, 2005 was previously submitted to the NJDEP and the USEPA. Later addenda (August 2006 Addendum, September 2006 Revised Addendum, and August 2009 Addendum No. 3), were issued and approved by NJDEP and USEPA to address changes in the remedial approach and/or additional areas of concern. State regulatory oversight is now provided by a LSRP under the Site Remediation Reform Act (SRRA). The approved RAWPs do not cover remediation of Woodbridge Pond; therefore, an approved RAWP Addendum is required prior to remedial action.

During previous field investigations, the sediments of Woodbridge Pond have been found to be contaminated with polychlorinated biphenyls (PCBs) and bis (2-ethylhexyl) phthalate (BEHP) which were historically used at the Hatco facility. The transport mechanism for the contamination found in the pond sediment was identified as overland runoff related to former

contamination within the adjacent Channels A, B, and C, which were associated in part with the "muck area" and open waste ponds/lagoons formerly used by Hatco-Grace for disposition of product wastes. Weston has completed remediation of the former pond/lagoon areas, including remediation of Channels A, B and C and there are no remaining sources of runoff carrying contaminated soil particles from the Hatco site into Woodbridge Pond. Groundwater is not considered a source for PCB and BEHP-impacted sediment within the pond. This conclusion is supported by historical groundwater sample analytical results from locations up-gradient of Woodbridge Pond.

SUMMARY OF PRIOR INVESTIGATION DATA

The distribution of PCB and BEHP-contaminated sediments within Woodbridge Pond is shown in Figure 2. More than 80 sediment cores were advanced during investigations of Woodbridge Pond between June 2007 and March 2014. Analytical results from these sediment cores indicated PCB contamination above the site-specific risk-based remediation goal of 1 milligram per kilogram (mg/kg) was found in sediments in the eastern and central portions of the pond, to depths up to 3.5 feet below the sediment surface. BEHP is also present in sediments in the pond at concentrations exceeding the NJDEP Ecological Screening Criteria for Fresh Water Sediment Severe Effects Level (FWSSEL) reference value of 0.75 mg/kg. Sediments with the highest concentrations of PCBs and BEHP are generally collocated.

REMEDIATION GOALS

The USEPA risk-based PCB disposal approval letter dated March 30, 2005 (Attachment 1), establishes remediation goals of 1 mg/kg for offsite sediment in Crows Mill Creek (referred to as Channel D in the RAWP) and 2 mg/kg for soil west of the site. The site-specific clean-up goal for PCB concentrations in pond sediment of 1 mg/kg was presented in the August 2009 RAWP Addendum No. #3 and approved by both the USEPA and NJDEP in 2010. Through technical consultation with NJDEP, Weston with concurrence from Mark Fisher, LSRP, recommended a site-specific remediation standard of 22 mg/kg for BEHP in Woodbridge Pond sediments. The technical basis for this recommendation was summarized in the memorandum dated May 7, 2015, from Mark Fisher, LSRP, to Kevin Schick at NJDEP (Attachment 2).

REMEDIATION APPROACH

Weston proposes to achieve the remediation goals through the following actions:

- Physical removal and relocation of sediment containing greater than 10 mg/kg PCBs from Woodbridge Pond to the approved soil reuse area, identified as the Former Lagoon Area, on the Hatco site. If volumes exceed the capacity of the reuse area, excess material will be shipped offsite for disposal at a designated licensed facility.
- Placement of a 6-inch thick sand cap over the areas within Woodbridge Pond that contain PCB concentrations greater than 1 mg/kg and less than or equal to 10 mg/kg and/or BEHP concentrations greater than 22 mg/kg.
- Establishment of a deed notice and remedial action permit as institutional controls for contamination that remains at concentrations in excess of unrestricted use levels established by NJDEP.
- The extent of sediment removal and capping will be based on existing data.

Weston anticipates that removal of sediments can be accomplished effectively via focused wet dredging, or equivalent technology, and placed underneath the site engineered cap on the Hatco site. The combination of focused dredging and capping minimizes the volume of contaminated sediment and water to be managed and handled at this ecologically sensitive site. "Sediment remedies should be designed to meet long-term risk-reduction goals, as opposed to metrics not strictly related to risk, such as mass removal targets" (excerpt from "Sediment Dredging at Superfund Megasite – Assessing the Effectiveness", National Research Council, 2007). The combination of dredging and capping at Woodbridge Pond addresses both short and long term risk.

Focused dredging of greater than 10 mg/kg PCB sediments will result in a significant reduction in PCB and collocated BEHP contaminant mass and significantly reduce the impact to a sensitive area that would otherwise be altered significantly. Subsequent capping will help cover PCB and BEHP residuals that become exposed or temporarily re-suspended in the water column and deposited due of dredging activity.

Capping will provide a barrier to block access to contaminated sediment by ecological receptors and the direct contact pathway for benthic invertebrates, the food source for upper level organisms (vertebrates). Capping will also provide a measure of stabilization and erosion protection of the remaining contaminated sediments, preventing re-suspension of particulates containing trace concentrations of PCBs or BEHP due to bioturbation. A marker layer will be installed at the base of the cap to ensure the limits of the control are clearly identifiable in the field and to facilitate for future monitoring and maintenance of cap thicknesses. Installation of a six inch cap is conservative because sediment deposition will continue after cap installation and cap thickness will increase over time. As shown on Figure 2 higher concentrations of PCBs are found at depth which is consistent with the understanding that the areas of highest impact are depositional environments where sediment accretion is expected to continue on top of the cap. Because the horizontal and vertical extent of PCBs and BEHP have been delineated to the remediation goals, post dredging confirmatory sampling is not planned since cap installation will address risk posed by anomalous zones of slightly higher concentration.

The proposed capping approach is consistent with remediation approaches selected at other PCB sediment sites where capping of lower PCB concentration sediment and dredging of higher PCB sediment was implemented for remedial actions. A short list of PCB sites where sediment dredging and/or capping was used is provided below:

- Manistique Harbor, Michigan, where sediments with PCBs greater than 10 mg/kg were removed and less than 10 mg/kg were capped with sand;
- Bremerton Naval Complex Puget Sound, Washington, where sediments with PCBs greater than 12 mg/kg were removed and sediments with PCBs greater than 6 mg/kg were capped with sand;
- Fox River, Wisconsin, where sediments were capped at PCB concentrations greater than 10 mg/kg and dredged at greater than 50 mg/kg; and
- Grasse River, Massena, New York, where sediments were capped on the order of 10/mg/kg PCBs with a blend of topsoil and sand.

Remedial Action – General Description

The remedial action proposed is a combination sediment removal and subaqueous capping. Sediment with PCB concentrations greater than 10 mg/kg and BEHP collocated within this sediment will be physically removed from the pond and relocated to the Former Lagoon Area at the Hatco site and placed under an engineered cap. If the final volume of removed sediments exceeds the capacity of the Former Lagoon Area, the excess material will be shipped offsite for proper disposal. Sediments containing PCB concentrations between 1 and 10 mg/kg and/or BEHP concentrations greater than 22 mg/kg will be capped with six-inches of clean sand. The proposed extent of this removal and capping is shown on Figure 2.

Compliance with the remediation goals will be demonstrated using existing data. As discussed in the LSRP memorandum dated May 7, 2015, compliance averaging will be used to demonstrate compliance with the site-specific BEHP in sediment remediation goal (this approach will also address the minor BEHP exceedance at location CP-67). USEPA has previously rejected compliance averaging for PCB remediation at this site. Therefore, point compliance will be used to demonstrate compliance with the risk-based PCB goal.

The removal of contaminated sediments via wet dredging is a protective remedy for this ecosystem, as it minimizes impacts to wetlands and the water body itself by limiting disturbances primarily to the areas being remediated and required staging areas. Sediment wet dredged from Woodbridge Pond would be relocated to the Hatco site, placed in the site's Former Lagoon Area, and placed under an engineered cap. Figure 3 shows a generalized cross section of Woodbridge Pond, the approximated dredge areas along the section, and depicts a six-inch sand cap. The sediments would likely be pumped hydraulically directly to the Hatco site Former Lagoon Area for dewatering and capping. Hydraulically dredged sediment would be pumped using overland piping for staging and dewatering into a geotextile dewatering bladder (GeoTube® or similar technology). Blending of dredged sediment with a stabilization agent to expedite the drying process may be used. The dewatering process would recover water for on-site treatment, subject to permit approval, and discharge back into the pond or offsite transport and disposal. Employing the use of bottom weighted turbidity curtains would reduce the transport of contaminant residuals beyond the focused dredge areas.

Once sediment removal has been completed to the limits set forth in the final work plan, a benthic sand cap will be installed to prevent biota contact with remaining contaminated sediments and facilitate the regrowth of wet plants and reestablish biota in Woodbridge Pond. A clean substrate of 6-inches of sand will be placed on the pond bottom within the sand cap limits shown on Figure 2. The benthic sand cap would be placed using hydraulic or mechanical methods.

The remedial activities envisaged for this work include but are not limited to the following:

- Installation of erosion and sedimentation controls;
- Site clearing, preparation, and establishment of work zones;
- Wet dredging and sediment dewatering;
- Sediment transport and placement at the Hatco Site;
- Subaqueous cap installation;

- Site and wetland area restoration; and
- Implementation of engineering and institutional controls.

Engineering and Institutional Controls

The sand cap proposed constitutes an engineering control. A deed notice will be required that limits the site use to non-residential. This will not impact Woodbridge Township's intended plan for this property to remain as undeveloped open space. A Remedial Action Permit (RAP) for Soils will be obtained from the NJDEP. A limited restricted use Response Action Outcome (RAO) will be issued by the LSRP once the RAP for Soils is in place.

Remediation Permits

The following permits will be obtained prior to initiation of Woodbridge Pond remedial activities:

- Soil Erosion and Sedimentation Control Plan approval by the Freehold Soil Conservation District;
- NJDEP Wetlands GP4 – for disturbance of wetlands associated with access to the eastern shoreline of the pond in order to remove sediments with greater than 10 mg/kg PCBs;
- Scientific Collection Permit – required to humanely destroy any remaining fish in the pond; and,
- NJPDES BGR (general permit for remediation) for discharge of the pond water to adjacent surface water within Channel B; it is currently envisaged that discharge water would be run through sediment and carbon filters first.

As noted above, A RAP for Soils will be obtained from NJDEP after engineering controls are established and the Deed Notice is recorded. The RAP for Soils will be required for operation and maintenance of administrative and engineering controls at the site

SITE RESTORATION

Disturbance to the ecosystem will be minimized to the extent possible throughout the course of field activities. Disturbances resulting from the Woodbridge Pond remediation effort (including disturbances caused by the sediment management area, laydown areas, access points to Woodbridge Pond, and temporary access roads to the site) will be restored following completion of remedial activities. The restoration goal following the completion of remediation will be to stabilize the pond ecosystem and to reestablish a wetland/transition community native to the area.

A Site Restoration Plan will be included in the design drawings and specifications and will be subject to regulatory and stakeholder approval, including Woodbridge Township (Owner). Following the completion of site restoration activities, wetland monitoring will be conducted for five years per NJDEP requirements to assess the progress of restoration and the establishment of a desired vegetation community in designated wetland area.

ATTACHMENTS

DRAFT

File 2.5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR 30 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Peter A. Ceribelli
Senior Vice President
Weston Solutions, Inc.
1400 Weston Way, Box 2693
West Chester, Pa. 19380

Dear Mr. Ceribelli:

This letter is the United States Environmental Protection Agency's (EPA) response to, and approval of, Weston Solutions, Inc. (hereinafter, "Weston") January 26, 2004 request, and the August 13, 2004 request modification, for a risk-based PCB disposal approval for portions of the Hatco site located in Fords, Middlesex County, New Jersey, in accordance with the federal regulations for polychlorinated biphenyls (PCBs) promulgated pursuant to the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2601 et seq., and set forth in Part 761 of Title 40 of the Code of Federal Regulations (40 C.F.R. § 761). Prior to Weston's application, a PCB risk-based disposal application for the Hatco site was submitted jointly by Hatco Corporation and W.R. Grace & Co. by letter dated June 19, 2002.

The complete application that EPA considered, and that is the subject of this approval includes the following by this reference:

1) June 19, 2002 letter from Hatco and W.R. Grace & Co. transmitting a document titled "PCB Remediation Proposal And Human Health Risk Assessment For PCB Impacted Soils," dated August 31, 2001. A set of documents transmitted separately to EPA and listed in an Attachment to the June 19, 2002 letter. The listing includes a "Human Health Risk Assessment" (HHRA), a "Draft Remedial Action Work Plan" (RAWP) Volumes 1-5, and "Laboratory Reports," Volumes 6-21.

2) Weston's January 26, 2004 letter containing a modified application, which incorporates the prior application materials, and superseded the June 19, 2002 application submitted jointly by Hatco and W.R. Grace & Co.

3) Weston's August 13, 2004 letter setting forth a modified approach for remediation of the on-site lagoons, superceding the remedial approach set forth for the lagoons in the prior application materials.

It should be noted that the New Jersey Department of Environmental Protection ("NJDEP") reviewed the document, dated August 31, 2001, titled "PCB Remediation Proposal and Human Health Risk Assessment For PCB Impacted Soils," and in comments dated June 2, 2003, stated that the soil remediation proposal and risk assessment were unacceptable. NJDEP therefore required that a revised draft RAWP that addressed NJDEP's comments be prepared. Since that time, as indicated in Weston's January 26, 2004 modified risk-based PCB disposal approval application, as further modified in Weston's August 13, 2004 letter, the remedy has been significantly enhanced to address PCB contamination at the site. The modifications include:

1) extending the area to be covered with the engineered cap to all locations of the site with PCB concentrations greater than 2 mg/Kg (ppm) dry weight;

2) allowing only soils contaminated with PCBs at concentrations less than 500 mg/Kg (ppm) dry weight to remain on-site, with the exception of the two on-site lagoons addressed in item 3 below, and these materials shall be covered with the engineered cap as described in item 1 above; excavated materials containing greater than 500 mg/Kg (ppm) dry weight PCBs that are removed from the site shall be properly disposed of in accordance with federal PCB regulations contained in 40 C.F.R. § 761;

3) excavation and off-site disposal of chemical waste sludges, sediments, and any other material overlying the clay layer in the two on-site lagoons; sampling to verify that no material remaining in the lagoons exceeds a concentration of 500 mg/Kg (ppm) dry weight PCBs; verify the integrity of the clay layer and, if necessitated by any observed loss of integrity, restore the integrity of the clay layer; collapse of the berm separating the lagoons; backfill of the lagoons with soil from other areas of the Hatco site determined to contain less than 500 mg/Kg (ppm) PCBs (including areas identified in the draft RAWP that lie beyond the Hatco Corporation property boundary); capping those backfilled materials excavated from other areas of the Hatco site determined to contain greater than 50 mg/kg (ppm) PCB mg/kg with a geotextile of not less than 50 mil thickness and a permeability of not less than 10E-7 cm/sec; and cover of the lagoon backfill with clean fill to a thickness of not less than two feet. Materials excavated from the lagoons shall be managed, including separation of liquid and non liquid fractions, and disposed of off-site in accordance with PCB disposal regulations contained in 40 C.F.R §761.61(b); and

4) identification and placement of all locations at the site with PCBs in excess of 0.49 mg/Kg (ppm) dry weight under a deed restriction;

5) verification of the perpetual protectiveness of the remedy by long term monitoring.

Based on the information provided in the application, including the five modifications outlined above, EPA has determined that implementation of the remedy and disposal actions

proposed in the application will not pose an unreasonable risk of injury to health or the environment.

Region 2 staff prepared a draft approval and published a public notice on January 10, 2005 in the Newark Star Ledger and the Home News-Tribune establishing a 30 day public comment period on the draft approval. The full application and extensive background materials were made available for public review at the EPA Edison office and at the Woodbridge Library - Fords, New Jersey, branch. No public comments were received during the 30 day public comment period.

EPA Region 2 reviewed the application to determine whether the proposed remedy would be protective of public health and the environment, is technically feasible and appropriate, is consistent and supportive of the NJDEP's plans for remediation of the site, and that safeguards are in place to ensure that long-term operation, maintenance, and monitoring commitments associated with the remedy would be undertaken.

By this letter, EPA hereby issues approval for the risk-based disposal of soils, sediments, pond "muck," and phthalic anhydride wastes contaminated with PCBs, and PCB contaminated materials located at the Hatco site, subject to the conditions specified in this letter. This approval is being issued under the authority granted to EPA by the Toxic Substances Control Act (TSCA) as codified in 40 C.F.R. § 761.61(c), (OMB Control Number 2070-0159). This approval also constitutes an order under the authority of Section 6 of TSCA, 15 U.S.C. § 2605.

1. Effective Date and Review Date

This approval shall become effective on the date that the Regional Administrator (RA) of EPA Region 2 receives written notification from Weston of its acceptance and intention to comply with the conditions of this letter. The person providing such written notification must be an officer of Weston. This offer may be withdrawn if EPA Region 2 does not receive written notification from Weston of its acceptance of, and intention to comply with, the conditions and terms of this approval within 45 days of the date of the bankruptcy court's order approving the Remediation Agreement by and among Weston, Hatco and Grace, and the Revitalization Settlement Agreement by and among the NJDEP, Weston, ACE Financial Solutions, Inc., Hatco, and Grace and its affiliates, or other such date as may be agreed to by the parties.

The EPA will review this approval no later than 5 years from its effective date. At that time, if the EPA finds that the continued implementation of the remedy granted by this approval presents an unreasonable risk to health or the environment, the EPA may modify, suspend, or revoke this approval. Alternatively, the EPA may request further information to make such a determination.

2. Description of Extent of PCB Contamination

The Hatco site, a portion of which is contaminated with PCBs above 50 mg/Kg (ppm) dry weight and is therefore the subject of this approval, is located at 1020 King Georges Post Road, Fords, Middlesex County, New Jersey. This site encompasses 80 acres and is bordered by King Georges Post Road to the North, Industrial Avenue to the south, Route 440 and Interstate I-287 to the east, and a tributary to Crows Mill Creek to the west. Approximately 15 acres of the site are developed. Chemical manufacturing, processing, storage, and waste residuals management facilities, research and quality control laboratories, and management and sales offices are located at the site. The Hatco site discussed herein also includes an area to the west of the Hatco property boundary and an area south of Industrial Avenue (known as Channel D) which are described in the draft RAWP.

PCBs were detected in 852 of the approximately 1,300 soil samples analyzed for these compounds. Detected concentrations range from 0.0033 mg/Kg (ppm) to 12,000 mg/Kg (ppm). Soils containing more than 100 mg/Kg (ppm) PCBs are generally limited to portions of the "Main Production Area", the "Muck" area, the four former unlined ponds, and two former chemical waste lagoons. A few samples collected outside of the Main Production Area were contaminated with PCBs at concentrations greater than 100 mg/Kg (ppm). Surface soil contamination between 2 mg/Kg (ppm) and 100 mg/Kg (ppm) exists over a wider portion of the developed area of the site, beyond the Main Production Area.

The Muck area is located near the western border of the site, where semi-solid materials from the ponds were periodically removed and placed on surface soils. PCB contamination in the Muck area was detected up to12,000 mg/Kg (ppm), with the highest levels of contamination present in the interval between two (2) and six (6) feet below ground surface (bgs).

The four on-site ponds received wastewater from manufacturing operations during the 1960's. In 1970, the ponds were excavated, filled and covered with soil, and a portion covered with asphalt. The maximum concentration of PCBs reported in the pond area is 8,600 mg/Kg (ppm), detected in a sample collected between 7 – 7.5 ft bgs.

In the mid 1960's, two (2) clay lined lagoons were constructed to receive chemical manufacturing wastewater effluent, recover floating organic chemical waste, and moderate flow of wastewater to the Middlesex County Utilities Authority. The two lagoons were removed from service during "Project 50" in 1991. PCB contamination exceeding 500 mg/Kg (ppm) has been detected in the lagoons.

Floating free product organic chemicals (also known as light non-aqueous phase liquid or LNAPL) are present on groundwater at two main areas: one extending from the Main Production Area southward to just north of the former lagoons; and a second within the former Muck area. The LNAPL plume at the north end of the Main Production Area is approximately 0.13 feet

thick; at the south end of the Main Production Area, LNAPL is about 1.72 feet thick; and at the former Muck Area, LNAPL is about 0.06 feet thick. The maximum PCBs concentration reported in the LNAPL was 90,000 mg/Kg (ppm). The total combined length of the LNAPL contaminated areas is approximately 1,250 feet.

The reported concentrations of PCBs in shallow groundwater monitoring wells ranged up to 24,000 ug/L (ppb), detected in the monitoring well designated MW-15S during the October 1991 sampling.

3. Remedial Action, Cap Remedy, and Long Term Monitoring

This approval applies to all portions of the Hatco site contaminated with PCBs at concentrations greater than or equal to 50 mg/Kg (ppm) (hereinafter, the "TSCA Remediation Area"), unless otherwise addressed. The TSCA Remediation Area and those areas where PCBs are present at concentrations greater than the NJDEP Cleanup Standard of 0.49 mg/Kg (ppm) (hereinafter, the "Total Remediation Area) will be subject to an Administrative Consent Order (ACO), executed between Weston and NJDEP. Those portions of the site with PCB contamination at concentrations less than 50 mg/Kg (ppm) dry weight are also subject to, and will be addressed in accordance with, NJDEP requirements.

Weston shall comply with the draft Remedial Action Workplan (RAWP), as modified to incorporate the terms of the January 2004 application, Weston's August 13 letter, and this approval, unless EPA Region 2 provides written approval of any additional modification. Notification of intent to modify the remedy must be received by EPA at least 60 calendar days prior to the proposed implementation of the modification. The provisions of this approval supercede any inconsistent provisions which may be contained in the RAWP as modified by the January 2004 application and Weston's August 13, 2004 letter.

Weston shall excavate and dispose of off-site, in accordance with 40 C.F.R. Part 761, all PCB containing material at concentrations greater than 500 mg/Kg (ppm) dry weight. Weston shall also excavate and dispose of off-site, material from the former lagoons, as described previously in this approval letter, and conduct long term monitoring to verify the perpetual effectiveness of the remedy. All remedial and monitoring work shall be performed in accordance with an engineering and monitoring plan, approved in advance, in writing, by EPA Region 2. No later than thirty (30) days after excavating and disposing of the soil, Weston shall submit to EPA Region 2 a certification, signed by a professional engineer licensed by the State of New Jersey, verifying that such work has been completed in accordance with the draft RAWP and this approval. Weston shall also maintain in perpetuity, the following records:

1) "as-built" engineering drawings which provide latitude and longitude determined using differential global positioning or an equivalent method which conforms to the EPA

locational data standard available online under the "Data Standards" link at **http://www.epa.gov/edr/**;

2) construction related documents including engineering specifications for all purchased, manufactured, or otherwise fabricated elements associated with the remedy;

3) purchase receipts and/or certifications associated with all components of the remedy;

4) lists or logsheets which record the identity and affiliation of all personnel associated with off-site management, design, or procurement, and on-site implementation of the remedy;

5) all records and information related to characterization, analysis (verified by analysis using an appropriately sensitive and selective EPA SW-846 method or validated equivalent), shipping, and disposal of materials associated with this portion of the remedy and the long term monitoring.

In addition, Weston shall consolidate the remainder of the contaminated material under an engineered cap to contain PCBs at concentrations of 2 mg/Kg (ppm) or greater (surface and subsurface soils). The capped area will include the Muck Area and the former ponds.

Crows Mill Creek (referred to as Channel D in the draft RAWP) sediments that contain PCBs above 1 mg/Kg (ppm) dry weight shall be removed and placed under the main on-site cap. Off-site contaminated soils from the areas west of the site boundary containing PCBs at concentrations over 2 mg/Kg (ppm) will be capped in place.

Areas of the site where the remedial action is for placement of a soil cap per Section 4.4.1 of the March 29, 2001 draft Remedial Action Workplan (RAWP) as modified by the January 2004 application and Weston's August 13 letter, shall be capped with a minimum of 18 to 24 inches of clean soil [i.e. containing <1 mg/Kg (ppm) PCB per 40 C.F.R. § 761.125(a)(2)(ii)], constructed, at minimum, to meet the specifications provided in 40 C.F.R. § 761.61(a)(7). Within thirty (30) days of completing the cap remedy, Weston shall submit to EPA Region 2 the following:

1) a certification, signed by a professional engineer licensed by the State of New Jersey, verifying that such work has been completed in accordance with the Draft RAWP and this approval, and

2) certification of the source, and PCB concentration - determined by analysis using an appropriately sensitive and selective EPA SW-846 method or validated equivalent - of "clean soil" utilized in the remediation.

4. Recording of Approval and Deed Notice

Within sixty (60) days of construction of the cap remedy, as described in the draft RAWP as modified by the January 2004 application and Weston's August 13 letter, and above, Weston shall prepare a Deed Notice and request the then owner(s) of the site **and off-site areas of the site** to record the Deed Notices, in accordance with 40 C.F.R. § 761.61(a)(8) and New Jersey law, with the County Clerk's Office, Middlesex County, New Jersey. The Deed Notice shall be consistent with NJDEP requirements and shall include: a description of the extent of contamination found at the site; a description of the removal action and cap remedy; the restrictions on use included in Section 7 of this approval; and a copy of this approval, appended as an attachment. Within 10 days of receipt of a stamped, filed Deed Notice, Weston shall submit a copy of same to EPA Region 2.

5. Inspection and Maintenance Obligations; Annual Report to EPA.

Weston shall provide EPA Region 2 with an update of the status of the remediation project every three (3) months following the effective date of this approval until the capping, removal, and disposal operations are complete. After the caps are completed, Weston shall visually inspect the caps at least annually, and maintain the caps as needed. Weston shall also provide for a means of communicating with the owner of the site regarding any and all activities at the site which did or may result in any disruption, damage, removal, or other loss of integrity of the cap, and Weston shall inspect the cap within five (5) working days of such notification. If necessary, the cap shall be repaired or replaced within 14 working days of the verification of damage or other loss of integrity. Within 14 working days of completion of repairs, Weston shall submit to EPA the following information:

1) notification that the cap has been breached or otherwise suffered damage or loss of integrity;

2) certification, signed by a professional engineer licensed by the State of New Jersey, that the cap has been repaired or replaced to a condition not less than that constructed as required by this approval.

The caps shall be maintained to prevent access to the contaminated material (e.g. soil and debris) under the caps and to prevent such material from being released. Weston shall also, by July 1 of each year, submit to EPA Region 2 an annual written summary report covering the previous reporting period (January through December of the previous year). The Annual Report shall provide the following information:

1) reports of visual inspections and maintenance needed to maintain the as-built integrity of the cap;

2) maintenance reports;

3) information regarding any problems maintaining any element of the remedy.

6. Sale of the Property

If Weston is advised that the then owner of the site intends to sell or lease any portion of the TSCA Remediation Area, it shall notify EPA Region 2, in writing, of the sale or lease of any portion of the TSCA Remediation Area no later than 30 days after receiving such advice prior to such action. This notification shall include the name, address and telephone number of the new owner(s). As permitted by the access agreements. Weston shall visually inspect the caps within 30 days prior to sale or lease of any such property, and shall, thereafter, provide a written report of the results of inspection, and any as yet unreported inspections and /or maintenance on the caps, to EPA Region 2 and to the buyer or lessee no later than 10 days prior to such sale or lease. In the event that the owner of the Hatco site sells or leases any portion of the TSCA Remediation Area, Weston shall continue to be bound by all the terms and conditions of this approval, unless the following occurs:

1) the new owner or any lessee requests, in writing, that EPA Region 2 reissue this approval to the new owner or lessee, transferring all responsibility to comply with the terms and conditions of this approval to the new owner or lessee;

2) EPA Region 2 reissues this approval to the new owner or any lessee, transferring all responsibility to comply with the terms and conditions of this approval to the new owner or lessee; and

3) the new owner or any lessee provides written notification to EPA Region 2 of their acceptance of and intention to comply with the terms and conditions of the reissued approval. The reissued approval may be withdrawn if EPA Region 2 does not receive written notification from the new owner or lessee of their acceptance of, and intention to comply with, the conditions and terms of the reissued approval within 45 days of the date of the reissued approval. Under such circumstances, this approval, issued to Weston, will remain in effect. In such case, Weston shall provide EPA, in writing, documentation that Weston will be afforded access to the site, as necessary, to fulfill any and all obligations included in this approval.

7. Modifications and Changes in Use

Any modification(s) in the plan, specifications, or information submitted in Weston's application or draft RAWP as modified by the January 2004 application and Weston's August 13 letter, based on which this approval has been issued, must receive prior written approval from EPA Region 2. Minor modifications to this approval may be authorized, in writing, by the Chief

of the Pesticides and Toxic Substances Branch. Weston shall inform EPA Region 2 of any change, in writing, at least 60 days prior to such change. No action may be taken to implement any such modification unless EPA Region 2 has approved of the modification, in writing. EPA Region 2 may request additional information in order to determine whether or not it approves of the modification. If such modification involves a change in the use of the TSCA Remediation Area, EPA may revoke, suspend and/or modify this approval if it finds that Weston's remedy may pose an unreasonable risk to health or to the environment due to the change in use, or if EPA Region 2 does not receive information it deems appropriate from Weston or Hatco to make a determination regarding such potential risk. Weston shall prepare and request that the owner of the site record any amendment to the Deed Notice and/or this approval, resulting from any modification(s), within 60 days of such changes(s).

8. EPA Entry and Inspection

Hatco has provided EPA assurance that EPA representatives may enter the site at reasonable times for the purposes listed below. Weston shall, also, allow any authorized EPA representatives to enter the site at reasonable times for the purposes listed below:

1) to inspect the TSCA Remediation Area of the Hatco site to assess compliance with this approval and/or the federal PCB regulations;

2) to inspect any records related to this approval and/or federal PCB regulations;

3) to take samples for the purpose of assessing compliance with this approval and/or the federal PCB regulations.

Any refusal to allow any of the above actions may result in the suspension and/or revocation of this approval.

All notifications, documents, and requests to be submitted to EPA Region 2 as specified in this approval shall, unless EPA Region 2 later indicates otherwise in writing, be sent to:

Chief
Pesticides and Toxic Substances Branch
United States Environmental Protection Agency, Region 2
2890 Woodbridge Avenue (MS-105)
Edison, New Jersey 08837-3679
Telephone (732) 321-6765 Facsimile (732) 321-6788

This approval, issued pursuant to 40 C.F.R. § 761.61(c), is subject to Weston having provided EPA Region 2 with complete and forthright disclosure of all material facts. Any misrepresentation or omission by Weston of any material fact in Weston's application or the

draft RAWP may result in EPA's revocation, suspension and/or modification of this approval, in addition to any other legal or equitable relief or remedy EPA may choose to pursue under applicable law.

Weston's acceptance of this approval constitutes Weston's agreement to comply with: 1) all conditions and terms of this approval, and 2) all applicable provisions of federal, state and local law. This approval specifies the requirements applicable under TSCA and does not make any determination regarding requirements which may be applicable under other federal, state or local law. TSCA disposal requirements do not supercede other, more stringent, applicable federal, state or local laws, including any applicable requirements under the Solid Waste Disposal Act and its amendments, including the Resource Conservation and Recovery Act. Any failure by Weston to comply with any condition or term of this approval shall constitute a violation of said approval, which has been issued pursuant to 40 C.F.R. § 761.61(c); such violation is made unlawful by Section 15(1)(C) of TSCA, 15 U.S.C. § 2614(C). Any such violation(s) may result in an action by EPA for any legal or equitable relief or remedy available under applicable law. Any such violation might also result in EPA revoking, suspending and/or modifying this approval.

Based on the information included in Weston's application, EPA Region 2 finds that the PCB disposal authorized under this approval will not present an unreasonable risk to health or the environment. Permitted levels of PCB concentration for material remaining on-site under this approval are based on a site specific risk determination pursuant to TSCA, and are not applicable to any other site. Notwithstanding, this approval may be revoked, suspended and/or modified after Weston's acceptance thereof at any time if EPA Region 2 determines that implementation of this approval may present an unreasonable risk of injury to health or the environment. Nothing in this letter is intended or is to be construed to prejudice any right or remedy concerning the operation of Hatco's facility otherwise available to EPA under Section 6 of TSCA, 15 U.S.C. § 2605 and/or 40 C.F.R. § 761.

If you have any questions about the approval, or the request for additional information regarding the chemical waste lagoons, please contact Dennis McChesney of the Pesticides and Toxic Substances Branch at 732-906-6817.

Sincerely,

for

Kathleen C. Callahan
Acting Regional Administrator

cc: Commissioner Bradley M. Campbell
New Jersey Department of Environmental Protection

Stephen E. Maybury, Bureau Chief, BEECRA
New Jersey Department of Environmental Protection

THE ELM GROUP

345 WALL STREET | RESEARCH PARK | PRINCETON NJ 08540
TEL 609.683.4848 FAX 609.683.0129
WWW.EXPLOREELM.COM

MEMORANDUM

TO: **Kevin Schick, Bureau Chief**
NJDEP, Bureau of Environmental Evaluation and Risk Assessment

FROM: **Mark D. Fisher, CHMM, LSRP**
The ELM Group, Inc.

DATE: **May 7, 2015**

RE: **Summary of NJDEP Technical Consultation Meeting of March 6, 2015**
Regarding the Hatco Corporation Remediation Project
Fords, Middlesex County, New Jersey
NJDEP PI#G000003943

A Technical Consultation pertaining to the Hatco Remediation Project was held on March 6, 2015, at the New Jersey Department of Environmental Protection (NJDEP) office in Trenton, NJ. The meeting attendees were as follows:

- Kevin Schick, NJDEP
- Nancy Hamill, NJDEP
- Mark Fisher, LSRP, The ELM Group, Inc. (ELM)
- Jason Schindler, Weston Solutions, Inc. (Weston)
- Leeron Tagger, Weston
- Lisa Saban, MS, Windward Environmental, LLC (Windward)
- Mike Johns, PhD, Windward

The purpose of the meeting was to discuss a proposed methodology regarding the derivation of a site-specific risk-based sediment remediation goal for bis(2-ethylhexyl)phthalate (BEHP) in Woodbridge Pond (a.k.a. Morris Pond) sediments for the Hatco remediation project. Prior to the meeting, Mark Fisher, the LSRP for the project, provided NJDEP with a technical memorandum that outlined a proposed approach to develop a site-specific remediation goal for BEHP in Woodbridge Pond sediments. That memorandum, dated February 2015, was prepared by Windward and Weston, and approved by the LSRP; for purposes of this discussion the February 2015 memorandum will be referred to as the "BEHP Memo".

The BEHP Memo discussed current site data, provided a review of the basis for the current NJDEP ecological screening level for BEHP in sediments and presented an approach to develop a site-specific BEHP sediment remediation goal. Based on discussions during the Technical Consultation with NJDEP, a revised approach for the Woodbridge Pond sediment BEHP remediation goal is now recommended. This memorandum presents a summary of the technical consultation meeting followed by the revised recommendations to develop the BEHP sediment remediation goal for Woodbridge Pond.

TECHNICAL CONSULTATION SUMMARY

1. NJDEP commenced the meeting with a brief introduction of NJDEP's technical consultation program that is set up for sites under LSRP oversight that have unusual environmental issues, and the Department's role to provide guidance where applicable.

2. NJDEP stated they reviewed the maps and data that Weston provided prior to the consultation.

3. NJDEP acknowledged the request for a technical consultation for the purpose of proposing a site-specific alternative remediation standard for BEHP in sediment, which will ultimately require formal approval by NJDEP.

4. NJDEP discussed ongoing projects and general environmental activity in the vicinity of the Hatco site, within the Raritan River watershed.

5. Kevin Schick (NJDEP) introduced Nancy Hamill (NJDEP) as the Department's ecological specialist and the lead for ecological guidance on the Hatco project. She will likely review all submittals pertaining to this subject and in the past had provided technical support for the NJDEP prior to the LSRP program.

6. NJDEP discussed the process for submitting the meeting minutes. NJDEP will review the draft meeting minutes once received and respond with comments, if necessary. Once comments have been addressed, the meeting minutes will be finalized and entered into New Jersey's Environmental Management Systems (NJEMS) for the public record.

7. Jason Schindler (Weston) introduced himself as the current project manager for the Hatco remediation project. Weston stated the focus of the technical consultation is on Woodbridge Pond, also known as "Morris Pond." Woodbridge Pond and neighboring properties to the west are currently owned by Woodbridge Township. The properties were acquired from Morris Properties through tax liens. Further,

Weston is under an agreement with the United States Environmental Protection Agency (EPA) to remediate PCBs greater than 1 mg/kg in off-site sediment, including Woodbridge Pond. Weston is also responsible for remediation of BEHP, which is also identified as a site-related contaminant. Historical data suggested that PCB and BEHP contamination were co-located and that the remediation of PCBs would also address the BEHP in pond sediments. Therefore, previous work did not include development of a site-specific remediation standard for BEHP in sediment. Delineation of BEHP in sediment defaulted to the ecological screening level of 0.75 mg/kg. However, the results of recent sampling in Woodbridge Pond indicated that BEHP concentrations above the screening level extend beyond the area required for PCB remediation.

8. Weston has received input from Edison Wetlands Associates (EWA) and Woodbridge Township stating their desire to minimize disruption to the ecological community and to preserve as much of the ecological value as practicable during remediation.

9. Weston has retained Windward to assist in developing a meaningful scientifically-based remediation goal that all parties can agree upon.

10. NJDEP inquired whether Woodbridge agreed to any numeric remediation goals as the property owner. Weston responded that Woodbridge Township has their own environmental consultant who is supportive of Weston's process towards deriving a site-specific remediation goal for BEHP, as long as it is in accordance with the EPA and NJDEP guidance.

11. NJDEP inquired if Weston's intent was to develop a site-specific goal for Woodbridge Pond sediments that will also apply to other areas including Channel D. Weston stated that other areas of concern (AOC) would be addressed individually and, if a site-specific BEHP sediment remediation goal or alternate remediation standard (ARS) is appropriate for other AOCs, then Weston would follow applicable guidance and procedures to derive an appropriate site-specific BEHP sediment remediation goal or ARS for that particular area. For purposes of this Technical Consultation, Weston's focus is solely on developing a site-specific BEHP sediment remediation goal the Woodbridge Pond sediment.

12. Windward discussed the content of the BEHP Memo beginning with a review of the NJ Ecological Screening Criteria for BEHP and its derivation from the NOAA Screening Quick Reference Tables (SQuiRTs) by the State of Washington. Windward stated that the NJ Ecological Screening Criterion of BEHP in sediments (0.75 mg/kg) was derived from an evaluation that is no longer appropriate. Windward discussed their review of literature on the toxicity of BEHP and found No Observed Effect

Concentration (NOEC) were identified at much higher concentrations than the current screening criteria set forth by NJDEP. Windward discussed their approach using New York State's equilibrium partitioning value methods for deriving site-specific remedial standards using Total Organic Carbon (TOC) data from Woodbridge Pond, which calculated higher cleanup numbers than the NJDEP screening criteria. Windward recommended developing a site-specific value and performing toxicity tests by spiking sediment samples with various concentrations of BEHP and analyzing the samples through two different bioassay tests with four endpoints. Windward recommended tests to be performed on spiked sediment, which would generate a dose response curve based on Windward's review of the published literature and the potential for toxicity. Then ranges of toxicity would be bracketed and from the bioassay data, a NOEC and a Lowest Observed Effect Concentration (LOEC) would be determined. The laboratory recommended to conduct the toxicity tests is Nautilus Environmental located in San Diego, California.

13. NJDEP asked why spiked sediments are being considered instead of diluted sediments. Windward responded that data developed using diluted site sediment are highly susceptible to interference due to cross-contamination from other contaminants that would likely confound the interpretation of the toxicity test results. In order to develop a reliable dose-response curve for BEHP, it is preferable to keep sediments used in the test free from other contaminants to improve the understanding of BEHP's potential impact on toxicity and growth in benthic invertebrates. Windward's recommendation is to use spiked sediments from Great Lakes Environmental Center (GLEC), which sells well-characterized sediment collected from the Great Lakes. Windward further explained, if site sediments were used instead of reconstituted or clean reference sediment for the toxicity test, the same equilibrium issues would still apply; a high concentrated chemical is still being mixed in with a low concentration sediment that contains organic carbon, which still requires equilibration, so the contamination (BEHP) molecules can migrate and disperse through the pore space to recreate site conditions as best as possible.

14. NJDEP followed by asking if there were any locations within Woodbridge Pond that had high BEHP hits without confounding high concentrations of PCBs. Windward's response was no.

15. NJDEP asked if it would be possible for Weston to adopt the Washington State screening level of 22 mg/kg and remediate the remaining BEHP hot spots outside the 1 mg/kg PCB remediation footprint. NJDEP stated that compliance averaging could be used to demonstrate compliance and noted that compliance averaging has always been allowed for ecological purposes. Further, NJDEP stated the purpose of the NJDEP screening criteria is to raise a flag for potential risk. However, NJDEP would be open to the concept of using Washington State's alternate screening level

of 22 mg/kg for a site-specific BEHP sediment remediation goal in Woodbridge Pond. NJDEP suggested this would be an effective remedial approach to address the benthic exposure pathway. Also, NJDEP agreed the current NJDEP screening criteria for BEHP is conservative and has not been updated since 2008.

16. Windward noted that the approach recommended in the BEHP Memo assumed a single point compliance approach. However, Windward and Weston will evaluate the NJDEP's recommendations to utilize compliance averaging.

17. NJDEP stated that Weston can perform testing to develop a site-specific sediment remediation goal for BEHP in Woodbridge Pond and that the NJDEP is open to this approach. However, NJDEP would also accept Washington State's alternate screening level of 22 mg/kg as a site-specific BEHP sediment remediation goal in Woodbridge Pond, along with utilizing a compliance averaging approach for these data. NJDEP acknowledged that the Washington State screening level is more current than NJDEP's for the benthic exposure pathway. Under the second approach noted above, the remedial approach for BEHP would be an additional remedial objective for Woodbridge Pond that would be in addition to the existing EPA-directed sediment remediation criteria for total PCBs of 1 mg/kg; the remedial approach for BEHP would also incorporate compliance averaging to achieve the Washington State BEHP standard of 22 mg/kg in the remaining pond sediments.

18. NJDEP stated this discussion has been focused on the protection of the benthic community, but the risk that BEHP poses to wildlife (e.g. fish, piscivorous birds, mammals, etc.) must also be addressed. NJDEP stated there have been reports of heron and fish species documented by NJDEP Division of Fish and Wildlife at Woodbridge Pond. Thus, if Weston were to use the equilibrium partitioning method to develop a site-specific BEHP sediment remediation goal that is higher than the current screening level, NJDEP is not confident that the upper trophic level would also be protected.

19. NJDEP stated the Hatco remediation project is one of three sites in New Jersey that is currently undergoing the development of a site-specific remediation goal for a phthalate in sediment, and the Hatco site in particular has the highest phthalate concentrations of the three sites. NJDEP identified that risk assessments for phthalates have been completed at the Mannington Mills site in Salem County, NJ and the Horseshoe Road Superfund Site in Sayreville, NJ. NJDEP has reviewed data on bioaccumulation of BEHP in fish tissue at sites where BEHP concentrations in sediment are lower than those found in Woodbridge Pond. NJDEP stated that the investigators at the other sites, when conducting their risk assessment for phthalates and developing site-specific sediment remediation goals, set objectives in their risk assessments to address the protection of upper trophic wildlife, and that

this is something Weston needs to consider. NJDEP stated the BEHP Memo does not address the bioaccumulation potential of BEHP in upper trophic levels. However, NJDEP believes that BEHP does bioaccumulate in fish tissue and therefore this issue should be addressed for Woodbridge Pond. NJDEP also stated that the BEHP Memo did not address the ecotoxicity profiles for BEHP and the risk assessment/remediation approach should address the potential for BEHP to be an endocrine disruptor in fish and should evaluate biomarkers of exposure.

20. NJDEP expects Weston will submit an ecological risk assessment with the Remedial Investigation Report for the Hatco site and that the risk assessment should describe the ecotoxicity profile for BEHP and the potential for being an endocrine disruptor.

21. Weston noted that the remediation of Woodbridge Pond will likely require removal of the existing fish population. Fish removal was previously recommended for this site by NJ Division of Fish and Wildlife during Weston's 2013 pre-application meeting.

22. NJDEP, Weston and Windward agreed that if the fish are removed from the pond during remediation then (a) the BEHP exposure pathway to the upper trophic levels would be eliminated and (b) the site-specific BEHP sediment remediation goal for the protection of the benthic environment is the only risk exposure pathway that needs to be developed.

23. NJDEP indicated that if Weston elects to proceed with sediment testing to develop a site-specific BEHP sediment remediation goal, then NJDEP would prefer reference sediments from a closer source, such as the pond in Round Valley, NJ. If Weston and Windward prefer to use GLEC sediment for potential toxicity testing for the reason that it is well-characterized, NJDEP will leave it to Weston's discretion and that Weston should provide the data to determine what the best source of sediment to use for the spike test; however, NJDEP has no guidance in place that prohibits the use of the GLEC sediment.

RECOMMENDED APPROACH

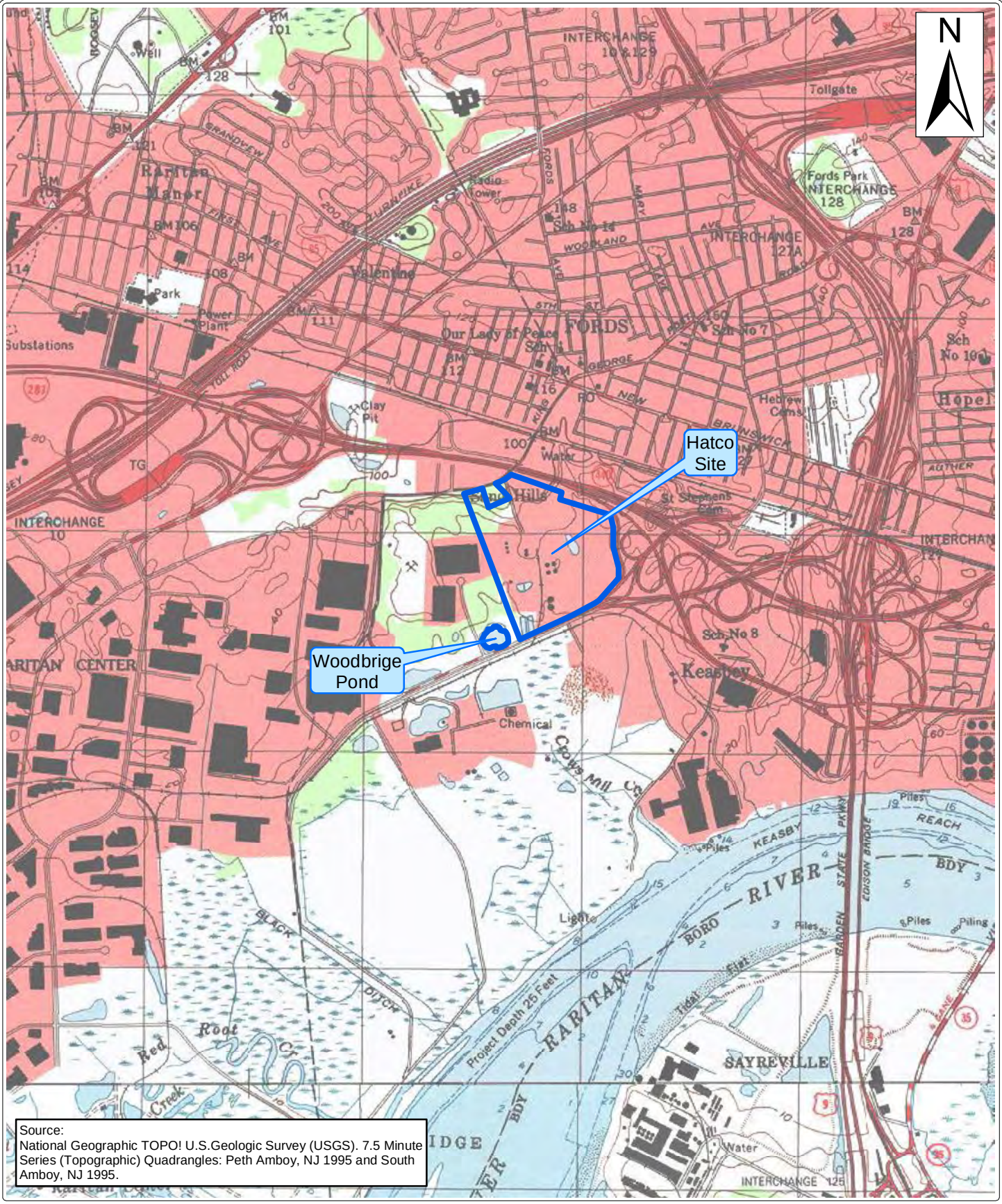
Based upon the items discussed at the technical consultation meeting, Windward and Weston are currently evaluating using the Washington State screening standard of 22 mg/kg as the site-specific BEHP sediment remediation goal for Woodbridge Pond, including utilizing compliance averaging as a component of remediation strategy.

To address the Woodbridge Pond AOC, Windward will develop a memo for NJDEP documenting use of current ecological risk guidance, and will outline the potential pathways via a discussion of a conceptual site model (CSM) for the pond. Windward will

also develop an ecotoxicological profile for BEHP and discuss bioaccumulation potential as well as possible endocrine disruptor and other effects.

FIGURES

DRAFT



Source:
National Geographic TOPO! U.S.Geologic Survey (USGS). 7.5 Minute Series (Topographic) Quadrangles: Peth Amboy, NJ 1995 and South Amboy, NJ 1995.

LEGEND:

2,000 1,000 0 2,000

Scale in Feet

PROJECT:

Hatco Remediation

TITLE:

WOODBRIDGE POND
USGS QUAD MAP
(Perth Amboy Quadrangle)

CLIENT NAME:

Hatco Corporation

WESTON SOLUTIONS

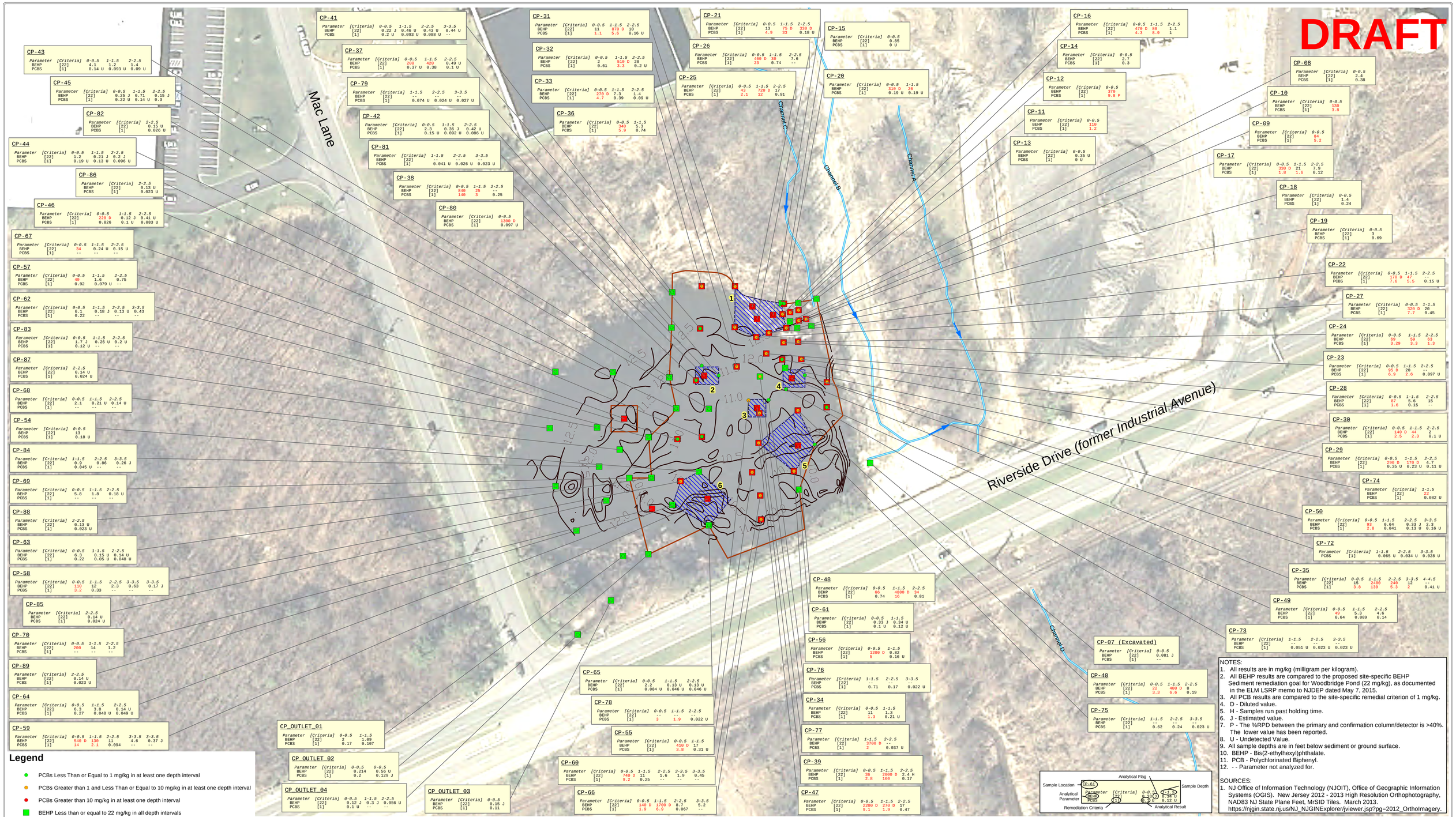
DATE:

October 2015

FIGURE #:

1

P:\Hatco\GIS\MXD\2015_10_Morris_Pond\17168_Morris_Pond_Site_Loc.mxd



Legend

- PCBs Less Than or Equal to 1 mg/kg in at least one depth interval
- PCBs Greater than 1 and Less Than or Equal to 10 mg/kg in at least one depth interval
- PCBs Greater than 10 mg/kg in at least one depth interval
- BEHP Less than or equal to 22 mg/kg in all depth intervals
- BEHP Greater than 22 mg/kg in at least one depth interval
- Current Extent of Channels B and C
- 4 Estimated Sediment Removal Area
- Estimated Sediment Removal Area
- Proposed Sand Cap Area (PCB's 1-10 mg/kg and/or BEHP Over 22 mg/kg)
- 2 Analytical Result Exceeding Criterion
- 12.5 Bathymetry with elevation
- BEHP bis(2-ethylhexyl) phthalate
- Surface water flow direction

Name	Rationale	Depth (ft)	Area (sqft)	In-Place Volume (cuyd)
Removal Area 1	PCB > 10 mg/kg	2	2,180	161
Removal Area 2	PCB > 10 mg/kg	1	530	20
Removal Area 3	PCB > 10 mg/kg	2	400	30
Removal Area 4	PCB > 10 mg/kg	2	501	37
Removal Area 5	PCB > 10 mg/kg	2	2,242	166
Removal Area 6	PCB > 10 mg/kg	2	2,317	172
Sand Cap	PCB 1-10 mg/kg and/or BEHP > 22 mg/kg	0.5	53,428	989

50 25 0 50
Graphic Scale In Feet

NOTES:
1. All results are in mg/kg (milligram per kilogram).
2. All BEHP results are compared to the proposed site-specific BEHP Sediment remediation goal for Woodbridge Pond (22 mg/kg), as documented in the ELM LSRP memo to NJDEP dated May 7, 2015.
3. All PCB results are compared to the site-specific remedial criterion of 1 mg/kg.
4. D - Diluted value.
5. H - Samples run past holding time.
6. J - Estimated value.
7. P - The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
8. U - Undetected Value.
9. All sample depths are in feet below sediment or ground surface.
10. BEHP - Bis(2-ethylhexyl)phthalate.
11. PCB - Polychlorinated Biphenyl.
12. - - Parameter not analyzed for.

SOURCES:
1. NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). New Jersey 2012 - 2013 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tiles. March 2013. https://njgin.state.nj.us/NJ_NJGINExplorer/jviewer.jsp?pg=2012_OrthoImagery.

WESTON SOLUTIONS SM
Weston Solutions, Inc.
205 Campus Drive Edison, New Jersey 08837-3939
TEL: (732) 417-5800 Fax: (732) 417-5801
http://www.westonsolutions.com

N W E S

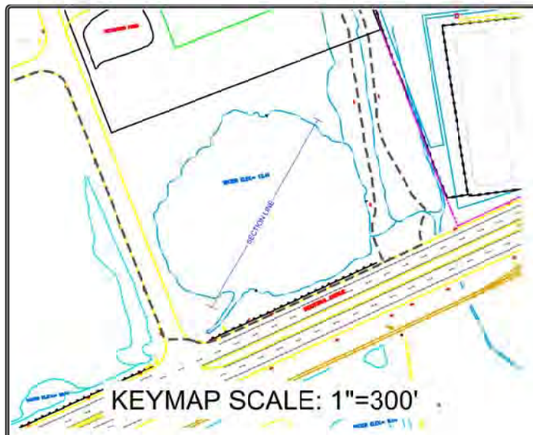
REPORT DATE: November 2015	PROJECT MANAGER: J. Schindler
DRAWING: 17137_Morris_Pond_Bathymetry.mxd PATH: P:\Hatco\GIS\MXD\2015_10_Morris_Pond\	CHECKED BY: B. Simons
REVISION No. 0	CONTRACT No. / DELIVERY ORDER NO.
WORK ORDER No. 13067.001.003.8036	DRAWN/MODIFIED BY: S. Poultney / DATE CREATED: 6/11/2015

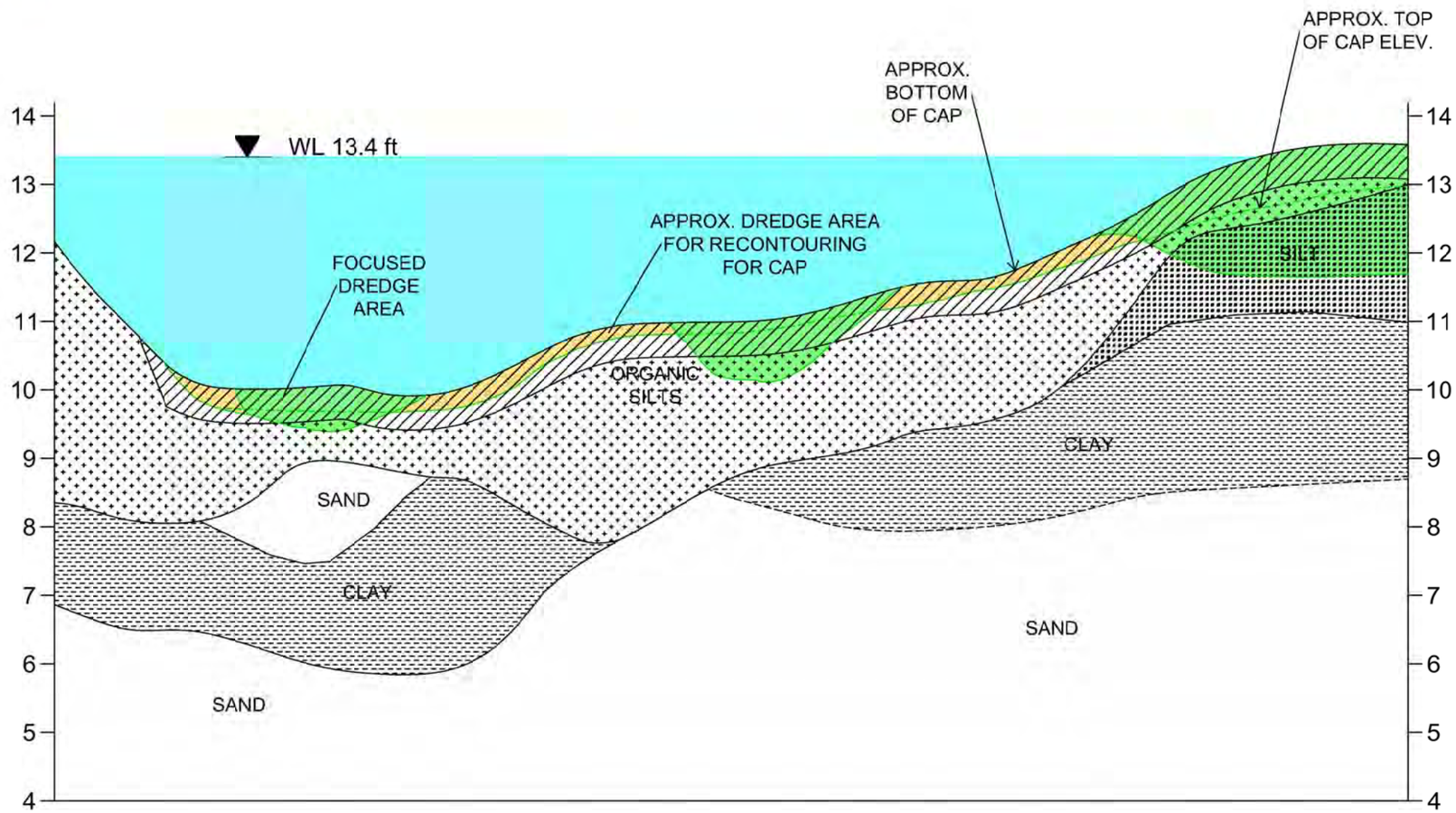
CLIENT NAME: Hatco Corporation

PROJECT NAME: Woodbridge Pond

DRAWING TITLE: Woodbridge Pond BEHP and PCB Results and Proposed Extent of Sediment Removal and Capping

FIGURE: 2 | SCALE: 1 in = 50 ft | DATE: November 2015





LEGEND:

- ORGANIC SILT
- SILT
- CLAY
- SAND
- SAND CAP
- FOCUSED DREDGE AREA FOR DISPOSAL
- DREDGE AREA TO RECONTOUR FOR CAPPING

HORIZONTAL SCALE
15 0 15 30
1 inch = 30 ft.

VERTICAL SCALE
1 0 1 2
1 inch = 2 ft.

Weston Solutions, Inc.
200 Century Parkway, Edison, New Jersey 08837-2939
TEL: (732) 417-5500 Fax: (732) 417-5801
http://www.westonsolutions.com

PROJECT MANAGER: J. Schindler
CHECKED BY: B. Simmons
CONTRACT NO.
DELIVERY ORDER NO.
DRAWN/MODIFIED BY: S. Porter
DATE CREATED: 10-22-2015
REPORT DATE: October 2015
DRAWING PATH: see footer
REVISION NO. 0
WORK ORDER NO. 13067.001.003.8036
SEAL:
N.J. PROFESSIONAL ENGINEER NO. 00000
CLIENT NAME: Hatco Corporation
PROJECT NAME: Hatco Remediation
DRAWING TITLE: WOODBRIDGE POND CROSS SECTION A-A'
DATE: 10-29-2015
SCALE: As shown
FIGURE: 3

P:\Hatco\GIS\CAD\2015_10_Morris_Pond\17166_Morris_Pond_X-Sec_A-A.dwg Oct 29, 2015

ACCESS AGREEMENT

THIS AGREEMENT, entered into this _____ day of November, 2013 by and between Weston Solutions, Inc., a Pennsylvania corporation, located at 1400 Weston Way, West Chester, PA 19380 (hereinafter sometimes referred to as "Weston" or "Grantee"), and Woodbridge Township, located at 1 Main Street, Woodbridge, NJ 07095 ("Owner").

WITNESSETH:

WHEREAS, Chemtura Corporation ("Chemtura") is the current owner and operator of a specialty chemical manufacturing facility at 1020 King George Post Road, Fords, Middlesex County, New Jersey, formerly owned and operated by Hatco Corporation ("Hatco") and W.R. Grace & Co. – Conn. ("Grace"); and

WHEREAS, the New Jersey Department of Environmental Protection ("NJDEP") is requiring environmental remediation of the former Hatco facility and areas of environmental media impacted or potentially impacted by conditions at or emanating from the former Hatco facility; and

WHEREAS, Weston has entered into an agreement with Hatco and Grace, to investigate and remediate historical environmental contamination at the former Hatco facility; and

WHEREAS, Owner owns property designated as Lot 7 in Block 71 and Lot 100 in Block 77 by the current Tax Map of the Township of Woodbridge, Fords section (the "Property"); and

WHEREAS, the Grantee requires access to certain areas of the Property for the purpose of performing limited confirmatory sampling of certain media, as more particularly set out in Exhibit A attached hereto (the "Work"); and

WHEREAS, the Grantee has requested permission to enter upon the Property to perform these activities; and

WHEREAS, Owner will have the work and/or plans for all work to be performed by Grantee reviewed by an engineer selected by Owner; and

WHEREAS, the Grantee has agreed to pay for all engineering review expenses incurred by Owner, in an amount not to exceed $4,000; and

WHEREAS, Owner agrees that Grantee will not be responsible for Owner's engineering review expenses in excess of $4,000; and

WHEREAS, it is Owner's intent to facilitate the Grantee's undertaking of the Work, subject to the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the promises and the mutual covenants and agreements contained herein, the parties hereto, intending to be legally bound, agree as follows:

1. **Grant of Access.** Subject to the terms and condition hereinafter set forth, Owner hereby grants a license to Grantee, its agents, employees, licensees, consultants, contractors, subcontractors to enter upon the Property only for the purposes of conducting the Work. This license shall not be deemed a lien, encumbrance, restriction or covenant affecting the land.

2. **Scope of Work.** The Work relating to this Agreement is set forth in Exhibit "A", attached. Owner recognizes that the Work is being conducted pursuant to NJDEP oversight and that Grantee may be required to undertake additional activities on the Property as required by NJDEP. If additional activities are required, Grantee shall provide Owner prior written notice of such additional activities. If Owner consents, which consent shall not be unreasonably withheld or delayed, the description of "Work" shall be deemed to include the activities identified in Grantee's written notice.

3. **Term.** This Agreement shall remain in effect until the earlier of the following events described herein in subparagraphs (a), (b) or (c) occurs: (a)(i) the NJDEP issues an NFA, or (ii) an LSRP issues an RAO and the full conditions of the wetland permits applicable to the Property have been met and accepted by the NJDEP; (b) the Work set forth in Exhibit A, as may be amended from time to time, is completed; or (c) six (6) years from the Effective Date of the Agreement have passed, provided that after three (3) years from the Effective Date of the Agreement, the definition of "Work" at Lot 7 in Block 71 shall thereupon automatically become modified to limit the scope of activities authorized under this Agreement during the remainder thereof to only encompass periodic wetlands restoration monitoring and related physically non-invasive activities necessary for compliance with Weston's wetlands permit and/or its NJDEP-approved Restoration/Monitoring Plan.

4. **No Interference/Restoration.** While on the Property, the Grantee agrees to take all reasonable steps to prevent unreasonable interference with Owner's access to and/or use of the Property or Owner's operations, if any, on the Property. Within 30 days of completion of the Work or termination of this Agreement (whichever occurs first), Grantee shall restore those areas of the Property to the conditions reasonably approximating the conditions which existed prior to Grantee's commencement of the Work. Grantee shall be responsible for the security and repair of its equipment and supplies on the Property and for the safety and security of all persons and property in connection with the performance of Grantee's Work on the Property. Grantee herby releases Owner from liability for any claims for loss, vandalism, theft or damage of any kind to such equipment and supplies unless the Owner shall have intentionally or negligently caused the loss, vandalism, theft or damage to said equipment or supplies.

5. **Compliance With Applicable Law.** The Grantee, its successors and assigns, agree that its activities on the Property shall be performed in accordance with the requirements of all applicable federal, state and municipal law, regulations and ordinances. The Grantee will obtain all permits or approvals necessary to undertake the Work at their sole cost and expense. Owner agrees to reasonably cooperate with Grantee in obtaining all such permits and approvals. Owner agrees to promptly execute any requisite documents prepared by Grantee to obtain such permits and approvals, provided such documents are reasonably calculated to obtain the permits and approvals and do not contain any misrepresentations or material inaccuracies which, in Owner's reasonable opinion, adversely affect Owner's interests in regard to the Property.

6. **Owner's Obligation and Rights.** To the extent in its possession or otherwise reasonably available to Owner, Owner shall provide to Grantee, within five (5) business days of a written request for same, any copies of existing plans or drawings which identify underground utility lines or any other known hidden obstacles in the areas where the Work set forth in Exhibit A will be undertaken. Owner makes no representations or warranties concerning the condition of the Property. Grantee shall remain solely responsible for making its own independent inquiries into the presence of utilities and marking the location(s) of any such utilities, consistent with good commercial practices, and shall avoid interference with or damage to same. Owner shall have the right to be present during the performance of any Work and to collect, at Owner's own cost, split samples of any samples collected by Grantee in connection with the Work. Prior to Grantee's submission to NJDEP, Owner shall have the right to review and comment upon all draft work plans for any Work set forth in Exhibit A.

7. **Grantee's Obligations.** Grantee further agrees to the following requirements, each of which are acknowledged to be material to the agreement:

(a) Grantee shall afford reasonable prior written notice of at least 15 days (which may be modified by consent of Parties) to Owner's designated representative as to any Work intended by Grantee or its representatives to be conducted on the Property.

(b) Grantee shall perform the Work in a good and workmanlike manner, with reasonable diligence and with reasonable precautions taken to ensure the safety of persons and property in the area of the Work. At the end of each workday, Grantee must either (i) adequately secure any open excavations, test pits or borings to minimize the potential for injury by taking all necessary steps to safeguard such excavation, test pit or boring so that they do not create an unsafe condition and prevent entry into the work area or the area of any open excavations, test pits or borings by unauthorized personnel; or (ii) return such excavations, test pits or borings to grade.

(c) All soil, sediment, groundwater, development water, drill cuttings, and any used personal protective equipment, drill casings or other contaminated material (hereinafter "Grantee-Generated Waste"), if any, removed or used during the Work shall be the responsibility of Grantee, and Grantee shall be responsible and liable, at Grantee's

sole cost and expense, for the proper handling and storage of such Grantee-Generated Waste in accordance with all applicable federal, state and local laws, rules and regulations ("Governmental Requirements").

(d) Except for instances where excavated or purged test materials from the ground are permitted by the NJDEP Field Sampling Procedures Manual (at sections 2.4.5.6 or 2.4.5.7, as modified or amended) or otherwise specifically approved by NJDEP (to the extent required) to be returned and reused on-site, all Grantee-Generated Waste shall, at Grantee's sole cost and expense, be removed from the Property and Grantee, at Grantee's sole cost and expense, shall properly transport and dispose of off-Property at a disposal facility duly licensed to accept such waste (or an NJDEP approved location) all such Grantee-Generated Waste, in accordance with all Governmental Requirements and as set forth herein.

(e) Grantee shall properly handle, manage and store all Grantee-Generated Waste while same remains on the Property, and shall remove all Grantee-Generated Waste from the Property within 30 days after the completion of the Work, provided that any such waste does not constitute an obstruction for any tenant or create an unsafe condition, in which event any such waste shall be removed or relocated immediately upon notice to Grantee by Owner. Should Grantee fail to removeall Grantee-Generated Waste from the Property within the period specified above, Owner, upon thirty (30) days after providing written notice to Grantee, shall have the right to remove and dispose of same in any manner deemed reasonable and consistent with law, whereupon Grantee shall immediately upon presentation of a request for reimbursement, reimburse Owner for all loss, costs and expenses incurred by Owner in connection therewith.

(f) Any and all validated data collected by the Grantee and/or its representatives regarding the Property shall be provided to Owner within thirty (30) days of validation and will be kept confidential by Owner until Grantee's submission of such data to NJDEP.

(g) In addition, concurrent with submission to NJDEP, Grantee shall provide Owner with copies of all correspondence with and reports to NJDEP concerning the Property, including but not limited to all sampling plans and other workplans.

(h) Grantee agrees that it shall be responsible for all engineering review expenses incurred by Owner, in an amount not to exceed $4,000. Owner shall present to Grantee for payment all invoices that reflect said engineering review expenses, which shall be paid by Grantee. Said invoices and/or any correspondence to Grantee regarding said invoices shall read "Access Agreement – Hatco Project Review Fee."

8. **Third Parties.** Owner represents that there are no parties other than itself having interests in the Property.

9. **Insurance.** During the term of this Agreement, Grantee and/or its contractors, shall purchase and maintain, at their own cost and expense, commercial

general liability (CGL) insurance with personal injury and property damage limits of not less than $2,000,000 for each occurrence and in the aggregate, and Professional Liability/Errors & Omissions Liability with limits of not less than $1,000,000. Such CGL policy shall add Woodbridge Township ("Woodbridge") ("Owner") as additional insureds and such policy may not be cancelled, terminated or substantially modified without 30 days advance written notice to Owner. Grantee shall provide Owner with a copy of such policy or certificate of insurance evidencing such coverage at least five (5) business days prior to first entering the Property to perform any Work.

10. **Indemnification.**

(a) Grantee agrees to defend, indemnify and hold Owner and their respective officers, directors, shareholders, partners, agents and/or employees harmless from and against any and all demands, claims or suits arising directly or indirectly from the acts or omissions of Grantee and/or its authorized agents, employees, consultants and contractors in conducting Work at the Property, including but not limited to attorneys' fees and costs of suit.

(b) Should Owner make a claim for indemnification pursuant to this Section 10, it shall have the right to employ separate counsel, in addition to the counsel provided by Grantee, in any action or proceeding and to participate therein if the proceeding is being controlled by Grantee, but the fees and expenses of such separate counsel shall be at the expense of Owner, unless: (i) the employment of separate counsel has been specifically authorized by Grantee in writing; (ii) Grantee has failed to defend as required under the applicable indemnification above; or (iii) there exists or is reasonably likely to exist, in the written opinion of other counsel engaged in private practice and authorized to practice in the given venue ("Conflict Counsel's Opinion" or "Opinion"), an actual or potential conflict of interest ("Conflict") that would make it inappropriate in the reasonable judgment of such other counsel for the same counsel to represent both the Owner and Grantee and Grantee does not provide separate counsel reasonably acceptable to Owner. In the event that Conflict Counsel's Opinion determines that there is no such Conflict, the cost of obtaining such Opinion shall be paid by Owner. In the event that Conflict Counsel's Opinion determines that a Conflict exists or is reasonably likely to exists, then the cost of obtaining said Opinion shall be paid by Grantee.

(c) In the event of an indemnifiable claim pursuant to this Section 10 ("Claim"), defense counsel selected by Grantee to defend Owner, shall be (i) subject to Owner's approval (which shall not reasonably be withheld); and (ii) competent in the area(s) of legal practice implicated by the Claim against Owner.

(d) The indemnification in this Section 10 shall not extend to demands, claims or suits arising directly or indirectly from the greater comparative negligence or intentional misconduct of Owner.

(e) The provisions of this Section 10 shall survive the termination of this Agreement.

11. **No Waiver.** By the execution of this Agreement, neither party hereto waives or relinquishes any rights, claims or defenses and the parties fully reserve any such rights without regard to the terms of this Agreement. Specifically, nothing in this Agreement in any way modifies, reduces or alters any of the liabilities, obligations, duties or rights of the Owner and Grantee with respect to claims that now exist or may exist in the future under any and all federal and state environmental statutes, including but not limited to CERCLA and the New Jersey Spill Compensation and Control Act, under the common law or under any other applicable law. No failure by either party to insist upon strict compliance with any of the terms or conditions of this Agreement shall constitute a waiver of such terms or conditions or any breach thereof. Any such waiver must be in writing and signed by the waiving party. The waiver of any breach of any term or condition of this Agreement does not waive any other breach of that term or condition or of any other term or condition.

12. **Termination.** Owner may terminate this Agreement for good cause, including breach of any material term thereof, upon providing Grantee with 30 days notice of its intent to terminate, should Grantee fail to cure the breach within this time period. Upon termination of this Agreement, Grantee shall remove any equipment or supplies installed or used in connection with the Work and restore the Property to substantially the condition as it existed prior to commencement of the Work. In the event that Grantee fails to remove any such equipment or supplies, or return the Property to the prior condition within thirty (30) days after the expiration of this Agreement, Owner shall have the right to (a) retain same as its own property, free and clear of the rights of others; (b) remove same and dispose of it in any manner it deems reasonable, whereupon Grantee shall reimburse Owner for all losses, costs and expenses incurred by Owner in connection therewith; (c) restore the Property to substantially the condition as it existed prior to the commencement of the Work, whereupon Grantee shall reimburse Owner for all losses, costs and expenses incurred by Owner in connection therewith; (d) return all excavations, test pits and borings to grade whereupon Grantee shall reimburse Owner for all losses, costs and expenses incurred by Owner in connection therewith; and/or (e) resort to any and all other remedies available at law or in equity.

13. **Notices**. Any notice, request, or other communication given or made pursuant to this Agreement shall be in writing and shall be deemed given or served upon the addressee, when (a) delivered by hand (with written confirmation of receipt), (b) sent by facsimile (with written confirmation of receipt), or (c) deposited in the U.S. mail, certified mail (return receipt requested, postage prepaid), or (d) when received by addressee, if sent by a nationally recognized overnight delivery service (receipt requested), in each case to the appropriate addresses and facsimile numbers set forth below (or to such other addresses and facsimile numbers as a party may designate by notice to the other party):

If to Owner: Robert Landolfi
Business Administrator

1 Main Street, Woodbridge, NJ 07095

with copy to: Law Department
1 Main Street, Woodbridge, NJ 07095

AND copy to: Eric Lange
James P. Nolan & Associates
61 Green Street, Woodbridge, NJ 07095

If to Grantee: Jason Schindler, LSRP
Weston Solutions, Inc.
205 Campus Drive
Edison, NJ 08837
Tel. No.: 732-417-5804
Fax: 732-417-5801

14. **Severability.** In case one or more of the covenants, terms and provisions contained in this Agreement shall be invalid, illegal or unenforceable in any regard, the validity of the remaining covenants, terms and provisions contained herein shall be in no way affected, prejudiced or disturbed and the remaining covenants, terms and provisions shall remain in full force and effect.

14A. **Entire Understanding.** This Agreement embodies the entire understanding and agreement of the parties with respect to the grant of access to the Property to Grantee to conduct the Work set forth in Exhibit A, and supersedes all prior representations, agreements and understandings, whether written or oral, between the parties with respect to the Property, including all written and oral statements or representations by any official, employee, agent, attorney, consultant or independent contractor of either Grantee or Owner.

15. **New Jersey Law.** This Agreement has been executed and delivered in the State of New Jersey and shall be deemed to be a contract made under, and shall be construed for all purposes in accordance with, New Jersey law, without regard to principles of conflict of law.

16. **Successors and Assigns.** The provisions of this Agreement shall inure to the benefit of and be binding upon the parties hereto and their successors. This Agreement shall not be assigned, in whole or in part, to any other person or entity. If Owner sells its property, it shall be obligated to disclose this Agreement to any new Owner.

17. **Execution and Counterparts.** This Agreement shall be executed by an authorized representative of the Owner and Grantee and each party warrants and represents the authenticity of the representative signing on its behalf. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

18. **Captions.** The paragraph headings herein are for convenience only and shall not be construed to limit or affect any provision of this Agreement. This Agreement was drafted by counsel for the Grantee as a matter of convenience and shall not be construed for or against either party on that account.

19. **Effective Date.** This Agreement shall take effect on the date on which it is signed by both parties (the "Effective Date").

IN WITHESS WHEREOF, the Grantee and Owner have caused this agreement to be executed as of the date first written above.

WITNESS:

Colleen Derzak
Principal Business Professional

WESTON SOLUTIONS, INC.

By: Delly Jones
VP- Senior Profit Center Manager

WITNESS:

Erika J Allen

WOODBRIDGE TOWNSHIP

By: _____
Robert Landolfi, Business Administrator

STATE OF NEW JERSEY)
) SS:
COUNTY OF Middlesex)

I certify that on October 30, 2013, Sally Jones, an authorized representative of WESTON SOLUTIONS, INC., personally came before me and acknowledged under oath, to my satisfaction, that this person:

(a) is named in and personally signed the attached documents;
(b) signed, sealed and delivered this document as his act and deed

Mary Ann Cabrera
NOTARY

MARY ANN CABRERA
NOTARY PUBLIC OF NEW JERSEY
ID # 2431933
My Commission Expires 4/1/2018

STATE OF NEW JERSEY)
) SS:
COUNTY OF Middlesex)

I certify that on OCTOBER 31, 2013, ROBERT LANDOLFI, an authorized representative of WOODBRIDGE TOWNSHIP, personally came before me and acknowledged under oath, to my satisfaction, that this person:

(a) is named in and personally signed the attached documents;
(b) signed, sealed and delivered this document as his act and deed

Erika J. Aber
NOTARY

ERIKA J. ABER
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 10/23/2016

EXHIBIT A

Block 71, Lot 07 Location of Woodbridge Pond west of former Hatco Property) and Block 77, Lot 100 (Channel D Area south of former Hatco Property):

1) Ecological Evaluation site reconnaissance (Channels A, B, C D, and "Woodbridge Pond", wetlands delineation, etc.)

2) Surveying: delineation sample locations, excavation locations and post-excavation sample locations, wells, wetlands, boundaries, etc.

3) Remediation including excavation, sediment capping, backfilling, and re-vegetation

- Weston will remediate the impacted areas as require under Remedial Action Work Plans (RAWPs) approved by the LSRP, NJDEP, USEPA and Woodbridge Township.Vegetation will be cleared to allow heavy equipment access to the streambeds and individual remediation areas. Areas will be cleared in accordance with an approved Soil Erosion and Sediment Control (SESC) Plan. Stump removal should not be required as long as the trees are cut flush with the ground surface. The excavation of pond or stream sediment will be conducted during low flow conditions. During pond or streambed excavations, any required temporary diversion of stream flow will be implemented.

- Weston will reestablish the forested wetland vegetation present within the land adjacent Woodbridge Pond, in both excavation areas and access roads. Weston will reestablish appropriate wetland vegetation in Lot 100 of Block 77.

4) Surface Soil Sampling

- Additional delineation sampling will be performed for surficial soils and sediment.
- Post-excavation samples will be collected in accordance withNJDEP protocols as presented in an approved RAWP.

5) Subsurface Soil Sampling

- Additional delineation sampling will be performed for subsurface soils and sediment.
- Post-excavation samples will be collected in accordance with NJDEP protocols as presented in an approved RAWP.

6) Pond/Stream Sediment Sampling (Woodbridge Pond/Channels A, B, C and D)

- Post-excavation samples will be collected in accordance with NJDEP protocols as presented in an approved RAWP.

7) Installation of Monitoring Wells and Groundwater Sampling

- Installation and sampling of monitoring wells or piezometers may be required in the future as part of a long-term groundwater monitoring program.

For purposes of the above, the following definitions shall include these activities:

• Surface Soil Sampling – collection of soil samples less than 2 ft. in depth using methods such as hand augers or power augers.

• Subsurface Soil Sampling – collection of soil samples greater than 2 ft. in depth that will require a motorized drilling apparatus such as a tripod drill rig, skid mounted drill rig or truck mounted drill rig.

• Pond/Stream Sediment Sampling – collection of sediment samples in a pond or stream/creek bed.

• Ecological Evaluation Activities – non-intrusive activities such as wetlands delineation and wildlife habitat delineation.

• Re-vegetation – Upland and wetlands plantings as necessary to satisfy NJDEP restoration requirements and this Agreement.

• Surveying – sample locations, wells, wetlands boundaries, etc.

CONSOLIDATED RAIL CORPORATION
TEMPORARY LICENSE AGREEMENT PERMITTING ENTRY ON PROPERTY
Request for Access to Consolidated Rail Corporation, Inc. Property for Certain Environmental Investigatory Work
Agreement No: CR-1116-01

This Right-of-Entry, made and effective as of, JANUARY 13, 2013, responds to your request for access to conduct certain environmental work on the property of Consolidated Rail Corporation ("Railroad") located at approximately 1070 Riverside Drive, Fords, NJ, along the Raritan Industrial Track, Line Code 0533/ 0502 at MP 21.2. Locations generally identified on the attached maps and drawings (Attachment A) (the "Property"). The environmental work to be performed (the "Work") is to install soil borings for delineation of PCBs and BNA compounds relating to the former HATCO facility. Specifically approved activities are the installation of twelve (12) soil borings to approximately 10 feet below grade. Work only in areas approved by the Conrail Project Engineer a minimum of 15 feet from the nearest rail. Access to the proposed work area is also only by approval of the Conrail Project Engineer. The sampling locations and work scope are provided in Attachment B. No remedial work is addressed within this agreement. Remedial efforts or wells, as required, may be evaluated under a separate future document. Assessment goals shall be for delineation and restoration of Railroad property to residential direct contact levels such that no restrictions are required on the Property.

Railroad hereby grants Weston Solutions, Inc., whose mailing address is 205 Campus Drive, Edison, NJ 08837, and its agents, employees, servants, and designated contractor(s) and subcontractor(s), hereinafter called "Licensee," the right and permission to enter upon Railroad property for the sole purpose of performing the Work described above at the Property designated in Attachment A, which attachment is incorporated into and made a part hereof by reference, subject to the following terms, conditions, and provisions:

1. COST

a. Licensee shall pay to Railroad an annual fee of SIX HUNDRED AND 00/00 U.S. DOLLARS ($600.00) made payable to Consolidated Rail Corporation to cover administration costs and consultant services involved in the preparation and maintenance of this Right-of-Entry. **A check for the initial annual fee shall be returned with this executed agreement.** Conrail will bill Licensee for subsequent years' fees; payment will be due upon receipt. Licensee shall pay to Railroad reasonable costs for safety support, flagging and Engineering services provided by Conrail.

b. Licensee shall pay to Railroad an annual monitoring well fee of TWO HUNDRED FIFTY DOLLARS ($250.00) for each monitoring well to be installed under this Agreement. In the event any physical facility other than monitoring wells is installed on the Property, Licensee shall pay an additional monitoring fee for each such facility in an amount determined by Railroad.

c. All costs of the Work shall be borne solely by Licensee.

2. SCHEDULE; DURATION; SCOPE

a. The Work is expected to begin January 2013 and be completed by December 31, 2013.
b. Should additional work be required during the term of this Right-of-Entry, Licensee shall provide Railroad written notice and a detailed scope of work for the additional work at least thirty (30) days before Licensee proposes to commence such work.

c. Licensee shall not engage in the following activities without first obtaining separate written consent of Railroad:

   i. Enter upon any property (other than the Property) in which Railroad has an ownership or leasehold interest, regardless of the proximity of such property to the Property; or

   ii. Perform any work, or engage in any activity other than the Work; while on the Property, regardless of the closeness in nature of such work or activity to the Work.

d. This Right-of-Entry and the license granted herein does not constitute a grant of any permanent easement. Except as otherwise provided in Section 10 hereof, this Right-of-Entry may be terminated at any time by either party giving thirty (30) days' written notice to the other for any reason whatsoever.

e. If not terminated earlier, this Right-of-Entry and the permission conferred herein shall terminate upon receipt by Railroad of Licensee's written notice of completion of the Work. With this Agreement Licensee accepts responsibility for the ultimate closure/ removal of all wells installed on Railroad property related to the assessment of the project site.

3. PERFORMANCE STANDARDS

a. The work shall be performed in a good and workmanlike manner consistent with the standard of care and practice of environmental professionals; in compliance with all federal, state and local laws, ordinances, rules and regulations, and administrative or judicial decisions and orders, in a manner so as not to disturb the occupancy, business or quiet enjoyment of any other tenants or licensees of Railroad's property; and in a manner so as to avoid harm to person(s) or property or delays to or interference with Railroad's operations.

b. All persons entering the Property pursuant to this Right-of-Entry shall wear safety glasses with side shields, hard hats and steel-toed safety shoes, and shall abide by Railroad's Safety Rules and Procedures, Appropriate portions of Conrail's CE-6 Guidance (Attachment C) and any safety instructions given by Railroad. Licensee's personnel and contractors are required to complete Railroads specific safety training as mandated by Conrail's Project Engineer.

c. Precautions must be taken by Licensee to avoid interference with or damage to Railroad's real and personal property, including but not limited to signal and communication facilities. No equipment of Licensee shall be placed or operated, no monitor or test well(s) shall be drilled or installed, and no Work shall be performed at a distance closer than twenty-five (25) feet from the centerline of any active Railroad track without the express, prior approval of the Project Engineer. Conrail mandates that soil borings shall be located no closer than fifteen (15) feet from the closest rail of the track. The exact bore locations shall be verified and approved by the Project Engineer in the field prior to commencement of the work. The Railroad shall furnish personnel, flagmen or watchmen which, in Railroad's sole opinion, may be necessary to protect Railroad's facilities and traffic during the performance of the Work by Licensee. Licensee shall reimburse Railroad for the actual costs of said service, including all applicable surcharges, promptly upon receipt of any bill(s) therefor.

d. Drilling and all other equipment shall be moved across Railroad track(s) ONLY at a public crossing, unless Licensee has entered into Railroad's standard Private Road Crossing

Agreement or has obtained special advance permission from the Project Engineer. Licensee agrees not to enter upon or foul track until given permission to do so by a flagman.

e. Licensee's equipment must stay clear of all wire lines at, over or near the Property, as well as any other utility or structure located thereon, including fiber optic lines.

f. Licensee expressly agrees to comply with the location, contact, excavation and protection regulations of the Occupational Safety and Health Act and state "One Call" – "Call Before You Dig" requirements. Licensee shall indemnify and hold Railroad harmless from any and all claims for damages to underground facilities of any entity or person caused by the Licensee's performance of Work.

g. Licensee shall construct a hi-visibility construction barrier fence no closer than 15 feet to the center line of the track where borings will be conducted. The fence shall be installed prior to soil boring. Work will be conducted only on Conrail property outside of the 15 foot limit established by the fence. The fence shall be removed on completion of all intrusive work.

4. NOTICE; SPLIT SAMPLES

a. Licensee shall notify Railroad's Project Engineer David Reilly at 732-267-5584, **at least fourteen (14) days before proceeding with any phase of the Work on the Property**, and shall receive permission from them prior to entry or the start of any Work. Additionally, Licensee shall provide said Engineer or his designee with a second notice a minimum of 72 hours prior to the actual commencement of the Work so that the Engineer or others may arrange to observe the work or have the Railroad's own consultants present during the Work.

b. Licensee shall allow Railroad or its consultant to collect split samples.

5. DOCUMENTATION; CONFIDENTIALITY

a. Licensee shall provide, without charge to Railroad, by first class mail to the Environmental Manager at the address listed in Subsection 4a: (i) within thirty (30) days after the work is completed, copies of field notes and data relating to sample collection; (ii) within thirty (30) days of receipt, copies of results or reports of soil tests, well logs, and test results generated from the sampling and analysis of groundwater, sediment or soil, or from test or monitoring wells located on the Property, or any other reports relating to the Work; (iii) within five (5) days of receipt, copies of all correspondence from any government agency regarding the Work or in any other way relating to the Site: (iv) at least two (2) weeks before submission to any state or federal agency, the draft of any final report relating to the Work or the Site; and (v) no later than contemporaneously with submission to said agency, all final reports relating to the Work or the Site.

b. Except as necessary to comply with applicable law or requirements or any governmental agency having jurisdiction over the Work, Licensee shall keep confidential all information relating to the Work, and provide on all correspondence regarding the investigation of the Property a "Confidentiality Clause", limiting disclosure of investigation, results and any report only to Licensee or Railroad. In addition, Licensee shall not disclose to any person or entity any information obtained in violation of the provisions of Section 2 hereof, without first obtaining the prior written consent of Railroad.

6. MONITOR WELLS

a. Any monitoring or test wells which Licensee installs must be constructed with high quality materials using methodologies to prevent groundwater cross-contamination. Such wells must be flush mounted and have watertight locking caps and/or located steel protective casings to insure well integrity. The wells must be installed in such a manner as not to pose a hazard or impediment to vehicular or pedestrian traffic on the Property or adjacent property.

b. Wells must have identification tags to include, at a minimum, the following: well number, date installed; total depth of well; screened interval and by whom installed.

c. If Railroad determines, in its reasonably exercised discretion, that all or any monitoring or test wells on Conrail's Property, or the location(s) thereof, should be changed, altered or entirely removed, Licensee, as its sole risk, cost and expense, shall make such changes, alterations or removal, as the case may be, in a manner reasonably satisfactory to Railroad, and restore the Property affected to the condition which existed prior to commencement of the Work, within thirty (30) days of Railroad's request, if practicable. If Licensee fails to make such changes, alterations, or removal and restoration of the Property, Railroad may remove such wells and make such restoration at the sole cost and expense of Licensee.

d. If Licensee desires to revise, renew, relocate, or change in any manner all or any monitoring or test wells, or if Licensee is required to change or alter the same, plans therefor shall be submitted to and approved by the Environmental Manager, before any such change is made, and the terms and conditions of this Right-of-Entry shall apply to the revised, renewed, changed or relocated wells.

e. Upon expiration or termination of this Right-of-Entry, Licensee, at its sole cost, shall immediately abandon all wells installed on the Property related to this site assessment, including those installed by regulatory agencies prior to the initiation of this agreement, in accordance with applicable state procedures, and restore the Property affected by the Work to a condition satisfactory to Railroad's Project Engineer. Licensee shall also furnish Railroad with documentation from the appropriate agency that well(s) have been properly closed.

7. OCCUPANTS

The permission herein granted is subject to all existing uses and occupancies of the Property heretofore granted by Railroad to third parties. Licensee acknowledges that in agreeing to this Right-of-Entry, Railroad acts on its own behalf only and has no authority to act, and does not claim to act, on behalf of any other entity or person with respect to any right any such other entity or person may have to object to this Right-of-Entry. Licensee shall secure the consent, and protect the facilities, of each such third party occupier of the Property and of any owner of any other recorded interest in the Property.

8. SAMPLING WASTES

Any waste materials, including without limitation purge waters or other investigation-derived waste, generated during performance of the Work shall be handled in accordance with federal, state and local laws and regulations and shall not be stored on Railroad Property. In the event of leakage or spillage onto any Railroad Property or any adjacent property of any investigation-derived waste or other solid or hazardous wastes, hazardous substances or hazardous materials as a result of the Work, Licensee shall immediately

notify Railroad and, at Licensee's sole expense, promptly clean the property (any adjacent or nearby property to which such leakage or spillage may have spread) to the satisfaction of Railroad and/or any governmental agency having jurisdiction over the leakage or spillage. Should the leakage or spillage result in a fine, penalty, cost or charge being incurred by Railroad, Licensee shall promptly and fully reimburse and indemnify Railroad pursuant to Section 10 below.

9. RESTORATION OF PREMISES

Upon completion of the Work, Railroad's Property shall be left in a condition reasonably satisfactory to the Project Engineer. This includes, without limitation, immediate restoration of any fences removed and restorations of other alterations the Licensee has made to the Property.

10. INDEMNITY; INSURANCE

a. As an essential inducement to and consideration for Railroad granting its permission to undertake the Work on the Property, Licensee hereby assumes and releases, and shall indemnify, defend, protect and save Railroad harmless from and against all claims, liabilities, demands, actions at law and equity, judgments, settlements, losses, damages and expenses of every character whatsoever (hereinafter collectively referred to as ("claims") for:

   i. loss of or damage to any real and personal property whatsoever and by whomsoever owned, including Railroad, Licensee and any other person, and the loss or interference with any use or service thereof;

   ii. injury to or death of any person whomsoever, including employees and invitees of the parties hereto and their agent(s) and contractor(s) and all other persons;

   iii. fines, penalties, costs, charges, expenses, or fees levied by any governmental agency against Railroad that arise as a result of Work; and

   iv. Costs and expenses incurred by Railroad with respect to (i), (ii), and (ii) above, including reasonable attorney and consultant fees, which are caused by or arise from the Work or from the presence of the Licensee on any part of the Railroad's Property, or from the presence of any physical facility installed, used, maintained or removed by Licensee as part of the Work, regardless of any fault, failure or negligence on the part of any other person including Railroad; provided, however, the foregoing indemnification shall not extend to any loss, cost or damage arising from the willful misconduct or gross negligence of Railroad.

b. Prior to commencement of occupation or use of the Property for the Work, Licensee shall procure (or shall cause its agent or contractor in charge of the Work to procure), and shall also maintain, or cause to be maintained, during continuance of this Right-of-Entry, at Licensee's sole cost and expense, Commercial General Liability (CGL) insurance, naming Licensee (and its agent or contractor as the case may be) as insured and Railroad as additional insured, covering Licensee's direct and assumed contractual (i.e. indemnification) liability under this Right-of-Entry, with coverage of not less than FIVE MILLION DOLLARS ($5,000,000) Combined Single Limit per occurrence for bodily injury and property damage. If said policy does not automatically cover Licensee's contractual liability under this Right-of-Entry, a

specific endorsement adding such coverage shall be purchased or caused to be purchased by Licensee, and indicated on the Certificate of Insurance.

In addition to the above-described CGL insurance Licensee shall also purchase, a policy of Railroad Protective Liability (RPL) insurance, naming Railroad as the insured, with coverage of not less than FIVE MILLION DOLLARS ($5,000,000) Combined Single Limit per occurrence, with an aggregate of TEN MILLION DOLLARS ($10,000,000). Such policy must be written on ISO/RIMA form of Railroad Protective Insurance – Insurance Services Offices Form No. CG 0035, including Pollution Exclusion Amendment CB 28 31. In lieu of purchasing RPL insurance (but not CGL insurance), Licensee may pay Railroad a Construction Risk Fee of THREE THOUSAND FIVE HUNDRED U.S. DOLLARS ($3,500) and thereby be relieved of any obligation to purchase said RPL insurance for the benefit of Railroad, Licensee shall send Railroad its check for the above amount, payable to Railroad, with the return of the signed duplicate originals of this Right-of-Entry.

c. Licensee shall also carry, for the benefit of Licensee and its employees, Worker's Compensation Insurance as required by the state in which the Work is to be performed. This policy shall include Employer's Liability Insurance with a limit of not less than ONE MILLION DOLLARS ($1,000,000) per occurrence. Unless prohibited by law, such insurance shall waive subrogation against Railroad.

d. Automobile Liability insurance with a limit of not less than FIVE MILLION DOLLARS ($5,000,000) combined single limit for bodily injury and/or property damage per occurrence. Railroad must be named as an additional insured under this insurance.

e. If any insurance policy required under Section 10 hereof is written on a "claims made" basis instead of an "occurrence" basis, Licensee shall arrange for adequate time for reporting losses. Failure to arrange for adequate reporting time shall be a licensee's sole risk. Upon its execution of this Right-of-Entry, Licensee shall furnish Railroad with the original and two copies of any RPL policy along with Certificate(s) of Insurance naming Railroad as Certificate Holder, which shall specifically refer to this Right-of-Entry to date, name, and the location covered. Copies of Additional Insured and Waiver of Subrogation endorsements shall be attached to the Certificate(s). All policies obtained pursuant to this Section 10 shall contain a provision requiring that such policy cannot be canceled or altered without first providing Railroad with thirty (30) days advance written notice. Furnishing of insurance by Licensee shall not limit its liability under this Right-of-Entry, but shall be additional security therefore.

f. Licensee shall promptly notify Railroad's Project Engineer of any loss, damage, injury or death arising out of or in connection with Work performed under this Right-of-Entry.

11. NO ASSIGNMENT; MODIFICATION, SURVIVAL

a. This Right-of-Entry and the license granted herein shall not be assigned by Licensee without Railroad's separate written consent.

b. Except as otherwise provided herein, this Right-of-Entry may be modified or amended only in a separate writing executed by both Railroad and Licensee.

c. The provisions of Sections 3.c, 5, 6 and 10 shall survive the termination or expiration of this Right-of-Entry with respect to any responsibilities or liabilities undertaken or assumed while the Agreement was in effect.

12. DAMAGES UNCERTAIN; LIQUIDATED DAMAGES

a. Licensee hereby acknowledges that any damages incurred by Railroad directly or indirectly as a result of a breach of Licensee of any of the provisions contained in Sections 2 or 5 hereof, including, without limitation, those damages relating to the reputation and goodwill of Railroad, would be difficult or impossible to estimate.

b. Accordingly, if Licensee breaches, or threatens to breach, any of the provisions contained in Sections 2 or 5 hereof, Railroad shall be entitled to an immediate injunction to prevent or cure such breach.

If the provisions and terms of this Right-of-Entry are acceptable to Licensee, please have the appropriate official sign both copies in the space provided below, and then return both duplicate originals to the undersigned, together with all other documents or instruments required to be submitted to Railroad by the terms hereof. Your copy will be executed by the Railroad and returned.

Witness for Licensor:

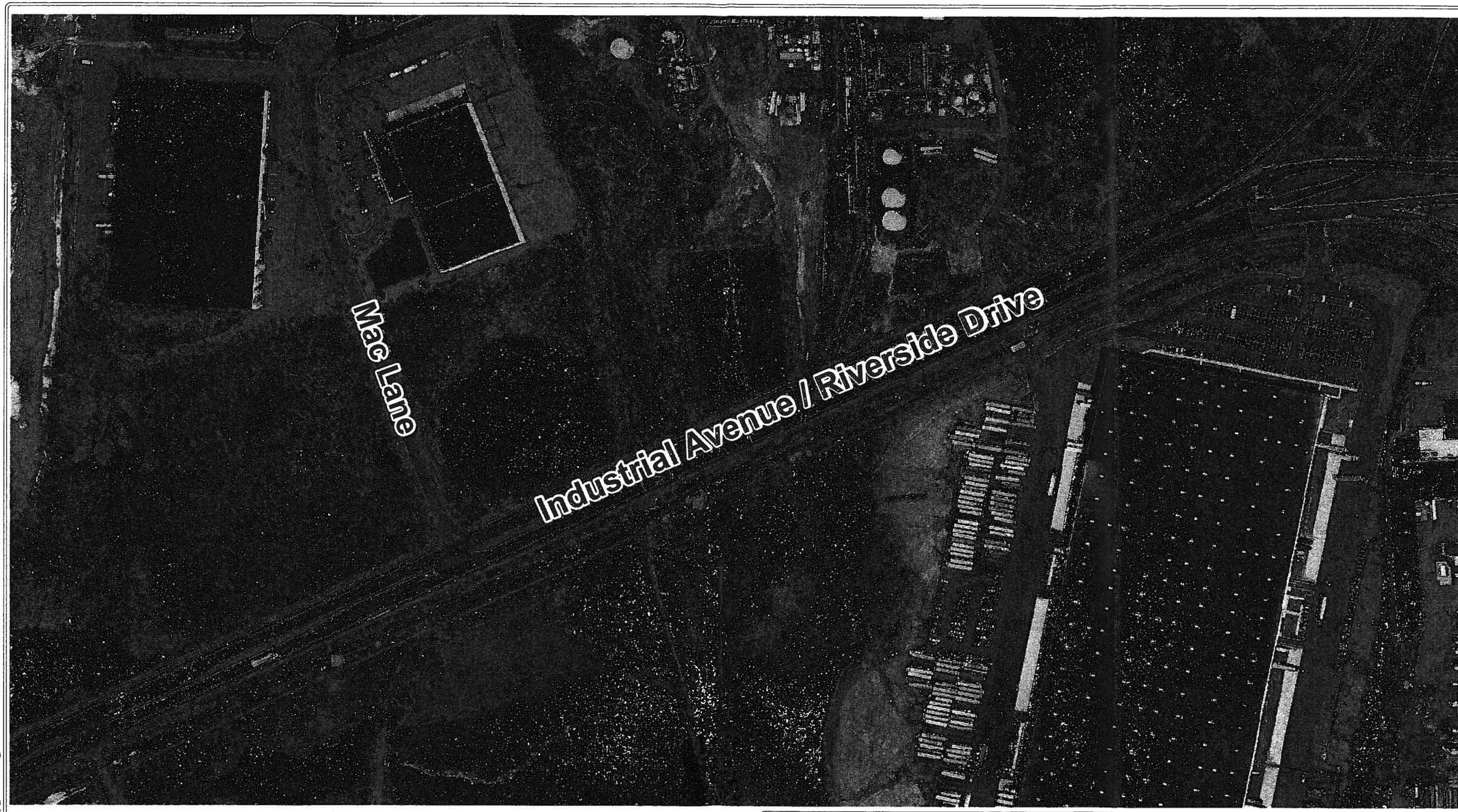
Print/Type Name: Neil Ferrone
Print/Type Title: Chief Risk Officer

Witness for Licensee:

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee to the terms and conditions of this Agreement.

Print/Type Name: Sally Jones
Print/Type Title: Vice President, Weston Solutions, Inc.
Social Security Number or Tax:

ATTACHMENT A



Legend

- Proposed Sample Location (Horizonal Delineation)
- Proposed Sample Location (Vertical Delineation)
- Railroad Centerline
- Channel D Railroad Buffer (From Center Line)

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SOURCES:
1. Base Map: New Jersey 2007 - 2008 High Resolution Orthophotography, MrSID 5K Tiles. NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). October 2008. http://njgin.nj.gov/OIT_IW/index.jsp.

SCALE: 40 20 0 40
Graphic Scale In Feet

PROJECT: Hatco Remediation

CLIENT NAME: Hatco Corporation

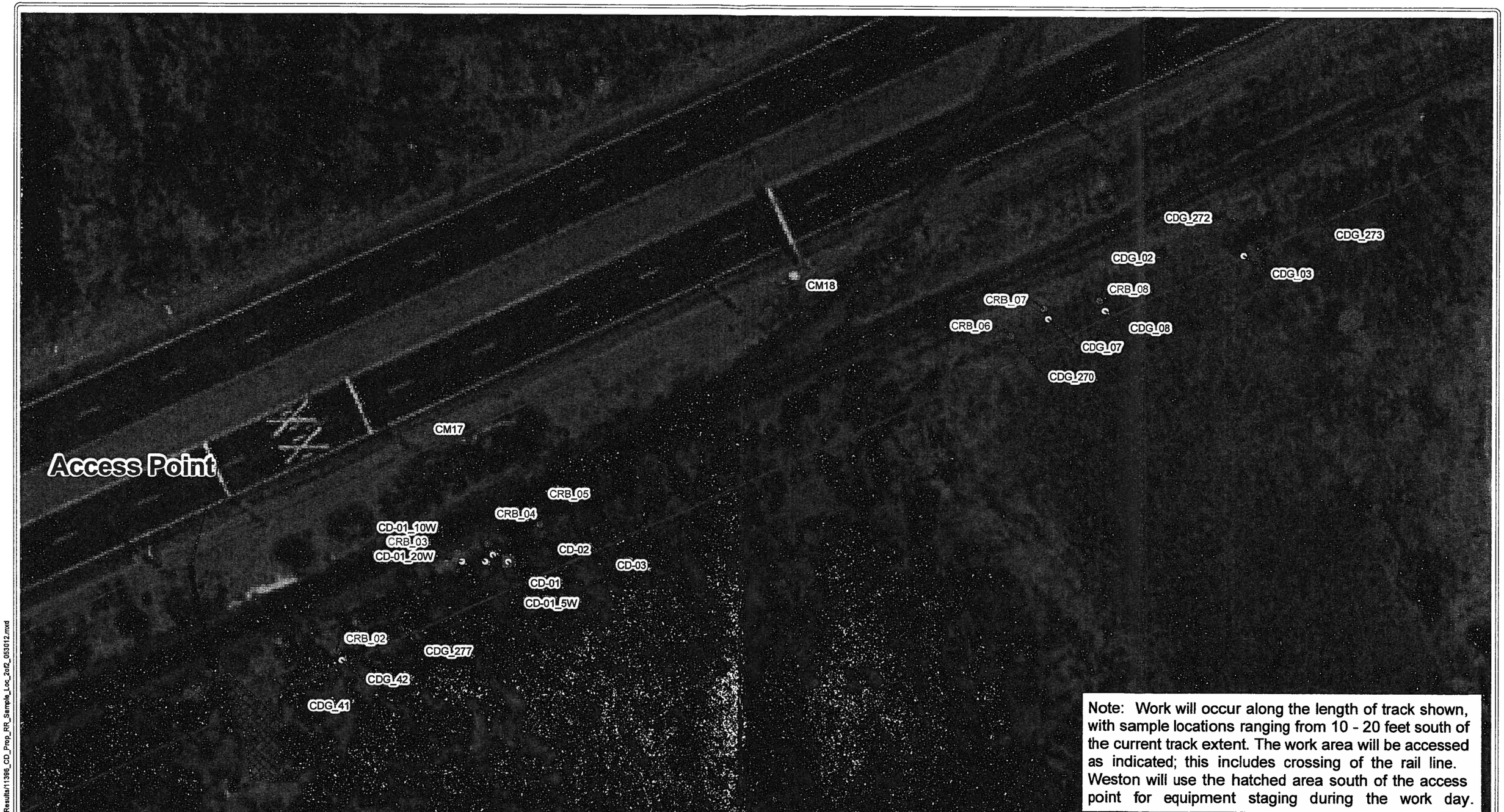
TITLE: Hatco
Proposed Conrail Sample Overview
3 of 3

WESTON

DATE: June 2012

FIGURE #: 3

P:/Hatco/GIS/MXD/2012_05_Channel_D_Results/11485_ConRailOverview.mxd



Note: Work will occur along the length of track shown, with sample locations ranging from 10 - 20 feet south of the current track extent. The work area will be accessed as indicated; this includes crossing of the rail line. Weston will use the hatched area south of the access point for equipment staging during the work day.

Legend

- Channel D Railroad Location With Exceedance
- Channel D Railroad Locations
- Proposed Sample Location (Horizonal Delineation)
- Proposed Sample Location (Vertical Delineation)
- Railroad Centerline
- Channel D Railroad Buffer (From Center Line)

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SOURCES:
1. Base Map: New Jersey 2007 - 2008 High Resolution Orthophotography, MrSID 5K Tiles. NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). October 2008. http://njgin.nj.gov/OIT_IW/index.jsp.

SCALE: 40 20 0 40
Graphic Scale In Feet

PROJECT: Hatco Remediation

CLIENT NAME: Hatco Corporation

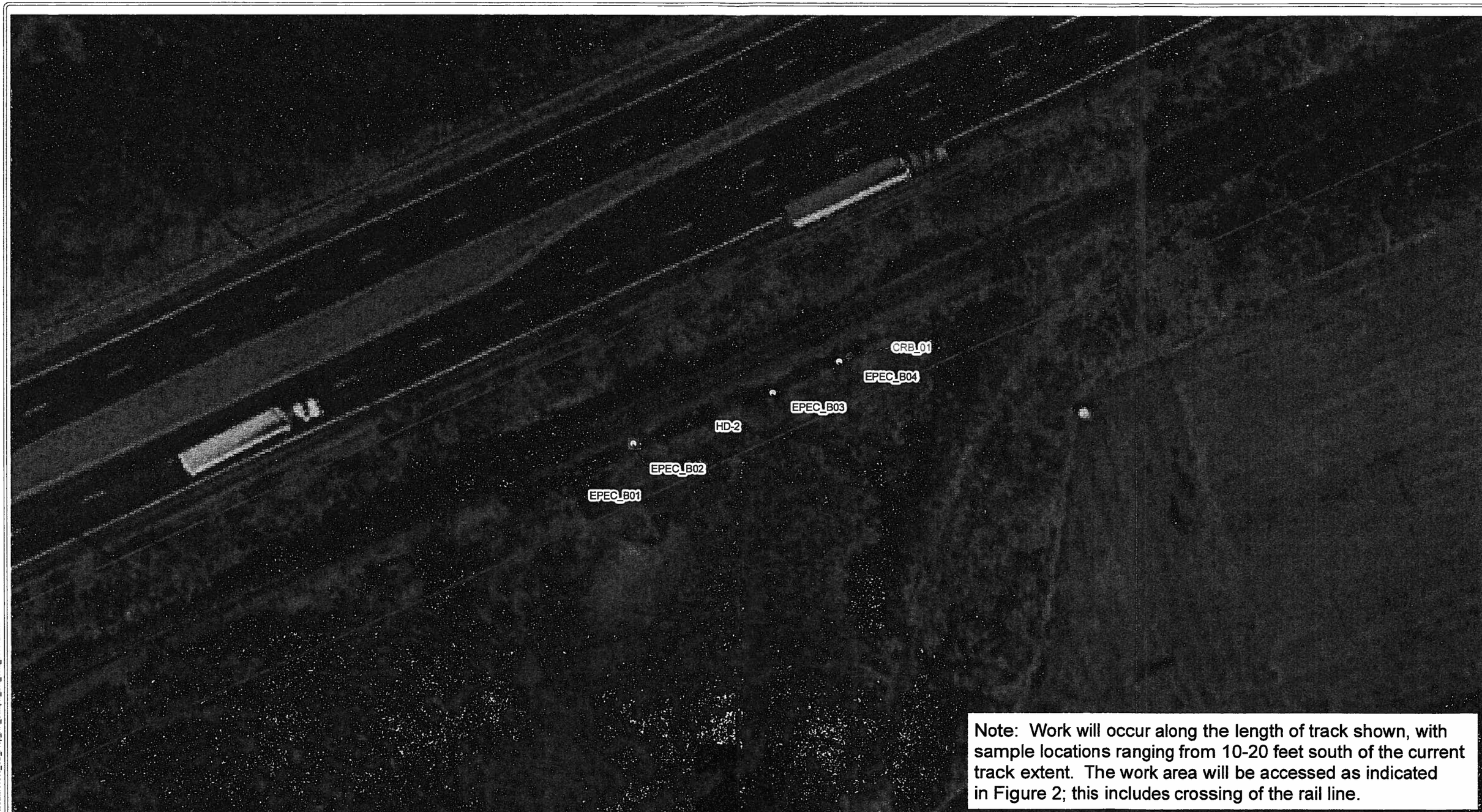
TITLE: Hatco
Proposed Conrail Sample Locations
2 of 3

WESTON

DATE: June 2012

FIGURE #: 2

P:/Hatco/GIS/MXD/2012_05_Channel_D_Results/11396_CD_Prop_RR_Sample_Loc_2of2_053012.mxd



Note: Work will occur along the length of track shown, with sample locations ranging from 10-20 feet south of the current track extent. The work area will be accessed as indicated in Figure 2; this includes crossing of the rail line.

Legend

- Channel D Railroad Location With Exceedance
- Channel D Railroad Locations
- Proposed Sample Location (Horizonal Delineation)
- Proposed Sample Location (Vertical Delineation)
- Railroad Centerline
- Channel D Railroad Buffer (From Center Line)

N
W E
S

SOURCES:
1. Base Map: New Jersey 2007 - 2008 High Resolution Orthophotography, MrSID 5K Tiles. NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). October 2008. http://njgin.nj.gov/OIT_IW/index.jsp.

SCALE: 40 20 0 40
Graphic Scale In Feet

PROJECT: Hatco Remediation

CLIENT NAME: Hatco Corporation

TITLE: Hatco
Proposed Conrail Sample Locations
1 of 3

WESTON

DATE: June 2012

FIGURE #: 1

P:\Hatco\GIS\MXD\2012_05_Channel_D_Results\11395_CD_Prop_RR_Sample_Loc_1of2_053012.mxd

ATTACHMENT B

CRROE: WESTON
CRROE 1116

CONRAIL

Submit one original and one copy each of both the application and drawing along with a check for $1,250.00 (**nonrefundable** Application Fee and Engineering Review Fee) (Check payable to Consolidated Rail Corporation) to Conrail ROE, C/O C.T.E.H., LLC 124 First Avenue South, Suite 100, Franklin, TN 37064 (615) 591-6616

Application and plans must be approved and written authority received from the Railroad before Work is begun. Conrail reserves the right to approve or decline any application.

Rev. 7-07

Project Owner Information: X Check here if agreement should be mailed to this address

1. Complete Legal Name of applicant as it would appear in a legal document (**inaccurate information will delay your request**): Weston Solutions, Inc
2. Company Contact Name: Daniel Kopcow Title: Project Manager
3. Telephone: (732) 417-5834 Fax: (732)417-5801 E-Mail: daniel.kopcow@westonsolutions.com
4. Street Address: 205 Campus Drive City: Edison State: NJ Zip: 08837
5. Type of business: X Corporation (State of incorporation Pennsylvania) ☐ Individual
   ☐ Partnership (Type and State of Partnership _____) ☐ Developer ☐ Municipality
   ☐ Other _____

Engineer/Consultant Information: ☐ Check here if agreement should be mailed to this address

6. Company Name: same as above
7. Company Contact Name: _____ Title: _____
8. Telephone: (__) _____ Fax: (__) _____ E-Mail: _____
9. Street Address: _____ City: _____ State: _____ Zip: _____

Project Information: Application Date: _____ Your reference No. _____

10. Location: North East of 1070 Riverside Drive
    City: Fords County: Middlesex State: NJ
11. Field measurement (REQUIRED): _____ feet _____ (direction) from Railroad Milepost _____
    OR 440 feet East (direction) from Rd. Crossing: Rd. Name Mac Lane DOT/AAR# _____
12. Latitude 40 31 02.7589 Longitude 74 91 13.87144 (if known) Also – 200 feet West form Mac Lane
13. Project Description: Shallow soil boring investigation south of current track extent.
14. How close will the work be to the nearest track? 10 feet
15. Does work on Conrail property include: Soil borings? Yes Remediation/construction? No
    Monitoring wells? No If yes, how many? _____
16. What sampling/work will be done on Conrail property? Installation of up to 12 shallow soil borings through use of a direct push drill rig (Geoprobe). Soil samples will be collected for PCB and BNA analyses.
17. What is the source of the contamination? Historical Hatco release/migration of contaminants.
18. Is this request related to investigation of a State or Federal "Superfund" site?
    _____ Yes: State or Federal Reference No. _____
    X No: Please explain the reason for the work: Required by NJDEP and USEPA
19. Is the work related to a Conrail real estate transaction: Sale? No Lease? No
20. Expected length of project (on Conrail): Begin date: 3 days Completion date: _____

Railroad Use Only: Project No. CRROE: HATCO/WESTON R0107873

Project Leader: _____ Phone: _____

Comments: _____

Approved? Yes ✓ No _____ By: [signature] Date: 9/6/12

Val. Map.: _____ Roadmaster No.: _____

Conrail Property Work Description
Sampling and Analysis Plan
Hatco Site – Fords, New Jersey
June 2012

Background and Rationale

Weston Solutions, Inc. (Weston®) has prepared this Sampling and Analysis Plan (SAP) to address the completion of delineation sampling of contamination detected on the Conrail parcel (Conrail) located just north of EPEC Polymer's (EPEC's) northeast wetlands and northern drainage ditch, based upon the results of Weston's 2011 remedial investigation. Weston proposes additional soil and sediment sampling along the Conrail parcel to determine the vertical and horizontal extent of contamination.

Weston has prepared this SAP to better define the extent of PCB and base neutral (BNA) contamination identified during delineation of historical potential Hatco-related contamination of the wetland area known as Channel D, which is located in the northeast corner of the EPEC site. Numerous investigations were conducted in and around Channel D, by both Weston and EPEC, between 2007 and 2012. Additionally, sampling was conducted in 2010 by EPEC along their northernmost drainage ditch (which falls within the Conrail right of way), and Weston delineated this contamination as part of the 2011 investigation.

The property that Channel D runs through is owned by EPEC. Channel D (also known as Crow's Mill Creek) is a low-gradient stream which collects flow from Channels A, B and C, as well as the pond located north of Industrial Avenue. The area of Crow's Mill Creek referred to as Channel D begins at the culvert on the south side of Industrial Avenue downstream of the Hatco property. Channel D cuts through a forested wetland area, and is lined with sand, silt and organic material.

Previous sampling conducted by URS on behalf of Hatco and W. R. Grace, as well as sampling conducted by two EPEC consultants (Sovereign Consulting, LLC and Brown & Caldwell) detected elevated concentrations of polychlorinated biphenyls (PCBs) in soil and sediment, as well as Base Neutral Analytes (BNAs) above the applicable residential cleanup criteria in soils and sediment, across the Channel D parcel. Weston is currently delineating contamination related to historical Hatco site operations which impacted off-site properties, including the Channel D portion of the EPEC property. This potential Hatco contamination was also detected along the Conrail right-of-way along the northern EPEC property boundary.

Weston's 2007 *Addendum 3 to the Consolidated Remedial Action Workplan (RAWP)* (subsequently approved by the NJDEP) outlines areas which require both remediation and additional investigation, and also established applicable cleanup levels for each impacted area. For wetland locations such as Channel D, the applicable remedial standard for PCBs is 0.49 mg/kg in soils and 1 mg/kg in sediments, as approved by the

NJDEP in various report and workplan approvals. For non-PCB contaminants of concern related to historical Hatco site operations, the off-site applicable remedial criteria for soils are the 1999 residential (unrestricted use) criteria, although the 2008 residential (unrestricted use) standard specifically for naphthalene (6 mg/kg) is utilized due to more than an order of magnitude change from the 1999 criteria. In addition, BEHP results for samples collected from the Channel D wetland area are compared to NJDEP's ecological screening criterion of 0.925 mg/kg, to NJDEP's lowest effects level/screening criterion of 0.182 mg/kg, and NJDEP's Severe Effect Level of 0.75 mg/kg. These screening levels are utilized for Conrail sample comparison, as well.

Samples will be collected from the following locations:

- A vertical delineation sample will be collected from a 2011 Weston sample location with low-level contamination, in the drainage ditch just south of Industrial Avenue, as shown on Figure 1.
- Several vertical and horizontal sample locations will be collected from just north of known contaminated sample locations across the Conrail right of way, as shown on Figure 2.

An overview of the sampling area is provided as Figure 3.

Sediment and Soil Distinction

The Channel D investigation area contains both sediment and soil matrices, with each matrix determined on a sample-by-sample basis. While the majority of the sample locations currently proposed in this SAP are soil locations, some locations may be considered sediment. The Weston field geoscientist will determine sample matrices using the criteria outlined below as a means for classifying samples in the field. These definitions were approved by the NJDEP for use during the Hatco remediation in a June 2007 email.

Sediment is defined by the State of New Jersey (N.J.A.C. 7:8-1.2) as solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion. Soil is defined in the same regulations as "all unconsolidated mineral and organic material of any origin." Because the distinction between the two may be difficult to apply in the field in some situations, Weston is basing the delineation between soil and sediment on past experience, actual field conditions encountered during delineation sampling, and past discussions with NJDEP. Any samples collected from areas falling outside of delineated wetland boundaries will be considered soil.

Within areas delineated as wetlands, but located outside of the actual stream channels, the classification of soil versus sediment will depend upon the degree of saturation of the soil matrix. NJDEP distinguishes between emergent wetlands (freshwater marsh), and forested wetlands. Emergent wetlands are characterized by rooted hydrophytes present for most of the growing season. NJDEP classifies material present within emergent

wetlands as sediment. At the Hatco site these areas consist of wetlands dominated by common reed and other emergent species that have not been historically filled and still maintain saturated conditions during the growing season. Forested wetlands adjacent to the Hatco property are characterized by hydric soils; these are undrained soils that are saturated, flooded, or ponded, that develop anaerobic conditions that favor the growth of hydrophytic vegetation. The material collected within these areas will be classified as soil.

Sample Collection

This Channel D SAP has been developed to collect additional samples in order to meet the remedial action objectives described in *Addendum 3 to the Consolidated RAWP*, specifically the removal of contaminated stream sediment and floodplain soils in Crow's Mill Creek southwest of the Hatco site to the applicable unrestricted use standard. The SAP has been developed in accordance with the *New Jersey Technical Requirements for Site Remediation* (TRSR, N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual* (August 2005) to ensure the collection of necessary data to determine the complete extent of contamination and refine excavation boundaries for off-site sediments and soils in Channel D. A Quality Assurance Program (QAPP) developed in accordance with NJDEP requirements was submitted as part of Weston's 2009 *Addendum3 to the Consolidated* RAWP, and provides specific sample collection methodology and laboratory analyses requirements. An overview of the sampling effort and Weston's overall technical approach is presented below.

Sediment samples will be collected to horizontally and vertically delineate the extent of contamination on the Channel D parcel underneath the fill material, as shown in Figure 1. Sample locations will be biased toward depositional areas where applicable. Weston will analyze for PCBS, BEHP and/or other applicable BNAs using method 8270. Table 1 summarizes the proposed sampling locations and depths, analytical parameters, and sampling methods for the soil and sediment samples. The sample collection methodology is discussed below.

Sampling Procedures

The soil and sediment sampling procedures will follow the guidelines documented in the *NJDEP Field Sampling Procedures Manual* (August 2005) as described below, and are detailed in Weston's 2009 QAPP. Lithologic description, field measurements (such as presence of LNAPL) and comments will be recorded using electronic Borehole Logging Forms such as Weston's GeoFAST program.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, standard chain-of-custody forms will be completed for all samples. Each form will be completed in the field and signed and dated by a member of the field team who will verify the exact sample shipment. This form will accompany the samples to the laboratory. Signed and dated custody seals will then be applied to the

shipping container. Sample collection methodologies are described in more detail in the following sections.

Any sampling equipment (e.g., hand auger, cutting shoe, etc.) coming in contact with the soil or sediment will be decontaminated before and after each sample location. Decontamination procedures will follow technical requirements as set forth in the NJDEP *Field Sampling Procedures Manual* (August, 2005). Equipment will be washed in the following sequence: 1) a steam/high-pressure water wash; 2) a potable water and soap wash; and, 3) a distilled and deionized (ASTM Type II) water rinse.

Samples will be placed in a cooler and chilled with ice, and will be picked up by the laboratory.

Soil Sample Collection

Delineation soil samples will be collected to determine the horizontal and vertical extent of potential contamination as depicted on Figures 1 and 2. Samples will either be collected by manual methods (auger) or Geoprobe depending on the nature of the ground surface at each boring location. Delineation samples will be collected from discrete 6-inch intervals from designated depths, as outlined in Table 1.

The samples will be field-screened with a properly calibrated photoionization detector (PID) or other suitable instrument. Delineation sample locations will be biased based on professional judgment to ensure that all necessary data is collected to ensure that historical contamination is adequately delineated, both horizontally and vertically.

Analytical samples will be collected utilizing NJDEP protocols. Dedicated disposable scoops and bowls will be utilized for sample collection. Soil samples will be collected at discreet six inch intervals from designated depths at each location. Surficial organic matter (grass, twigs) will be scraped away prior to sample collection. Samples are to be collected directly with dedicated, disposable scoops, homogenized as necessary in dedicated, disposable beakers, and placed directly into sample containers.

Sediment Sample Collection

Delineation sediment samples will be collected to determine the horizontal and vertical extent of contamination as depicted on Figures 1 and 2. Delineation samples will be collected from discrete 6-inch intervals from designated depths at each location.

Sediment samples may be collected using a variety of methods and equipment, depending on the depth of the aqueous layer, the portion of the sediment profile required (surface versus subsurface), the type of sample required (disturbed versus undisturbed), contaminants present, and sediment type. Sediment samples will be collected from beneath an aqueous layer either directly, using a hand-held device such as a shovel, trowel, or auger; or indirectly, using a remotely activated device such as an Ekman or Ponar dredge.

Quality Assurance and Quality Control

Quality assurance/quality control (QA/QC) samples will be collected in accordance with Weston's Quality Assurance Project Plan (QAPP), included as part of *Addendum 3.* Blind field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a rate of 1 per 20 samples per analytical parameter. Field blanks will be collected once per day per matrix and analyzed for the same parameters as the field samples.

A record of all field procedures, tests, and observations will be recorded in a field logbook and in Weston's electronic field log program, FieldFAST. Entries in the log book and FieldFAST will include the individuals participating in the field effort, date and time, and the initials of the individual responsible for recording the observations.

Field Sample Identification

During sample collection, a variety of data will be collected and managed electronically to eliminate the potential for transcription errors. Field data is defined as all information generated during the field effort, such as field notes, chain-of-custody (COC) information, geotechnical information (i.e., soil descriptions, well construction information, etc.), and survey data.

Each sample will be assigned a unique field sample identification code and labeled accordingly. This field sample identification code provides the tracing of the sample from the location in the field, through laboratory analysis, and finally to data evaluation and presentation, and contains information traceable to the type, location where the sample was collected, and other information appropriate to that sample. This code will be used for references to this particular sample in field and project documentation and reports. It is essential that the integrity of the field sample identification (ID) code not be compromised.

Delineation and post-excavation soil samples will be identified slightly differently, depending on the type of sample and the location from which the samples will be collected.

<u>General Sampling Scheme</u>:

The sample identification code consists of three fields, separated by underscores, in the following format:

AC_YY_Z_R

AC = Sample area of concern or grid designation
YY = Sample Boring Location / Sequence (1, 2, 3....)
Z = Depth Interval (see discussion below)

R = Sample type identifier
(1=sample, 2= duplicate, 3 = field blank)

Delineation Samples:

For delineation samples, the code "AC" above will be replaced by a sample area of concern (e.g., A, B, C or similar designation) and the symbol "_B_" to designate that the sample is a boring location.

Sample Depth:

The location within the vertical sample column will be identified through the use of a systematic sample naming convention. Following the sample location designator, as described in more detail in the following subsections, the depth will be identified through use of the code "_##-##" where the "##" is substituted by an alphabetic depth designator, as follows:

AA	0 Feet
AB	0.5 Feet
AC	1 Feet
AD	1.5 Feet
AE	2 Feet
AF	2.5 Feet
AG	3 Feet
AH	3.5 Feet
AI	4 Feet
AJ	4.5 Feet
AK	5 Feet

For all sample types, duplicate sample pairs will have the designators "_1" for the environmental sample and "_2" for the duplicate sample added to the end of the sample ID, and field blanks will be designated with "_3" appended to the sample ID.

The field duplicate sample will be disguised to the laboratory for analysis but its location from which it was taken will be documented in the electronic field log for future reference.

Investigation-Derived Waste Management

All investigation-derived waste generated during off-site sampling activities will be containerized and temporarily staged at the Hatco Site. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, and decontamination fluids. All investigation-derived waste generated during on-site sampling activities will be handled in accordance with applicable Federal and State requirements. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, soil cuttings, and decontamination fluids, then containerized in 55-gallon drums or other DOT-approved containers.

Staffing Plan

The following personnel are tentatively scheduled to work on this sampling event:

Personnel	Responsibility
Leeron Tagger	Oversight of delineation sampling event for Weston
Robert Sellers	Field assistant for Weston
ECDI (Drilling personnel)	Subcontractor utilized to advance geoprobe borings if required

Table 1
ConRail Property Delineation Sample Summary

Channel D - Eastern EPEC Property Samples				
Sample Designation	Matrix	Depth below ground surface	Analysis	Lab direction
CRB_01	sediment	0-0.5	BNAs	1 week
	sediment	1-1.5	BNAs	extract/hold
	sediment	2-2.5	BNAs	extract/hold
EPEC_B02	sediment	1-1.5	PCBs, BEHP	1 week
	sediment	2-2.5	PCBs, BEHP	extract/hold
CRB_02	soil	0-0.5	benzo(A)anthracene	1 week
	soil	1-1.5	benzo(A)anthracene	extract/hold
	soil	2-2.5	benzo(A)anthracene	extract/hold
CRB_03	soil	0-0.5	PCBs	1 week
	soil	1-1.5	PCBs	extract/hold
	soil	1.5-2	PCBs	extract/hold
CRB_04	soil	0-0.5	PCBs	1 week
	soil	1-1.5	PCBs	1 week
	soil	1.5-2	PCBs	1 week
	soil	2.5-3	PCBs	extract/hold
CD_01	soil	1.5-2	PCBs	1 week
CRB_05	soil	0-0.5	PCBs	1 week
	soil	1-1.5	PCBs	1 week
	soil	1.5-2	PCBs	extract/hold
	soil	2.5-3	PCBs	extract/hold
CRB_06	soil	0-0.5	PCBs	extract/hold
	soil	1-1.5	PCBs	extract/hold
	soil	2-2.5	PCBs	extract/hold
CRB_07	soil	0-0.5	PCBs	1 week
	soil	1-1.5	PCBs	extract/hold
	soil	2-2.5	PCBs	extract/hold
CRB_08	soil	0-0.5	PCBs	1 week
	soil	1-1.5	PCBs	extract/hold

Notes: BNAs - base neutral compounds
BEHP - bis(2-ethylhexyl)phthalate
PCBs- polychlorinated biphenyls

ATTACHMENT C

Attachment "C"

CONSOLIDATED RAIL CORPORATION (CONRAIL)

SAFETY RULES AND PROCEDURES WHILE ON CONRAIL PROPERTY

While on Conrail property, all consultants, contractors and visitors must comply with the following requirements.

GENERAL SAFETY RULES

1. Consultant/Contractor must ensure that:
   a. "job briefings are conducted prior to work activity and subsequently when activity changes."
   b. "co-workers are warned of unsafe acts and hazards."
   c. "safety rules and all company policies that relate to our job tasks are complied with."
   d. "our work place is drug and alcohol free."
   e. "the behavior in our work place is civil and courteous."
   f. "local, state and federal laws and regulations that relate to our job tasks are observed."
   g. "oral and written report of accidents and injuries are made as soon as possible to the supervisor or employee in charge."

2. "Do not attempt to mount, dismount, or cross over moving locomotives or cars."

3. Consultant/Contractor "must be familiar with and wear approved personal protective equipment and clothing as required" and comply with applicable OSHA requirements.

4. "Do not wear finger rings outside an office environment."

5. "When working on or about tracks:
   a. be alert for the movement of cars, locomotives, or equipment at any time, in either direction, on any track;
   b. do not cross within 25 feet of the end of standing cars, equipment, or locomotives, except when proper protection is provided."

   Note: Proper Protection: Always ensure that a Conrail Flagman is present or the track is taken out of service by the proper Conrail employee, prior to starting any work on or about our tracks!

6. "Do not cross over coupled, moving freight cars."

7. "Do not take refuge under any car, equipment or locomotive."

8. "Do not go under any equipment unless proper protection is provided."

9. "Do not attempt to mount, dismount, or cross over moving equipment."

10. "Seat belts must be worn while operating or riding in motor vehicles that are equipped with them."

11. "Ensure that your work area and environment are clean and orderly, and protected from controllable hazards.

RECOMMENDED SAFE WORK PRACTICES

1. Hi-Rail Vehicles:

   a. "Occupy track only with proper authority."
   b. "Stop on-track equipment when the operator's attention cannot be directed exclusively to controlling the movement."

   * "Be aware of the effects of the weather on starting and stopping hi-rail equipment."

2. Lifting and Carrying:

   a. "Use provided material handling and lifting devices when lifting heavy objects."
   b. "Ensure walkways are free of slipping or tripping hazards before lifting or carrying material."

   * "Wear back support belts whenever you lift."
   * "Designate one person to call signals when two or more people are lifting."

3. Motor Vehicles:

   a. "If two or more people are occupying the motor vehicle, designate one person to guide backing movements from the ground."
   b. "Apply the parking brake to a stationary vehicle if the engine must be left running in order to accomplish its intended task."

   * "Whenever possible back into parking spaces."

4. Personal Protective Equipment:

   a. "Wear head protection provided by the company at all times while on duty, except when working in an office, when riding in a highway motor vehicle, or while in a designated lunch break area. Non-hardhat areas may be designated by local management."

   b. "Wear approved safety glasses with sideshields at all times while on duty, except when working in an office, while in a lunch area, or while in a locker room."

   c. "When working in areas where hearing protection may be required, have approved hearing protection devices available on your person, and wear them where required by posted notice or special instructions."

d. "Wear hi-top (6-inch or more) safety-toe shoes with laces, oil-resistant soles, and a distinct separation between heel and sole when working outside of an office environment . . ."

5. Excavations, Pits, and Manholes

a. "Shore vertical excavations of four feet deep or more."
b. "Call utility locators before you dig."
c. "Protect all open holes and trenches with adequate barricades."

6. On or Around and Crossing Tracks

a. "When observing passing trains or equipment, always look in the direction from which the train or equipment is coming."

* "Use caution when working on or around and crossing tracks."
* "Look in both directions when approaching or crossing tracks."
* "Be alert for dragging bands, shifting loads, etc."

Please ensure that your employees (and all subcontractors), who are or will be working on or about Conrail property, comply with these revised standards of safety conduct. If you have any questions, or need further clarification of anything listed above, please contact your project manager. If there's ever any doubt, the safe course must always be taken!

Remember: *No job is so important, no service so urgent that we cannot take time to perform all work safely.*

*Recommended Safe Work Practice

SPECIFIC REQUIREMENTS

OF

CONSOLIDATED RAIL CORPORATION

FOR

WORK ON ITS RIGHT OF WAY

APPROVED:

2/1/97

G. A Thelen - Assistant Vice President
Engineering

SCOPE

It must be clearly understood that Conrail owns and uses its right of way for the primary purpose of operating a railroad. All work shall therefore be done in a manner such that the rail operations and facilities are not interfered with, interrupted or endangered. In addition, any facilities that are a result of the proposed work shall be located to minimize encumbrance to the right of way so that Conrail will have unrestricted use of its property for current and future operations.
The sponsor of the project shall be ultimately responsible for assuring that its agents, consultants, contractors and sub-contractors fully comply with the specifications contained herein. The term 'sponsor' used throughout these specifications shall mean the sponsor, its employees, its agents, consultants, contractors, sub-contractors, etc.
The following terms and conditions shall apply to any project which requires performance of work on the right of way or other property of Conrail.

RIGHT OF ENTRY ON CONRAIL PROPERTY

No entry upon Conrail property shall be permitted without the proper authorization by Conrail to the sponsor in the form of an agreement or a proper permit-to-enter prepared by Conrail. The applicant shall pay the associated fees and execute the permit-to-enter prior to entering Conrail property. The location and design of that portion of the access route to the project site that is on Conrail property shall be shown clearly on any plans for the project and approved by Conrail.
It is to be clearly understood that the issuance of a permit-to-enter does not constitute authority to proceed with any construction work. Construction cannot begin until a formal agreement between Conrail and the sponsor is executed, and the sponsor receives permission from Conrail's representative to proceed with the work.

INSURANCE

In addition to any other forms of insurance or bonds required under the terms of any contract or specifications and except to the extent that any of the requirements of this section are expressly waived or revised in writing by Conrail, prior to the commencement of any work, contractor, at his own cost and expense, shall maintain insurance of the following kinds and amounts and deliver to Conrail satisfactory evidence of such insurance as indicated herein:

1. Public Liability Insurance
Public Liability Insurance, including contractual liability insurance of not less than $5,000,000 combined single limit for bodily injury and/or property damage for damages arising out of bodily injuries to or death of all persons in any one occurrence and for damage to or destruction of property, including the loss of use thereof, in any one occurrence. Conrail shall be named as an additional insured under this insurance.
2. Automobile Liability Insurance
Automobile Liability Insurance with a limit of not less than $5,000,000 combined single limit for bodily injury and/or property damage per occurrence. Conrail shall be named as an additional insured under this insurance.
3. Workers' Compensation / Employers' Liability Insurance
Employers' Liability and Occupational Disease Insurance with limits of $1,000,000 each accident, $1,000,000 policy limit and $1,000,000 each employee. Such policy shall include a waiver of subrogation in favor of Conrail.

4. General Contractors Pollution Legal Liability Insurance
General Contractor's Pollution Liability Insurance with limits of not less than $5,000,000 per occurrence / $5,000,000 aggregate bodily injury, property damage and cleanup expenses resulting from pollution conditions. Conrail shall be named as an additional insured under this insurance.

5. Railroad Protective Liability Insurance
With respect to the operations performed by it or any of its' subcontractors, contractor shall provide Railroad Protective Liability Insurance (ISO-RIMA FORM) in the name of Consolidated Rail Corporation *, with a limit of not less than $2,000,000 per occurrence, combined single limit for bodily injury and/or property damage, for damages arising out of bodily injuries to or death of all persons and for damage to or destruction of property, including the loss of use thereof. Such insurance shall also contain an aggregate of not less than $6,000,000 for damages arising out of more than one occurrence. * Conrail shall be the "Named Insured" on this policy.

The insurance specified above shall be carried until the project is satisfactorily completed and formally accepted by Conrail. The above indicated insurance coverages shall be effected under standard form policies issued by insurers of financial responsibility that are rated "A" or better by Best's Insurance Reports, "AA" or better by Standard & Poor's Insurance Rating Service, and "Aa" or better by Moody's Investors Service. Conrail reserves the right to reject as inadequate any insurance coverage provided by an insurance company that is rated less than the ratings above by any of the aforementioned rating services. The above indicated insurance coverages shall be enforceable by any legitimate claimant after the termination or cancellation of the project, whether by expiration of time, by operation of law or otherwise, so long as the basis of the claim against the insurance company occurred during the project and when the insurance was in force. Contractor shall furnish Conrail with certificates of insurance evidencing the insurance coverages required in sections 1, 2, 3, & 4, and shall also furnish the original Railroad Protective Liability Insurance policy referred to in section 5 at least thirty (30) days prior to commencement of the project. All insurance policies shall be endorsed to provide that the insurance company shall give thirty (30) days prior written notice to Conrail if the policies are to be terminated or if any changes are to be made which shall in any way affect the insurance requirements of the project. Certificates, policies or notices should be sent to Manager - Insurance, Consolidated Rail Corporation, 2001 Market Street - 6A, PO Box 41406, Philadelphia, PA 19101-1406.

CHANGES IN RAILROAD FACILITIES

Temporary and permanent changes of signal, communication, power transmission lines, trailers, drainage and other railroad facilities required in connection with the project to clear temporary and/or permanent work of the sponsor as shown on the approved construction plans, shall be made or caused to be made by Conrail at the sole cost and expense of the sponsor in accordance with Conrail's force account estimate. Any other changes made or services furnished by Conrail at the request of the sponsor shall be the sole cost and expense of the sponsor.

PROTECTION OF RAILROAD OPERATIONS

The sponsor shall conduct the work in such a manner as to safeguard the operations, facilities, right of way and property of Conrail. All work affecting the above items shall be subject to the approval of Conrail. The sponsor's operations adjacent to, over or under Conrail's tracks,

facilities, right of way, and property shall be governed by Conrail's standards and by such other requirements as specified by Conrail's representative so as to insure the safe operation of trains, prevent delay to trains and insure the safety of all concerned, including the sponsor's forces.

An operating track shall be considered obstructed or fouled when any object is brought closer than fifteen (15) feet (4.6 m) horizontally from the centerline of track and projects above the top of tie or as determined by Conrail's representative. A power line shall be considered fouled when any object is brought to a point less than eight (8) feet (2.5 m) therefrom. A signal line shall be considered fouled when any object is brought nearer than six (6) feet (1.8 m) to any wire or cable. Cranes, trucks and other equipment shall be considered as fouling the track, power line or signal line when failure of equipment, whether working or idle, with or without load, will obstruct the track or other Conrail facilities.

Equipment used by the sponsor shall be in first-class condition to preclude any failure that would cause interference with the operation of Conrail trains or damage to its facilities. The sponsor's equipment shall not be placed or put in operation adjacent to the tracks or facilities of Conrail without obtaining clearance from Conrail's representative. All such equipment shall be operated by the sponsor in a manner satisfactory to Conrail. No equipment or material shall be stored on Conrail property.

In general, a hazard occurs and a flagman is necessary in the following circumstances: (1) the driving of sheeting or piles within twenty five (25) feet (7.6 m) of the tracks, (2) the removal or demolition of all or part of an overhead or adjacent structure, (3) the erection of any structural material, or (4) the performance of any other operation that could obstruct or foul (as described above) the tracks or other facilities of Conrail as determined by Conrail's representative.

Minimum overhead and lateral clearances as specified by Conrail, shall be maintained during the performance of all work. Existing overhead and lateral clearances shall be maintained during construction unless a temporary reduction in clearance for construction purposes is approved, in writing, by Conrail. The sponsor shall erect a highly visible construction fence no closer than fifteen (15) feet (4.6 m) from the centerline of the track through the work area to insure that the lateral clearance requirement is being met.

All wire and attachments shall be treated as live unless notified by Conrail's representative that same have been grounded and de-energized. Particular attention shall be given to the use of hand lines containing metal strands which cannot be used when working near or above exposed live wires. When working over wires, tools and materials not in use shall be stored in a manner to prevent them from falling. Tools or materials shall not be thrown to or by men working over the wires. The sponsor shall be responsible for locating and protecting all underground facilities.

Painting and paint removal procedures shall be approved by the Conrail and inspected by Conrail's representative prior to beginning the work over railroad right of way. The sponsor shall protect the track structure and railroad property from any material used in conjunction with performing the work. A flagman shall be required whenever the above described work fouls or is likely to foul the track, as previously defined.

The sponsor shall give notice to Conrail's representative at least fourteen (14) days in advance of the time work is to be commenced. Conrail shall assign, at the sole cost and expense of the

sponsor, conductors and/or flagmen, or other similar qualified employees to protect Conrail's trains and facilities when in the opinion of its representative, the construction work will cause or may cause a hazard to Conrail facilities and the safe operation of trains. No operations of the sponsor shall be carried out without all the necessary protection to properly safeguard the work.

The minimum hours per day for railroad employees engaged in flagging service shall be eight (8) hours. The overtime rate will be charged for all time in excess of eight (8) hours. Flagmen are paid from the time they leave headquarters until they arrive back at headquarters. The travel time to and from project site is known as "deadheading" and is paid at full rate of pay, plus travel expenses. No conductor or flagman may remain on duty longer than twelve (12) hours in any twenty-four (24) hour period.

The providing of flagmen or inspectors or the taking of other precautionary measures, shall not, however, relieve the sponsor from liability for payment of damages caused by their operations. The sponsor must obtain permission from the flagman before fouling or obstructing any track.

The sponsor shall be responsible for damage to Conrail facilities or property arising out of the execution of its work. Conrail shall undertake any necessary repair work at the sole cost and expense of the sponsor. Billing for the work shall be in accordance with Conrail's standard billing procedures.

Conrail labor shall be charged to sponsor at actual rate plus amount paid for insurance, railroad retirement, excise tax, vacation allowance, holidays, health and welfare benefits, small tools, 401k payment and overhead in accordance with Conrail's standard billing procedures. Materials shall be charged to the sponsor at actual cost to Conrail plus transportation costs, handling expense and applicable taxes.

RAILROAD ENGINEERING AND INSPECTION

Conrail, at its sole discretion, may assign an engineer or inspector for the general protection of railroad property and operations during the construction of the project. This inspection service shall be supplied at the sole cost and expense of the sponsor.

PAYMENT OF RAILROAD SERVICES

It is a requirement that the sponsor shall reimburse Conrail in full for work undertaken by Conrail in accordance with any provision of these special requirements. Final contract payment shall not be made by the sponsor to its contractor, sub-contractor, consultant or agent, until Conrail certifies that all railroad bills against them, if any, have been paid in full.

TEMPORARY GRADE CROSSING

Under most circumstances, a grade crossing of our track will not be permitted. Should the sponsor demonstrate a necessity for a temporary grade crossing of Conrail's tracks, the sponsor shall be required to apply for and execute the standard private grade crossing agreement for each crossing required. Application for the crossing shall be made to Conrail at least twelve (12) weeks before the crossing is required and addressed to:

Consolidated Rail Corporation
2001 Market Street -12B
PO Box 41412
Philadelphia, Pennsylvania 19101-1412

A letter size plan showing the location, size, construction details, and access to the requested crossing should accompany the letter of application. The plan shall be fully detailed and dimensioned with all Conrail facilities shown and referenced. The sponsor shall state the purpose for which the crossing is needed and the expected life of the crossing. All application fees, construction, maintenance, protection and removal costs shall be at the sole cost and expense of the sponsor. The roadbed and all other Conrail facilities will be restored to the original condition subject to the approval of Conrail's designated representative.

SHEETING AND SHORING REQUIREMENTS

The following items are to be included in the design and construction procedures for all permanent and temporary facilities adjacent to Conrail tracks:

1) Footings for all piers, columns, walls or other facilities shall be located and designed so that any temporary sheeting and shoring for support of adjacent track or tracks during construction shall not be closer than ten (10) feet (3.0 m) from the centerline of the nearest track.
2) When excavation for construction of the above mentioned facilities is within the theoretical railroad embankment line (see Conrail Drawing SK-1, attached), interlocking steel sheet piling, driven prior to excavation, must be used to protect track stability. The use of trench boxes or similar devices is not acceptable. Soldier piling and lagging will be considered for supporting adjacent track(s) only when its use is approved by Conrail. Consideration for the use of soldier piling and lagging shall be made if the required penetration of steel sheet piling cannot be obtained and when dry, non-running, stable material will be encountered.
3) The sheeting shall be designed to support all lateral forces caused by the earth, railroad and other surcharge loads. The railroad loading to be applied is an E-80 loading. This loading consists of 80 Kip (356 KN) axles spaced five (5) feet (1.5 m) on centers. The lateral forces acting on the sheeting shall be computed as follows:
   a. The Rankine Theory shall be used to compute the active earth pressure due to the weight of the soil.
   b. The Boussinesq analysis shall be used to determine the lateral pressure caused by the railroad loading. The load on the track shall be taken as a strip load with a width equal to the length of the ties (8'-6" or 2.6 m). The vertical surcharge, q (psf), caused by each axle, shall be uniform and equal to the axle weight divided by the tie length and the axle spacing (5'-0" or 1.5 m). For an E-80 loading, this results in: $q = 80{,}000 / (8.5 \times 5) = 1882$ psf (90.1 KPa). The horizontal pressure due to the live load surcharge at any point on the sheet piling wall is Ph and can be calculated by the following: $Ph = (2q/\pi)(\beta - \sin\beta \cos 2\alpha)$ (see Conrail Drawing SK-2, attached).
4) Deflection design criteria is as follows:
   a. 1/2" (1.27 cm) maximum deflection for sheet piling ten (10) feet (3.0 m) from centerline of the nearest track.
   b. 1" (2.54 cm) maximum deflection for sheet piling greater than ten (10) (3.0 m) feet from centerline of the nearest track.
   c. Use K (at-rest earth pressure) for design of all braced and tie-back excavations.

5) The allowable stresses for the sheet piling and other steel members (wales, struts, etc.) shall be in accordance with AREA Chapter 15, Part 1. These allowable stresses may be increased ten percent (10%) due to the temporary nature of the installations. A factor of safety of at least 1.5 must be used on temporary sheeting for the embedment length (i.e. multiply calculated embedment depth by 1.5).
6) Where soil or rock anchors are used, all anchors must be tested. Testing shall be in accordance with industry standards with ten percent (10%) of the anchors "Performance Tested" and all others "Proof Tested". All tie-back anchor stresses are to be in accordance with AREA Chapter 8, Part 20.5.7.
7) Exploratory trenches, three (3) feet (0.9 m) deep and fifteen (15) inches (0.4 m) wide in the form of an "H" with outside dimensions matching the outside of sheeting dimensions are to be hand dug, prior to placing and driving steel sheeting, in areas where railroad underground installations are known to exist. These trenches are for exploratory purposes only and are to be backfilled with the backfill compacted immediately. This work must be done in the presence of Conrail's representative.
8) Absolute use of track is required while driving sheeting within fifteen (15) feet (4.6 m) from centerline of a live track. The procedure for arranging the use of track shall be as outlined on pages Three and Four.
9)Cavities adjacent to the sheet piling, created by the driving of sheet piling, shall be filled with sand and any disturbed ballast must be restored and tamped immediately.
10)Sheet piling shall be cut off at the top of tie during construction. After construction and backfilling has been completed, piling within ten (10) feet (3.0 m) from centerline of track, or when bottom of excavation is below a line extending a 1:1 slope from end of tie to point of intersection with sheeting, shall be cut off eighteen (18) inches (0.5 m) below existing ground line and left in place.
11)Any excavation adjacent to track shall be covered and ramped and provided with barricades as required by Conrail. A lighted walkway with a handrail must be provided adjacent to the track for any excavation within ten (10) feet (3.0 m) of the centerline.
12)Final backfilling of excavation shall be as required by project specifications.
13)The sponsor is to advise Conrail of the time schedule of each operation and obtain approval of Conrail for all work to be performed adjacent to Conrail tracks so that it may be properly supervised by railroad personnel.
14)All drawings for temporary sheeting and shoring shall be prepared and stamped by a Registered Professional Engineer and shall be accompanied by complete design computations when submitted for approval.
15)Where physical conditions of design impose insurmountable restrictions requiring the placing of sheeting closer than specified above, the matter must be submitted to Conrail for approval of any modifications.
16)Five (5) copies of the submission are to be sent to Conrail's Area Engineer. The sponsor is advised to expect a minimum thirty (30) day review period from the day the submission is received by the Area Engineer.
17)Conrail's representative must be present at the site during the entire sheeting and shoring procedure period. The sponsor must notify the railroad representative at least seventy-two (72) hours in advance of the work. No changes will be accepted after that time.

ERECTION, HOISTING AND DEMOLITION REQUIREMENTS

1) A plan showing the locations of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities should also be shown.
2) Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted.
3) Plans and computations showing weight of picks must be submitted. Where beams are being removed over Conrail facilities, the weight shall include the weight of concrete or other material that will be included in each pick. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure.
4) If the sponsor can prove to Conrail that plans do not exist and weights must be calculated from field measurements, the field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and he shall include sketches and estimated weight calculations with his procedure. If possible, field measurements shall be taken with a Conrail representative present. Weights shall include the weight of concrete, or other material, that will be included in the lifts.
5) If the procedure involves either the cutting of steel or the bolting of joints which would affect Conrail operations, a detailed staging plan with estimated durations will be required.
6) A location plan showing all obstructions such as wires, poles, adjacent structures, etc., must be provided to show that the proposed lifts are clear of these obstructions.
7) A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment.
8) A complete procedure is to be included, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.
9) Demolition shield submittals must include a plan showing the details of the shield, a written installation and removal procedure and design calculations verifying the capacity of the shield. The shield should be designed for a minimum load of fifty (50) pounds/sq.ft (245 kgs./sq.m) plus the weight of the equipment, debris and any other load to be carried.
10) Temporary support of any components (overhead or undergrade) or intermediate stages is to be shown and detailed. A guardrail (railroad) will be required to be installed in a track where a temporary bent is located within twelve (12) feet (3.7 m) from the centerline of that track.
11) A time schedule of the various stages must be shown as well as a schedule for the entire lifting procedure.
12) All bridge erection or demolition procedures submitted will be prepared, signed and sealed by a Registered Professional Engineer.
13) Five (5) copies of the lifting procedures are to be sent to Conrail's Area Engineer. The sponsor is to expect a minimum thirty (30) day review period from the day the submission is received by The Area Engineer.
14) Conrail's representative must be present at the site during the entire demolition and erection procedure period. The sponsor must notify the railroad representative at least seventy-two (72) hours in advance of the work. No changes will be accepted after that time.
15) The name and experience of the employee supervising the operation must be supplied to Conrail.

OVERGRADE BRIDGE REQUIREMENTS

CLEARANCES

1) The minimum vertical clearance above the top of the higher rail shall be twenty three (23) feet (7 m) at all times. In areas where the railroad has been electrified with a catenary wire, and areas which are likely to be electrified, the minimum vertical clearance must be twenty four (24) feet, six (6) inches (7.5 m) above the top of the higher rail.
2) The minimum horizontal clearance measured from the centerline of track to the near face of the obstruction must be twenty (20) feet (6.1 m) for tangent track and twenty one (21) feet (6.4 m) for curves. See Conrail Standard Plan 48754-B, attached.
3) Whenever practicable, bridge structures must have the piers and abutments located outside of the railroad right of way. All piers located less than twenty five (25) feet (7.6 m) from the centerline of track require a crashwall designed in accordance with specifications outlined in the current AREA manual.
4) All piers should be located so that they do not interfere with ditches. Where special conditions make this impossible, an explanation of these conditions must be submitted with the drainage plans for review by Conrail.
5) The permanent clearances should be correlated with the methods of construction so that temporary construction clearances will not be less than the minimum allowed.
6) Bridge structures shall provide sufficient lateral and vertical clearance for anticipated future tracks, changes in track centers and raising of tracks for maintenance purposes. The locations of these tracks shall be determined by inquiry to Conrail.
7) The profile of the top of rail should be examined to determine if the track is in a sag at the location of the bridge. If the track is in a sag, the vertical clearance from the track to the bridge should be increased sufficiently to allow raising the track to remove the sag.
8) Plans for bridges must show dimensioned locations of all utilities which might be located on the railroad right of way.
9) Vertical and horizontal clearances must be adjusted so that the sight distance to railroad signals is not reduced from what is existing.
10) All proposed temporary clearances which are less than those listed above must be submitted to Conrail for review and must be approved by Conrail prior to construction.
11) Clearances are subject to the requirements of the state in which the construction takes place and must be approved by the State and Conrail if less than those prescribed by law.

DRAINAGE

1) Maintaining the existing drainage and providing for future drainage improvements is of the utmost importance. Conrail will give special attention to reviewing drainage details.
2) Drainage plans must be included with the general plans submitted to Conrail for approval. These plans must include hydrologic and hydraulic studies and computations showing the frequency and duration of the design storm used, as well as the method of analysis such as Soil Conservation Service or the Rational method. Conrail uses storms with a 100-year recurrence interval as the minimum design storm.
3) Lateral clearances must provide sufficient space for construction of the required track ditch parallel to the standard roadbed section. If the ditch cannot be provided, or the

pier will interfere with the ditch, then a culvert of sufficient size must be provided. See Conrail Standard Plans 48754-B and 48747, attached.

4) Ditches and culverts must be sized to accommodate all increased run-off due to the construction and the increased size must continue to the natural outlet of the ditch. Ditches must be designed in accordance with good drainage engineering practices and must meet all local codes and ordinances.
5) No scuppers or other deck drains, roadway drainage, catch basins, inlets or outlets are permitted to drain onto Conrail property. Any variation of this policy must have the prior approval of Conrail. If an exception is ultimately granted, maintenance of such should not be Conrail's. Drainage from scuppers and deck drains must be conveyed through pipes, preferably to a point which is off Conrail property. If the drainage must be conveyed into a railroad ditch, calculations must be provided to Conrail which indicate the ability of the ditch to carry the additional run-off.
6) Additional drainage may require the installation of a pipe or pipes, new ditch or reprofiling of the existing ditch.

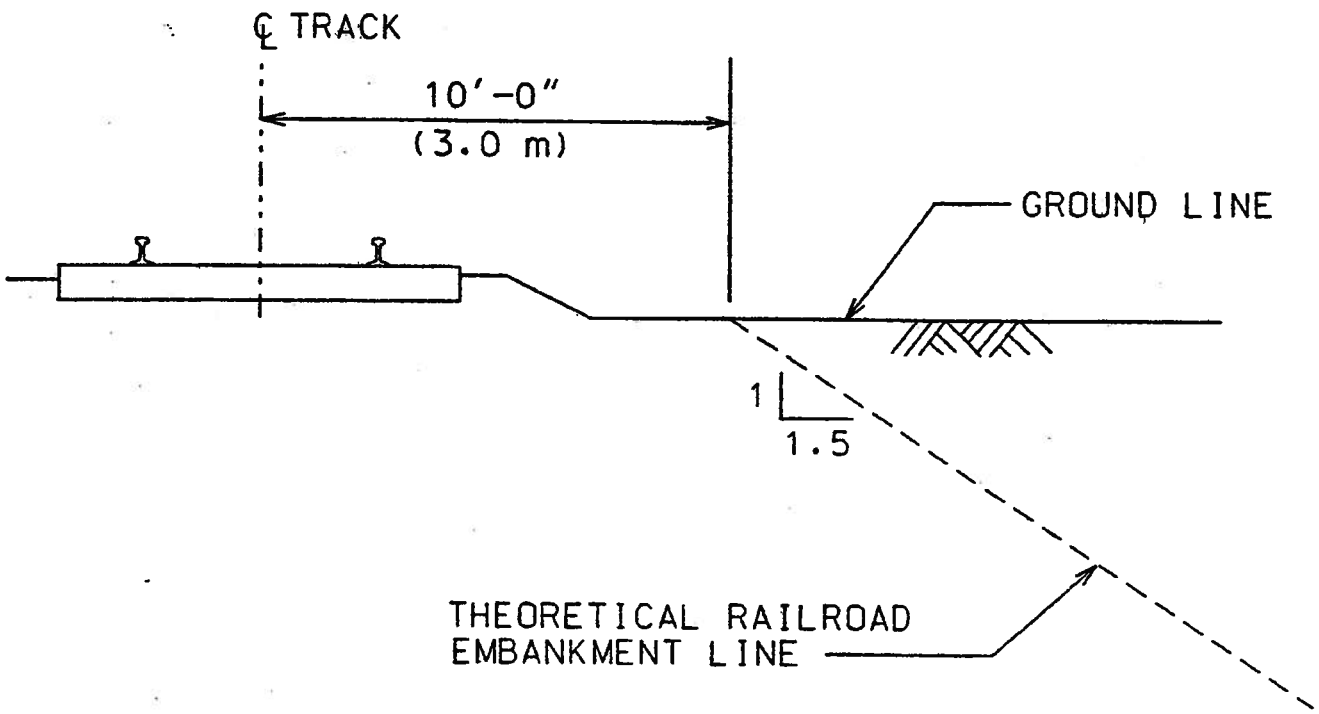
EROSION CONTROL

1) Embankment slopes on Conrail property adjacent to the track must have a slope of 2:1 or less and be paved for a minimum of two (2) feet (0.6 m) beyond the outside edge of the bridge foundation structure. The purpose of the pavement is to minimize erosion of the embankment material and to reduce deterioration of the sub-grade material by drainage water. The pavement shall consist of a prepared sub-base and/or filter fabric with grouted rip-rap on the surface.
2) The general plans for the bridge should indicate the proposed methods of erosion control during construction and must specifically address means to prevent silt accumulation in ditches and culverts and to prevent fouling the track ballast and sub-ballast. If the plans do not show erosion control, the contractor must submit a proposed method of erosion control and must have this method approved by Conrail prior to beginning any grading on the site.
3) Existing track ditches must be maintained at all times throughout the construction period. After the construction has been completed, all erosion and siltation must be removed and the ditches must be restored.
4) Conrail's approval of drainage and erosion control plans will not relieve the sponsor submitting these plans from ultimate responsibility for a satisfactory plan.

REFERENCES

1) In areas where underground utilities may be affected, Conrail's C.E. 8, "Specifications for Pipeline Occupancy" will govern.
2) In areas where power or communication lines will be affected, Conrail's C.E. 4, "Specifications for Wire, Conduit and Cable Occupations" will govern.

CE-6 prepared by F. X. Giacoma, Civil Engineer, Conrail Engineering Department.



REQUIREMENTS FOR TEMPORARY SHEET PILING ADJACENT TO TRACK

1. STEEL SHEET PILING FOR TRACK SUPPORT IS NOT REQUIRED FOR EXCAVATION OUTSIDE THE THEORETICAL RAILROAD EMBANKMENT LINE. SHORING IN ACCORDANCE WITH OSHA REQUIREMENTS SHALL BE USED IN THIS AREA.

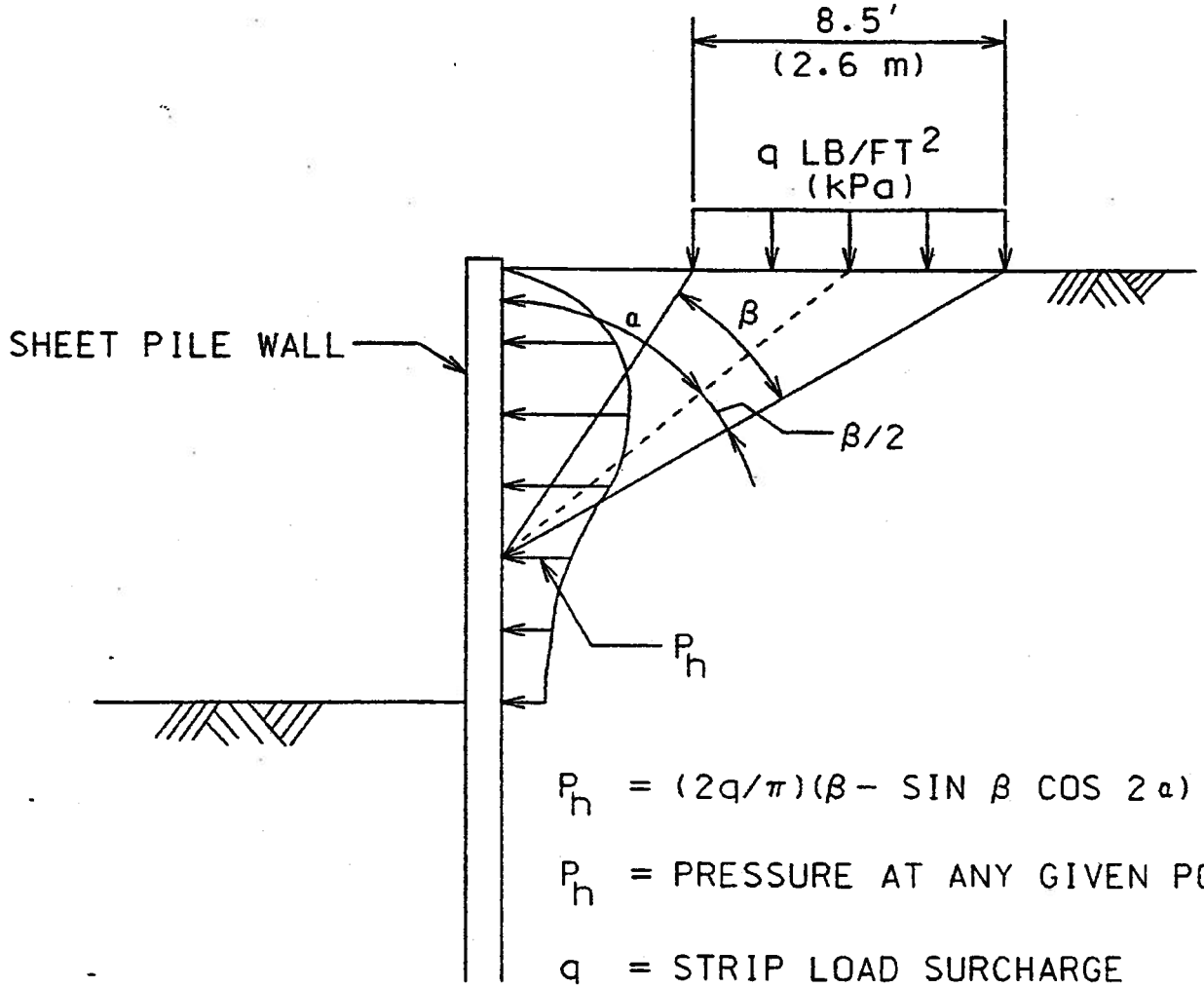
2. STEEL SHEET PILING, DRIVEN PRIOR TO EXCAVATION, IS REQUIRED WHEN EXCAVATION IS WITHIN THE THEORETICAL RAILROAD EMBANKMENT LINE.

3. ALL SHEET PILING IS TO BE DESIGNED FOR AN E-80 LOADING. THE BOUSSINESQ ANALYSIS IS TO BE USED TO DETERMINE THE LATERAL PRESSURE CAUSED BY THE RAILROAD LOADING.

OFFICE OF CHIEF ENGINEER - D & C

FEB 1, 1995 DWG. NO.: SK-1

LATERAL PRESSURE DIAGRAM



$P_h = (2q/\pi)(\beta - \sin\beta \cos 2\alpha)$

P_h = PRESSURE AT ANY GIVEN POINT

q = STRIP LOAD SURCHARGE

α = ANGLE IN DEGREES

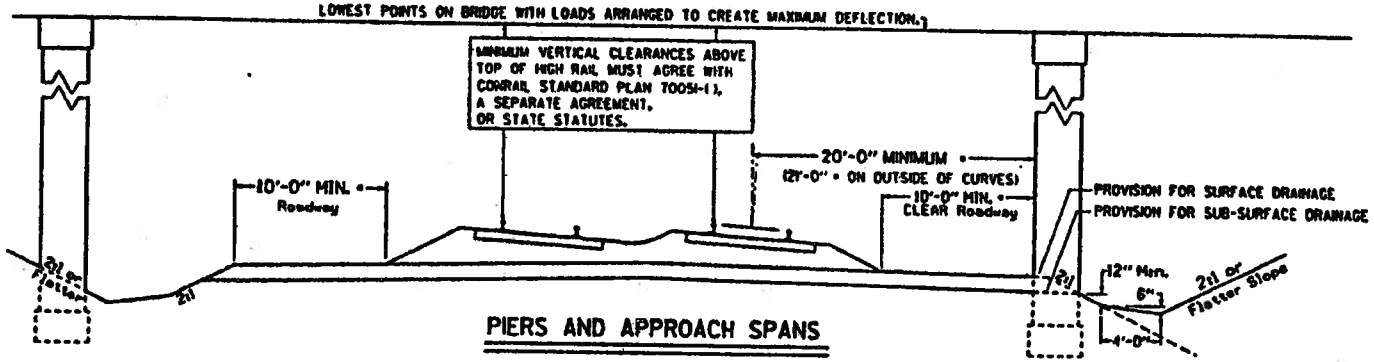
β = ANGLE IN RADIANS

LATERAL PRESSURE DUE TO STRIP LOAD

OFFICE OF CHIEF ENGINEER - D & C

FEB 1, 1995 DWG. NO.: SK-2

RAIN WATER RUNOFF MUST NOT BE DEPOSITED ONTO THE RAILROAD RIGHT OF WAY.
DECK DRAINS AND SCUPPERS ARE PROHIBITED BETWEEN THE TRACK DITCHES.



PIERS AND APPROACH SPANS

ALL SIDE SLOPES THROUGH THE BRIDGE AREA MUST BE COVERED WITH RIP-RAP.

DITCHES AND SLOPES THROUGH THE BRIDGE AREA MUST MEET THE EXISTING DRAINAGE FACILITIES AND MATCH OR EXCEED THEM IN HYDRAULIC CAPACITY.

PIERS LOCATED LESS THAN 25 FEET FROM THE CENTERLINE OF ANY TRACK MUST BE PROTECTED BY CRASH WALLS IN ACCORDANCE WITH THE SPECIFICATIONS IN CHAPTER 8, PART 2.4.5 OF THE A.R.E.A. MANUAL FOR RAILWAY ENGINEERING.

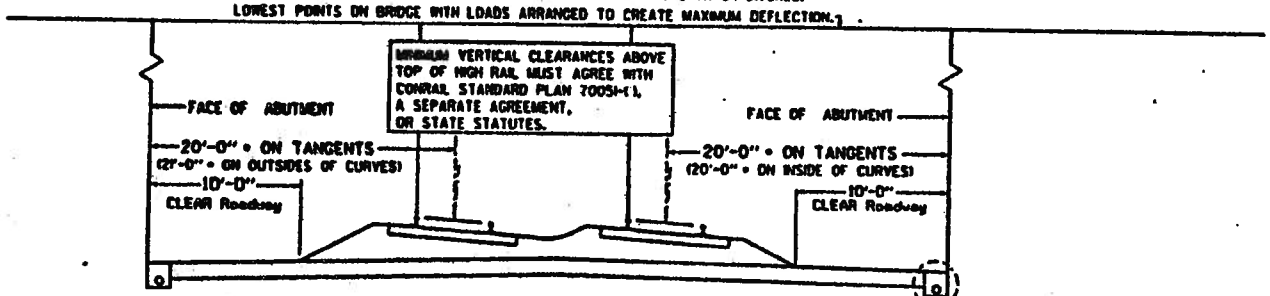
* - LATERAL CLEARANCES MARKED "*" MAY BE REDUCED BY 2 FEET IF A ROADWAY IS NOT REQUIRED.

ADDITIONAL CLEARANCE MAY BE REQUIRED TO ACCOMODATE COMMUNICATION AND SIGNAL POLE LINES, OR AS OTHER FIELD CONDITIONS REQUIRE.

FLAT BOTTOM DITCHES, AS SHOWN, ARE TO BE USED. "V" BOTTOM DITCHES ARE PERMITTED ONLY IN CONJUNCTION WITH A DRAINAGE PIPE. THE PIPE MUST HAVE AT LEAST 4 FEET OF COVER, OR BE AT AN ELEVATION MEETING THE EXISTING DITCHES, AND MUST BE AT LEAST 24" DIAMETER.

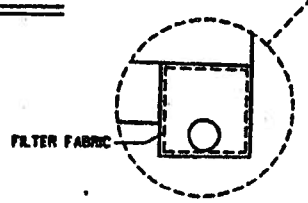
THE DITCH SECTION SHOWN IS THE MINIMUM ACCEPTABLE SECTION. DITCH SIZES MUST BE INCREASED WHEN NECESSARY AS DETERMINED BY HYDROLOGIC AND HYDRAULIC STUDIES, OR IF THE DRAINAGE PATTERN IS ALTERED BY CONSTRUCTION.

RAIN WATER RUNOFF MUST NOT BE DEPOSITED ONTO THE RAILROAD RIGHT OF WAY.
DECK DRAINS AND SCUPPERS ARE PROHIBITED BETWEEN THE TRACK DITCHES.
LOWEST POINTS ON BRIDGE WITH LOADS ARRANGED TO CREATE MAXIMUM DEFLECTION.



ABUTMENTS

DRAINAGE PIPE - 24" MINIMUM DIAMETER



DRAINAGE PIPE - 24" MINIMUM DIAMETER
PIPES SHOULD BE PROVIDED ON BOTH SIDES TO PERMIT CONTINUITY OF ROADBED DITCHES.

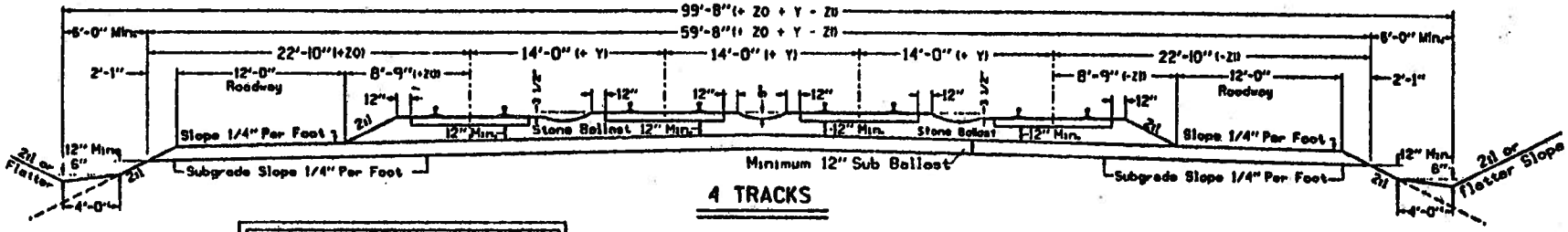
18" X 18" DRAINAGE AREA WITH OPEN GRADED STONE AND 6" DIA. PERFORATED PIPE SLOPED TO DRAIN. (WITH FILTER FABRIC WHEN REQUIRED).

CONRAIL 48754-B

OVERHEAD BRIDGE MINIMUM CLEARANCE DIAGRAM

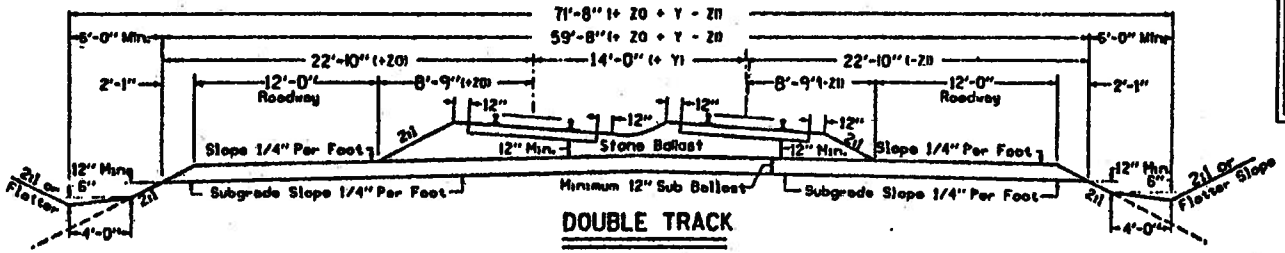
CHIEF ENGINEER D&C

FEBRUARY, 1990



4 TRACKS

Note: Z0 and Z1 are indicated for tracks which curve to the right.



DOUBLE TRACK

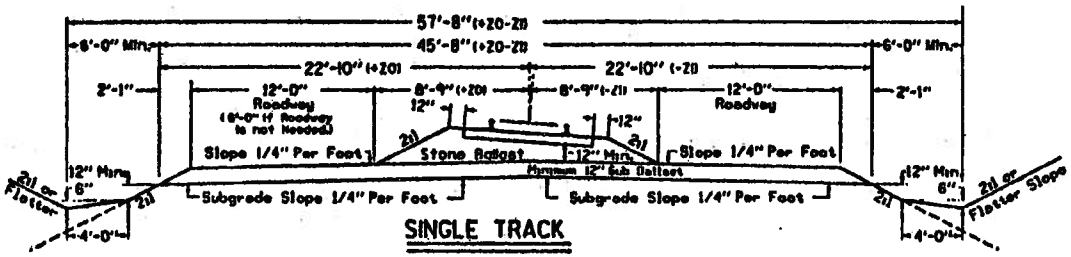
Y DIMENSION

On adjacent tracks where the super-elevation is the same or the outer track has less, Y=2" per degree of curve.

Where super-elevation is greater on the outer track, Y = 2" per degree of curve added to 3 1/2 times the amount of difference in super-elevation.

Z Dimensions 2 or More Tracks

Super-Elevation	Z0 - Outside of Curve	Z1- Inside of Curve
0"	0"	0"
1"	4"	1"
2"	7"	5"
3"	10"	6"
4"	1'-1"	7"
5"	1'-4"	8"
6"	1'-7"	10"



SINGLE TRACK

Z Dimensions Single Track

Super-Elevation	Z0 - Outside of Curve	Z1- Inside of Curve
0"	0"	0"
1"	2"	2"
2"	5"	4"
3"	8"	5"
4"	11"	6"
5"	1'-3"	7"
6"	1'-6"	9"

CONRAIL

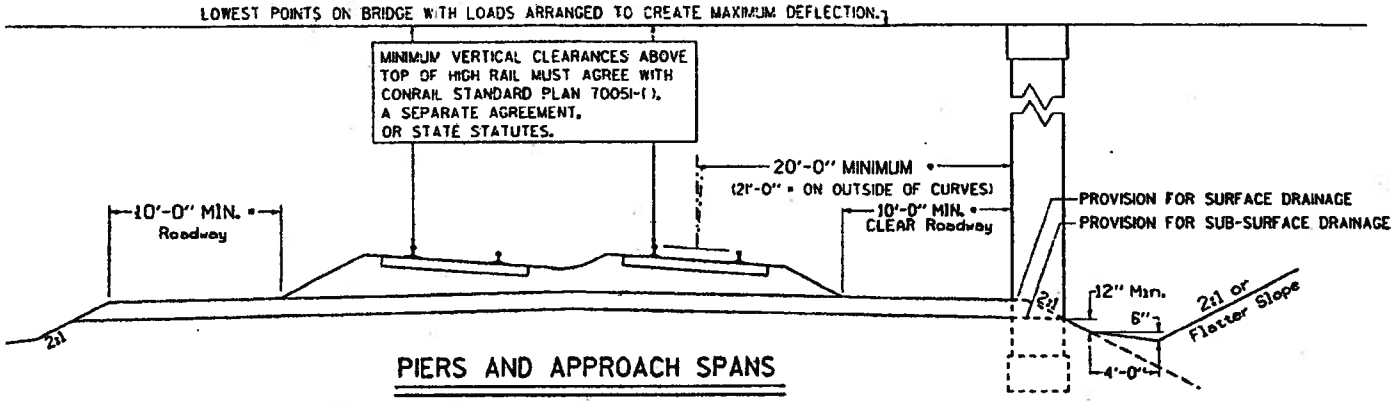
48747

TYPICAL
ROADBED AND BALLAST SECTIONS

AUGUST, 1988

CHIEF ENGINEER R&C

RAIN WATER RUNOFF MUST NOT BE DEPOSITED ONTO THE RAILROAD RIGHT OF WAY.
DECK DRAINS AND SCUPPERS ARE PROHIBITED BETWEEN THE TRACK DITCHES.



PIERS AND APPROACH SPANS

ALL SIDE SLOPES THROUGH THE BRIDGE AREA MUST BE COVERED WITH RIP-RAP.

DITCHES AND SLOPES THROUGH THE BRIDGE AREA MUST MEET THE EXISTING DRAINAGE FACILITIES AND MATCH OR EXCEED THEM IN HYDRAULIC CAPACITY.

PIERS LOCATED LESS THAN 25 FEET FROM THE CENTERLINE OF ANY TRACK MUST BE PROTECTED BY CRASH WALLS IN ACCORDANCE WITH THE SPECIFICATIONS IN CHAPTER 8, PART 2.1.5 OF THE A.R.E.A. MANUAL FOR RAILWAY ENGINEERING.

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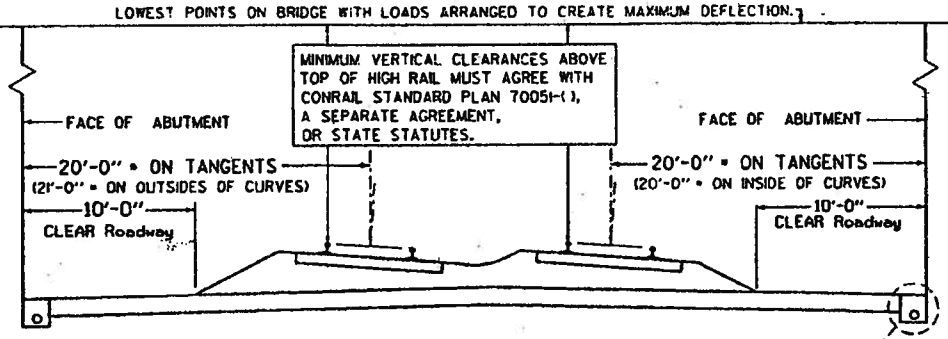
ADDITIONAL CLEARANCE MAY BE REQUIRED TO ACCOMODATE COMMUNICATION AND SIGNAL POLE LINES. OR AS OTHER FIELD CONDITIONS REQUIRE.

FLAT BOTTOM DITCHES, AS SHOWN, ARE TO BE USED. "V" BOTTOM DITCHES ARE PERMITTED ONLY IN CONJUNCTION WITH A DRAINAGE PIPE. THE PIPE MUST HAVE AT LEAST 4 FEET OF COVER, OR BE AT AN ELEVATION MEETING THE EXISTING DITCHES, AND MUST BE AT LEAST 24" DIAMETER.

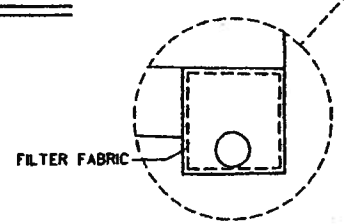
THE DITCH SECTION SHOWN IS THE MINIMUM ACCEPTABLE SECTION. DITCH SIZES MUST BE INCREASED WHEN NECESSARY AS DETERMINED BY HYDROLOGIC AND HYDRAULIC STUDIES, OR IF THE DRAINAGE PATTERN IS ALTERED BY CONSTRUCTION.

RAIN WATER RUNOFF MUST NOT BE DEPOSITED ONTO THE RAILROAD RIGHT OF WAY.
DECK DRAINS AND SCUPPERS ARE PROHIBITED BETWEEN THE TRACK DITCHES.
LOWEST POINTS ON BRIDGE WITH LOADS ARRANGED TO CREATE MAXIMUM DEFLECTION.



ABUTMENTS

PIPE - 24" MINIMUM DIAMETER



DRAINAGE PIPE - 24" MINIMUM DIAMETER PIPES SHOULD BE PROVIDED ON BOTH SIDES TO PERMIT CONTINUITY OF ROADBED DITCHES.

18" X 18" DRAINAGE AREA WITH OPEN GRADED STONE AND 6" DIA. PERFORATED PIPE SLOPED TO DRAIN, (WITH FILTER FABRIC WHEN REQUIRED).

CONRAIL

487!

OVERHEAD BRIDGE MINIMUM CLEARANCE DIAGRAI

CHIEF ENGINEER D&C

FEBRUA

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 01/14/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
MARSH USA INC.
1717 Arch Street
Philadelphia, PA 19103
Attn: Philadelphia.Certs@Marsh.com Fax: 212-948-0360

J25367--GAWU-13-14

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A :	Commerce And Industry Ins Co	19410
INSURER B :	Liberty Insurance Corporation	42404
INSURER C :	Chartis Specialty Insurance Company	26883
INSURER D :		
INSURER E :	Liberty Mutual Fire Ins Co	23035
INSURER F :		

INSURED
WESTON SOLUTIONS, INC.
ATTN: BONNIE RODGERS, CORPORATE RISK MANAGER
1400 WESTON WAY
WEST CHESTER, PA 19380

COVERAGES **CERTIFICATE NUMBER:** CLE-003842867-05 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**GENERAL LIABILITY**			GL 3779410	01/15/2013	01/15/2014	EACH OCCURRENCE	$ 2,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 2,000,000
							GENERAL AGGREGATE	$ 4,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 4,000,000
	X POLICY PRO-JECT LOC							$
E	**AUTOMOBILE LIABILITY**			AS2-Z31-477160-043	01/15/2013	01/15/2014	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
C	X **UMBRELLA LIAB** X OCCUR			PROU 14999614	01/15/2013	01/15/2014	EACH OCCURRENCE	$ 4,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 4,000,000
	DED RETENTION $							$
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY**			WA2-Z3D-477160-013 (AOS)	01/15/2013	01/15/2014	X WC STATU-TORY LIMITS / OTH-ER	
E	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N **(Mandatory in NH)**	N / A		WC2-Z31-477160-053 (OR, WI)	01/15/2013	01/15/2014	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
CONRAIL IS INCLUDED AS ADDITIONAL INSURED (EXCEPT WORKERS COMPENSATION) WHERE REQUIRED BY WRITTEN CONTRACT AND ALLOWED BY LAW.

CERTIFICATE HOLDER

CONRAIL ROE
C/O ENVIRON INTERNATIONAL CORPORATION
ATTN: MICHAEL FEAMSTER
201 SUMMIT VIEW DRIVE, SUITE 300
BRENTWOOD, TN 37027

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
of Marsh USA Inc.
Manashi Mukherjee Manashi Mukherjee

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AMENDED AND RESTATED ACCESS AGREEMENT

This **AMENDED AND RESTATED ACCESS AGREEMENT** ("Agreement") dated January 31, 2011 is by and between **WESTON SOLUTIONS, INC.**, a Pennsylvania corporation, with offices at 1400 Weston Way, West Chester, Pennsylvania 19380 ("Grantee"), and **EPEC POLYMERS, INC.**, a Delaware corporation, with offices at 1001 Louisiana St., Houston, Texas 77002 ("Owner").

BACKGROUND

WHEREAS, Hatco Corporation ("Hatco") is the current owner and operator of a specialty chemical manufacturing facility at 1020 King George Post Road, Fords, New Jersey 08863 ("Hatco Facility"), formerly owned and operated by W.R. Grace & Co. ("Grace"); and

WHEREAS, Grantee has entered into an agreement with Hatco and Grace to undertake certain environmental investigation and remediation; and

WHEREAS, Grantee seeks to enter the portion of the Owner's property located on Industrial Highway, Woodbridge, New Jersey ("Property"), said portion being specifically Tax Block 62, Lot 2, in order to perform activities required by the New Jersey Department of Environmental Protection ("NJDEP") and the United States Environmental Protection Agency ("USEPA"), as defined in the attached Exhibit A ("Channel D Sampling Plan"); and

WHEREAS, Owner has agreed to grant permission to Grantee to enter upon the Property to perform the Environmental Activities, subject to the terms and conditions set forth in this Agreement; and

WHEREAS, Owner and Grantee entered into an Access Agreement dated May 21, 2007; and

WHEREAS, Owner and Grantee have been in discussions concerning the environmental condition and necessary Environmental Activities on the Property:

NOW, THEREFORE, in consideration of the mutual promises contained herein, Grantee and Owner agree as follows:

1. Grant of License. Subject to the terms of this Agreement, the Owner hereby grants, as of the Effective Date as defined below, Grantee, its contractors, subcontractors, consultants, employees, agents and representatives (collectively "the Grantee Parties"), a non-exclusive license to enter the Property for the purpose of performing the Environmental Activities. Unless NJDEP or USEPA requires access with less than five (5) days notice, upon at least five (5) days written notice to the Owner, the Grantee Parties may, during the term of this Agreement, enter the Property pursuant to such license to perform the Environmental Activities. If less than five (5) days notice is given due to NJDEP or USEPA requirements, such notice shall be made at the earliest opportunity by facsimile or other means of

electronic transmissions as required by Section 8 (e) below. Such written notice shall include a written description of the Environmental Activities that the Grantee Parties intend to conduct at the Property, and indicate the number and identities of any persons entering the Property, including any representatives of the NJDEP or the USEPA. Such notice shall specify the dates and times of entry, the areas of the Property to be affected by the Environmental Activities, and the anticipated duration of the Environmental Activities. Upon Grantee's first arrival at the Property following such notice to conduct the activities to be performed pursuant to the notice, the Grantee Parties shall meet with at least one (1) representative, designated by the Owner, for the purpose of coordinating the Environmental Activities. The Owner shall cooperate with the Grantee Parties in providing access as provided for herein in order to expedite and facilitate the Environmental Activities

2. Term. The term of this Agreement shall commence on the later of the date of full execution hereof. The Term shall expire on that date on which Grantee receives notice from the NJDEP and USEPA that the NJDEP and USEPA consider the Environmental Activities to be complete unless cancelled sooner by either party upon fourteen (14) days written notice.

3. Exercise of License.

a. The Grantee Parties shall conduct all Environmental Activities (i) so as to not unreasonably interfere with the Owner's use of the Property, and (ii) in a good and workmanlike manner.

b. The Grantee Parties' access to the Property shall be limited to normal business hours, unless the Owner consents in writing with respect to a specific Environmental Activity or in the event of an emergency.

c. Each individual person of the Grantee Parties shall sign in and out on each day that they access the Property on a log maintained for this purpose by the Owner.

c. Upon the completion of the Environmental Activities, the Grantee Parties shall restore the Property to the condition in which the Property existed immediately before such Environmental Activities (or if not practicable, to a condition as near as possible to the condition in which the Property existed immediately before such Environmental Activities), except for conditions that are intended to be permanently changed by the Environmental Activities.

d. Any drill cuttings, sediment, dewatering decant water, equipment or other decontamination water, soil, groundwater, waste, samples or other materials generated by the Environmental Activities are referred to herein as the "Wastes." Any equipment and vehicles used for purposes of the Environmental Activities are referred to herein as "Equipment". The Grantee Parties shall be responsible, at their sole cost, for the proper management, characterization, storage, labeling, manifesting, transport and disposal of the Wastes. All waste manifests shall designate Grantee as the generator. Grantee shall remove the Wastes as soon as is reasonable but shall not permit Wastes to remain on the

Property for more than sixty (60) days. Any Wastes to be stored at the Property, pending transport and disposal, shall be appropriately containerized, labeled and placed in an area of the Property designated in writing in advance by the Grantee, who shall be solely responsible for ensuring that the areas so designated comply with all applicable environmental, health, safety or other regulations pertaining thereto. The availability of the designated location shall be approved by Owner in writing prior to its use by Grantee Owner disclaims any and all responsibility for Grantee's compliance with applicable environmental, health, safety or other regulations pertaining to the handling, storage, or transportation of the Wastes or Equipment. Grantee shall be solely responsible for compliance with all laws and regulations pertaining to the Environmental Activities conducted upon the Property.

e. Grantee shall be solely responsible for obtaining all governmental permits, consents and approvals for the Environmental Activities and removal of the Wastes. The Owner shall cooperate, at no cost to Owner, with Grantee's reasonable requests in obtaining all such permits, consents and approvals, and Owner shall promptly execute any reasonable documents prepared by Grantee to obtain such permits, consents and approvals. Any request to execute a permit application or permit shall be deemed unreasonable if it increases the cost or affects the ability of the Owner to obtain permits for the site in the future. Owner shall not be required to sign any waste disposal manifests. Waste disposal manifests shall identify Grantee as the waste generator.

f. The Owner shall have the right, at the Owner's sole cost and expense, to have its employees or other representatives (collectively "the Owner Parties") present at all times during the Environmental Activities conducted at the Property, and shall have the right, at the Owner Parties' sole cost and expense, to conduct concurrently such testing, sampling and analysis, or to receive from Grantee split samples of all samples at Owner Parties' request, so long as the Owner Parties do not interfere with the Environmental Activities being conducted by the Grantee Parties.

4. NJDEP and EPA. Grantee shall provide the Owner with copies of all plans, data, test results and reports relating to the Property ("Environmental Information") prior to submission to the NJDEP and EPA, for the Owner's review and comment. Whenever possible, Environmental Information shall be provided sufficiently in advance of submission to the NJDEP and EPA, so that the Owner will have a reasonable time for review. The parties agree that five (5) business days is generally considered a reasonable time to review Environmental Information. Grantee shall also provide the Owner within five (5) business days with all final documents it generates or receives regarding any Environmental Activities.

5. Indemnity. Grantee hereby agrees to indemnify, defend and hold the Owner Parties harmless from and against any and all claims, costs, penalties, liabilities, injuries, fines, damages or expenses (including, but not limited to, attorneys fees to enforce this Indemnity) resulting from the acts or omissions of the Grantee Parties, related directly or indirectly to the Environmental Activities, except to the extent that such claim, liability, demand or action results from the grossly negligent or intentional acts or omissions of the Owner Parties or from the failure of the Owner to perform its obligations hereunder, and except to the extent that such claim,

liability, demand or action results from accurate and correct information or data required to be submitted to NJDEP , USEPA, or another governmental entity.

6. Insurance. Prior to the commencement of any Environmental Activities on the Property, Grantee shall, or shall cause the other Grantee Parties to obtain, maintain and provide the Owner with satisfactory evidence of the following insurance, all written on an occurrence basis, except professional liability which will be written on a claims-made basis:

a. Workmen's compensation insurance and Employers liability in statutory amounts;

b. Commercial general liability with a limit of not less than one million dollars ($1,000,000.00) per occurrence and an annual aggregate, if any, of at least two million dollars ($2,000,000), including a broad form contractual liability endorsement covering the indemnification obligation under Section 5 of this agreement;

c. Umbrella and excess liability with a limit of not less than five million dollars ($5,000,000) per occurrence and an annual aggregate, if any, of at least five million dollars ($5,000,000);

d. Environmental consultants professional liability/contractors pollution legal liability with a limit of not less than two million dollars ($2,000,000.00) per occurrence and an annual aggregate, if any, of at least two million dollars ($2,000,000); and

e. Automobile liability with a combined single accident limit of no less than one million dollars ($1,000,000).

All insurance coverage obtained by Grantee or by the other Grantee Parties shall name the Owner Parties as additional insureds on all coverages other than workmen's compensation insurance and environmental consultants professional liability/contractors pollution legal liability. Evidence of additional insured status shall be provided by a copy of an additional insured endorsement. Forms or endorsements provided to comply with this agreement shall provide for at least thirty (30) days written notice by the insurance carrier or its agent to the Owner Parties of pending cancellation and the Grantee or Grantee Parties shall give written notice to the Owner Parties within five (5) days of receiving notice of cancellation.

This Agreement shall be added as an insured contract to the ACE American Insurance Company (ACE) Remediation, Expense Containment and Premises Pollution Liability Insurance Policy to be issued to the Grantee and written proof of the addition provided by ACE.

7. Notice of Existing Conditions. The Property is currently the subject of an environmental investigation and remediation under the Industrial Site Recovery Act due to the existence of various hazardous substances and radioactive materials. The Grantee shall be solely responsible to contact regulatory agencies, review the available information, communicate any necessary information to the Grantee Parties, determine safe access routes and take all necessary

precautions in performing all Environmental Activities at the Property. Grantee acknowledges its responsibility for requesting utility line mark outs from the public utility companies or one call service, as applicable.

8. Miscellaneous.

a. This Agreement shall be governed by the laws of the State of New Jersey. This Agreement shall bind and inure to the benefit of the parties hereto and their respective successors and permitted assigns. This Agreement shall not be assigned, in whole or in part, to any other person or entity without prior consent of the other party, which consent shall not be unreasonably withheld. If the Owner sells its property, it shall be obligated to disclose this Agreement to any new owner.

b. The headings preceding the text of the sections of this Agreement are inserted solely for convenience of reference and shall not constitute a part of this Agreement, nor shall they affect the meaning, construction or effect of this Agreement.

c. This Agreement sets forth all of the promises, covenants, agreements, conditions and undertakings between Grantee and the Owner with respect to the subject matter of this Agreement, and supersedes all prior and contemporaneous agreements and understandings, inducements or conditions, express or implied, oral or written, except as specifically set forth in this Agreement. This Agreement may not be changed orally but only by an agreement in writing, duly executed by or on behalf of the party against whom enforcement of any waiver, change, modification, consent or discharge is sought.

d. If any provision of this Agreement is found by a court of competent jurisdiction to be illegal, invalid, or unenforceable, the remainder of this Agreement will not be affected and in lieu of each provision which is found to be illegal, invalid or unenforceable, there will be added as a part of this Agreement a provision as similar to such illegal, invalid or unenforceable provision as may be possible and be legal, valid and enforceable, as mutually agreed upon by the Grantee and the Owner.

e. Any notice, request, demand, consent, approval or other communication required or permitted under this Agreement which is not specifically set forth herein as being an oral notice will be written and will be deemed to have been given (i) when personally delivered; or (ii) on the next following day after delivery to any nationally recognized express delivery service; or (iii) on the fifth day after it is deposited in any depository regularly maintained by the United States postal service, postage prepaid, certified or registered mail, return receipt requested; or (iv) on the day transmitted by email together with either (i), (ii) or (iii) above, if confirmation receipt is obtained, and addressed to the respective parties, at the same time, as follows:

Owner Parties: EPEC Polymers, Inc.
1001 Louisiana~~,~~ St.
Houston, Texas 77002

Attention: Mr. Brian Johnson

Email: Brian.Johnson@elpaso.com

With copy to: EPEC Polymers, Inc.
1001 Louisiana St.
Houston, Texas 77002
Attention: Scott J. Miller, Esq.

Email : Scott.Miller@elpaso.com

Grantee: Weston Solutions, Inc.
1400 Weston Way
West Chester, Pennsylvania 19380
Attention: Legal Department

Fax: 610-701-3656

With copy to: Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
Attention: Daniel Kopcow
Email: danielkopcow@westonsolutions.com

With copy to: Drinker, Biddle, & Reath
One Logan Square
18th and Cherry Streets
Philadelphia, PA 19103-6996
Attention: Grant Nichols
Email: Grant.Nichols@dbr.com

f. The Owner's execution of this Agreement is for purposes of access only. Owner's review and comments, if any, concerning the attached Exhibit A and the Environmental Information is for general information purposes only and shall not be considered as approval by the owner of the work to be performed. Owner does not release, and specifically reserves, all rights that it may have under law against Grace, Hatco, Weston or any responsible party concerning conditions at the Property, whether such rights and conditions exist now or in the future.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the parties have hereunto executed this Agreement as of the date first above written.

WESTON SOLUTIONS, INC.,
A Pennsylvania corporation

By: Sally Jones
Name: Sally Jones
Title: Vice President

EPEC POLYMERS, INC.,
A Delaware Corporation

By:
Name: John H. Anderson
Title: Vice President

SJM

Revised Channel D Sampling and Analysis Plan
Hatco Site – Fords, New Jersey
January 2011

Background and Rationale

Weston Solutions, Inc. (Weston®) has prepared this Sampling and Analysis Plan (SAP) to address additional delineation sampling requirements associated with Channel D, in response to both discussions with the New Jersey Department of Environmental Protection (NJDEP) Case Team and additional investigation performed by the off-site property owner, as well as to include NJDEP requirements outlined during a 19 October 2010 meeting and follow-up communications. Historical Weston sample locations, concentrations and depths were used to develop this SAP, in addition to extensive field data and analytical results obtained during Weston's 2007 pre-design investigation, and data obtained by off-site property owner investigations. Weston has reviewed various submittals provided by the property owner EPEC Polymers Inc. (EPEC) for Channel D, including the 29 October 2009 data summary, March 2010 *Supplemental Remedial Investigation Report*, and August 2010 *Impacts for Hatco Drainage on the EPEC Site* report, and proposes additional soil and sediment sampling across Channel D to determine the vertical and horizontal extent of contamination. Weston anticipates that the information provided by EPEC, in addition to the sampling data obtained through this additional investigation, will impact the extent of remediation currently proposed in Weston's August 2009 *Addendum 3 to the Consolidated Remedial Action Workplan (RAWP).*

Weston has prepared this SAP to better define the extent of PCB contamination near Channel D that was identified by EPEC, as well as potential bis-2-ethylhexyl phthalate (BEHP) and other phthalate contamination related to Hatco operations, as well as other semi-volatile (SVOC) contamination identified on the Channel D parcel. At the request of the NJDEP, Weston will analyze samples for PCBs and TCL SVOCs, as well as a tentatively-identified compound (TIC) library search. This sampling approach was agreed to by all parties at a meeting held at NJDEP on 19 October 2010 and subsequent communications. Samples will be collected from the following locations:

- Across a grid pattern (30 foot by 30 foot) in the eastern, western and southern portions of the Channel D property, as shown in Figure 1;
- Along the previous extent of Channel D, as identified by historical aerial photos, depicted on Figure 1;
- Vertical and horizontal delineation sampling for low-level PCBs detected by EPEC in a drainage ditch upgradient of the EPEC site, as shown on Figure 2;.
- At the outlet of the Morris property pond, immediately upgradient of the EPEC property across Industrial Avenue, as shown in Figure 2; At the southernmost convergence of Channels A, B and C north of Industrial Avenue, also depicted on Figure 2. This location will be analyzed for volatile organic compounds (VOCs)

plus a library search for TICs, in addition to PCBs and SVOCs plus TICs, as requested by the NJDEP.

EPEC's investigation reports identified above refer to several chemicals as "NAPL" that are not related to the known LNAPL plume at the Hatco site. In addition to collection of samples for laboratory analyses specified above, Weston will install a series of borings across an impacted area in the northwest portion of Channel D identified by EPEC as the NAPL area, to evaluate for the physical presence of the NAPL material. These locations are depicted in Figure 3. One sample of this material will be collected for laboratory analysis, as requested by the NJDEP. No additional collection / analysis of NAPL material (other than the one specific analytical sample requested by NJDEP) will be performed, as was agreed to by all parties at the meeting held at NJDEP 19 October 2010.

The property that Channel D runs through is owned by EPEC. Channel D (also known as Crow's Mill Creek) is a low-gradient stream which collects flow from Channels A, B and C, as well as the pond located north of Industrial Avenue. The area of Crow's Mill Creek referred to as Channel D begins at the culvert on the south side of Industrial Avenue downstream of the Hatco property. Channel D cuts through a forested wetland area, and is lined with sand, silt and organic material. The current extent of the channel is less than 6 feet (ft) wide throughout most of its length, and it attenuates at a small wetland dominated by common reed (*Phragmites australis*). Historically, however, Channel D had previously been located approximately 30 – 50 feet west of its current location, as determined through a review of historical aerial photographs for the site.

Previous sampling conducted by URS on behalf of Hatco and W. R. Grace, as well as sampling conducted by two EPEC consultants (Sovereign Consulting, LLC and Brown & Caldwell) detected elevated concentrations of polychlorinated biphenyls (PCBs) in soil and sediment, as well as BEHP above the applicable residential cleanup criteria in sediment. For off-site excavation areas such as Channel D, the applicable remedial standard for PCBs is 0.49 mg/kg in soils and 1 mg/kg in sediments, as approved by the NJDEP in various report and workplan approvals. For non-PCB contaminants of concern, the off-site applicable remedial criteria for soils are the 1999 residential (unrestricted use) criteria, although the 2008 residential (unrestricted use) standard specifically for naphthalene (6 mg/kg) will be utilized due to more than an order of magnitude change from the 1999 criteria. In addition, BEHP results for samples collected from the Channel D wetland area will be compared to NJDEP's ecological screening criterion of 0.925 mg/kg, to NJDEP's lowest effects level/screening criterion of 0.182 mg/kg, and NJDEP's Severe Effect Level of 0.75 mg/kg.

Extent of Contamination Attributable to Hatco

EPEC's sampling results indicate that constituents of concern other than PCBs and phthalates are present within the Channel D property. However, as indicated in a 07 December 2009 letter to the NJDEP, Weston disagrees with EPEC's assertion that all detected non-PCB contamination is related to historical Hatco site operations. Further information from EPEC would be required in order to substantiate that claim, including

proof that these chemicals were not used historically by their own site occupants. The assertion presently does not appear to be supported by the data provided. These contaminants include:

- chlorobenzene
- 1,4-dichlorobenzene
- 1,2,4-trichlorobenzene

Results of a file review for the EPEC property indicate that multiple areas of concern (AOCs) contain chlorobenzene contamination in site soils and site groundwater, resulting from historic site operations.

Sediment and Soil Distinction

The Channel D investigation area contains both sediment and soil matrices, with each matrix determined on a sample-by-sample basis. The Weston field geoscientist will determine sample matrices using the criteria outlined below as a means for classifying samples in the field. It should be noted that there are discrepancies in matrix description at individual sample locations when sampling efforts by Brown and Caldwell are compared to 2007 Weston investigation results. It is unknown whether actual field conditions differed from 2007 to 2009, or if Brown and Caldwell utilized a standard system of matrix classification. Weston has utilized and will continue to utilize the system outlined below; these definitions were approved by the NJDEP for use during the Hatco remediation in a June 2007 email.

Sediment is defined by the State of New Jersey (N.J.A.C. 7:8-1.2) as solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion. Soil is defined in the same regulations as "all unconsolidated mineral and organic material of any origin." Because the distinction between the two may be difficult to apply in the field in some situations, Weston is basing the delineation between soil and sediment on past experience, actual field conditions encountered during delineation sampling, and past discussions with NJDEP. For the purposes of this remedial action, sediment will be classified as any material falling within the bed (but not bank) of stream channels, saturated ditches or ponds at the Hatco facility or off-site, including Channels A, B, C and D, and the off-site pond. Any samples collected from areas falling outside of delineated wetland boundaries will be considered soil.

Within areas delineated as wetlands, but located outside of the actual stream channels, the classification of soil versus sediment will depend upon the degree of saturation of the soil matrix. NJDEP distinguishes between emergent wetlands (freshwater marsh), and forested wetlands. Emergent wetlands are characterized by rooted hydrophytes present for most of the growing season. NJDEP classifies material present within emergent wetlands as sediment. At the Hatco site these areas consist of wetlands dominated by

common reed and other emergent species that have not been historically filled and still maintain saturated conditions during the growing season. Forested wetlands adjacent to the Hatco property are characterized by hydric soils; these are undrained soils that are saturated, flooded, or ponded, that develop anaerobic conditions that favor the growth of hydrophytic vegetation. The material collected within these areas will be classified as soil.

Sample Collection

This Channel D SAP has been developed to meet the remedial action objectives described in Addendum 3 to the Consolidated RAWP, specifically the removal of contaminated stream sediment and floodplain soils in Crow's Mill Creek southwest of the Hatco site to the applicable unrestricted use standard. The SAP has been developed in accordance with the *New Jersey Technical Requirements for Site Remediation* (TRSR, N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual* (August 2005) to ensure the collection of necessary data to determine the complete extent of contamination and refine excavation boundaries for off-site sediments and soils in Channel D. A Quality Assurance Program (QAPP) developed in accordance with NJDEP requirements was submitted as part of Weston's 2009 *Addendum3 to the Consolidated* RAWP, and provides specific sample collection methodology and laboratory analyses requirements. An overview of the sampling effort and Weston's overall technical approach is presented below.

Sediment samples will be collected to horizontally and vertically delineate the extent of contamination on the Channel D parcel and offsite properties, as shown in Figures 1 and 2. Sample locations will be biased toward depositional areas where applicable. Weston will analyze for PCBS and will run a full SVOC scan using method 8270.. Table 1 summarizes the proposed sampling locations and depths, analytical parameters, and sampling methods for the soil and sediment samples. The sample collection methodology is discussed below.

Investigation of NAPL Material

Weston will perform an investigation through a series of transects to define the physical vertical and horizontal extent of the hardened NAPL material, as shown on Figure 3. Borings will be advanced utilizing a hand auger at each proposed location, and the physical characteristics of the material, including depth / thickness of the NAPL material, will be noted. Samples will collected at 10-foot spacing across each transect. Spacing will be decreased to better define the horizontal extent of the material as necessary.

As requested by NJDEP, Weston will collect one additional sample of NAPL material for laboratory analysis. The sample will be analyzed for TCL SVOCs + 15 and PCBs.

Investigation of Morris Pond and Drainage Ditch

Weston will collect a total of four samples from the southwestern outlet to the Morris Pond, as shown in Figure 2. Samples will be collected from sediment at 0-0.5 feet and 2-2.5 feet under the water column. Should no water be present due to seasonal lows,

samples will be collected from the same depths hand auger or ponar dredge, depending upon site conditions at the time of sample collection.

Weston will also collect six additional samples to horizontally delineate contamination detected in the EPEC drainage ditch south of the Morris Pond outfall, as well as one vertical delineation sample at EPEC sample location HD-2. Samples will be collected from 0-0.5 and 1-1.5 feet bgs for horizontal delineation; vertical delineation of HD-2 will be performed at 1-1.5 feet bgs. Sample locations are depicted on Figure 2.

Should contamination be detected in these samples, additional horizontal and/or delineation samples will be collected. These will be collected upon the direction of the Project Manager after initial data review is performed.

Investigation of Channel Convergence Area

At the request of NJDEP, Weston will collect two soil and/or sediment samples from the area where Channels A, B and C converge, to evaluate for the presence of NAPL material or other potential discharge contaminants. The samples will be biased toward a depositional area just north of Industrial Avenue, within the most contaminated area as determined by historical sample data. The samples will be analyzed for TCL VOC + 15, TCL SVOC + 15, and PCBs. Sample locations are depicted on Figure 2.

Should contamination be detected in these samples, an evaluation of nearby sample locations will be performed to determine if additional horizontal and/or delineation samples are required. These will be collected upon the direction of the Project Manager after initial data review is performed.

Investigation of Former Channel D Extent

In the area of the former Channel D extent (west of the current location), samples will be collected from 0 – 0.5 feet below ground surface (bgs), 2 – 2.5 feet bgs, and 3.5 – 4 feet bgs, to a distance of approximately 400 feet south of the Conrail right of way. All soil and sediment samples will be analyzed for PCBs and SVOC +15 compounds. Sample locations are shown on Figure 4.

Should contamination be detected in these samples, an evaluation of nearby sample locations will be performed to determine if additional horizontal and/or delineation samples are required. These will be collected upon the direction of the Project Manager after initial data review is performed.

At the terminus of the former channel extent is a large area of ponded water and Phragmites. Brown and Caldwell, EPEC's consultant, identified four locations with PCB contamination above 1.0 mg/kg in the sediment beneath the water column. These samples were designed by EPEC as PA, PB, PC and PD. Weston proposes to collect sediment samples from additional locations to horizontally delineate these ponded area

exceedances, in addition to vertical delineation samples at each of the four "P" sample locations. These samples are included as part of the grid sampling approach discussed below.

Investigation of Current Channel D Floodplain- Grid Sampling

Weston is proposing grid sample locations throughout various portions of the Channel D floodplain. No historical data are available for these areas; sampling locations are proposed in a grid format in these areas to evaluate for the potential presence of any PCB contamination which Weston may be obligated to remediate. A series of borings will be installed in a grid pattern (approximately 30' by 30') across the eastern, southern and western portions of the Channel D property in areas where there is no historic sample data or EPEC sample data indicates a low-level PCB exceedance (Figure 1).

Samples will be collected and analyzed to determine if contamination is present beyond the extent of known PCBs, phthalates and chlorobenzene contamination already identified by Weston and EPEC. The grid extends from the eastern property line to the western property line, and south parallel to EPEC sample CD-EB7. However, Weston's proposed grid extent does not include the Gredel fill area on the southeastern portion of the Channel D parcel.

Samples will be collected from a minimum of three intervals at each location: 0 – 0.5 feet below ground surface (bgs), 2 – 2.5 feet bgs, and 3.5 – 4 feet bgs. If contamination is suspected through field determination (PID or visual means) from 3.5 – 4 feet bgs, the boring will be advanced deeper and an additional sample will be collected from the six-inch interval below the suspected contamination. These soil and sediment samples will be run on an accelerated turn-around-time. Should contamination be detected above applicable cleanup standards at these grid locations, a series of samples will be collected using a tighter grid (such as 15' by 15') in these locations. This grid approach will allow for a more thorough evaluation of actual site contaminant distribution for areas where there are currently data gaps.

If no contamination above applicable standards is detected through the grid sampling in the east, west or south of the current Channel D extent, the sampling approach outlined in the following sections will be utilized to complete horizontal and vertical delineation of known contamination on the Channel D parcel.

Investigation of Current Channel D Extent and Floodplain- Step-Out Sampling

A series of two step-out boring locations will be advanced along the perimeter of known contamination to better define the extent of the main excavation area. These step-out locations will be approximately 5 and 10 feet from where PCB contamination was detected by EPEC along the length of Channel D and the associated floodplain. Samples from the 10-foot step-out location will be placed on hold at the laboratory and run only if samples from the 5-foot step-out locations are determined to contain contamination above applicable standards.

Soil and sediment samples will be collected as designated in Table 1, with sample intervals dependent upon nearby exceedences, to ensure adequate horizontal and vertical delineation of known exceedences. In two locations identified through EPEC's 2009 sampling program, additional vertical delineation is required. These locations include CD-B45-20E (a 2007 Weston sample location) and location B-22 (identified as CD_BC22 on Figure 1).

Investigation of Eastern Property Border Locations

A total of four samples were collected by EPEC along the northeastern border of the Channel D property, along the property line shared by EPEC and the former Cardell Manufacturing facility. An additional row of four boring locations was installed by EPEC approximately halfway between the northeast property border and the current Channel D extent. Low-level PCB contamination was detected at all eight of these boring locations. Weston proposes to install a series of borings to horizontally delineate each exceedance to the north, east, south and west. Initial samples will be collected five feet in each direction from the original sample point. Contingent 10-foot step-out samples will also be collected and placed on hold pending results of the 5-foot step-out samples. These proposed sample locations are depicted in Figure 4.

Investigation of Weston Property Border Locations

Seven of eleven soil boring locations advanced by EPEC along the western border of the Channel D property were determined to contain low-level PCB contamination above applicable standards. Similar to the approach outlined above, Weston proposes to install a series of borings to horizontally delineate each exceedence to the north, east, south and west. Initial samples will be collected five feet in each direction from the original sample point. Contingent 10-foot step-out samples will also be collected and placed on hold pending results of the 5-foot step-out samples. Proposed sample locations are shown on Figure 4.

Sampling Procedures

The soil and sediment sampling procedures will follow the guidelines documented in the *NJDEP Field Sampling Procedures Manual* (August 2005) as described below, and are detailed in Weston's 2009 QAPP. Lithologic description, field measurements (such as presence of LNAPL) and comments will be recorded using electronic Borehole Logging Forms such as Weston's GeoFAST program.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, standard chain-of-custody forms will be completed for all samples. Each form will be completed in the field and signed and dated by a member of the field team who will verify the exact sample shipment. This form will accompany the samples to the laboratory. Signed and dated custody seals will then be applied to the shipping container. Sample collection methodologies are described in more detail in the following sections.

Any sampling equipment (e.g., hand auger, etc.) coming in contact with the soil or sediment will be decontaminated before and after each sample location. Decontamination procedures will follow technical requirements as set forth in the NJDEP *Field Sampling Procedures Manual* (August, 2005). Equipment will be washed in the following sequence: 1) a steam/high-pressure water wash; 2) a potable water and soap wash; and, 3) a distilled and deionized (ASTM Type II) water rinse. In the ponded area with known PCB contamination above the USEPA *Toxic Substances Control Act* (TSCA) limit of 50 kilograms per kilogram, a TSCA-compliant decontamination procedure with be performed.

Samples will be placed in a cooler and chilled with ice, and will be picked up by the laboratory.

Soil Sample Collection

Delineation soil samples will be collected to determine the horizontal and vertical extent of contamination as depicted on Figures 1, 2 and 4. Delineation samples will be collected from discrete 6-inch intervals from designated depths, as outlined in Table 1.

The soil samples will be field-screened with a properly calibrated photoionization detector (PID), organic vapor meter (OVM) or other suitable instrument. Delineation sample locations will be biased based on professional judgment to ensure that all necessary data is collected to ensure that historical contamination is adequately delineated, both horizontally and vertically.

Surficial soil samples may be collected through use of a trowel or hand auger, depending upon site specific conditions. The analytical samples will be collected utilizing NJDEP protocols. Dedicated disposable scoops and bowls will be utilized for sample collection. Soil samples will be collected at discreet six inch intervals from designated depths at each location. Surficial organic matter (grass, twigs) will be scraped away prior to sample collection. Samples are to be collected directly with dedicated, disposable scoops, homogenized as necessary in dedicated, disposable beakers, and placed directly into sample containers.

For transect delineation boring locations, the above procedure will be followed for sample collection to physically ascertain the extent of NAPL material, but no analytical samples will be collected other than as specified in previous sections.

Sediment Sample Collection

Delineation sediment samples will be collected to determine the horizontal and vertical extent of contamination as depicted on Figure 1. Contamination will be delineated using a grid or 5-foot step-out sampling pattern at each location, as described in the previous

section. Delineation samples will be collected from discrete 6-inch intervals from designated depths that correspond with previously-identified sample exceedances at each location.

Sediment samples may be collected using a variety of methods and equipment, depending on the depth of the aqueous layer, the portion of the sediment profile required (surface versus subsurface), the type of sample required (disturbed versus undisturbed), contaminants present, and sediment type. Sediment samples will be collected from beneath an aqueous layer either directly, using a hand-held device such as a shovel, trowel, or auger; or indirectly, using a remotely activated device such as an Ekman or Ponar dredge. Following collection, sediment will be transferred from the sampling device to a sample container of appropriate size for the analyses requested. Hand-held devices such as a hand auger or trowel will be the preferred method of collection when conditions allow.

Quality Assurance and Quality Control

Quality assurance/quality control (QA/QC) samples will be collected in accordance with Weston's Quality Assurance Project Plan (QAPP), included as part of Addendum 3. Blind field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a rate of 1 per 20 samples per analytical parameter. Field blanks will be collected once per day per matrix and analyzed for the same parameters as the field samples.

A record of all field procedures, tests, and observations will be recorded in a field logbook and in Weston's electronic field log program, FieldFAST. Entries in the log book and FieldFAST will include the individuals participating in the field effort, date and time, and the initials of the individual responsible for recording the observations.

Field Sample Identification

During sample collection, a variety of data will be collected and managed electronically to eliminate the potential for transcription errors. Field data is defined as all information generated during the field effort, such as field notes, COC information, geotechnical information (i.e., soil descriptions, well construction information, etc.), and survey data.

Each sample will be assigned a unique field sample identification code and labeled accordingly. This field sample identification code provides the tracing of the sample from the location in the field, through laboratory analysis, and finally to data evaluation and presentation, and contains information traceable to the type, location where the sample was collected, and other information appropriate to that sample. This code will be used for references to this particular sample in field and project documentation and reports. It is essential that the integrity of the field sample identification (ID) code not be compromised.

Delineation and post-excavation soil samples will be identified slightly differently, depending on the type of sample and the location from which the samples will be collected.

General Sampling Scheme:

The sample identification code consists of three fields, separated by underscores, in the following format:

AC_YY_Z_R

AC = Sample area of concern or grid designation
YY = Sample Boring Location / Sequence (1, 2, 3....)
Z = Depth Interval (see discussion below)

R = Sample type identifier
(1=sample, 2= duplicate, 3 = field blank)

Delineation Samples:

For delineation samples, the code "AC" above will be replaced by a sample area of concern (e.g., A, B, C or similar designation) and the symbol "_B_" to designate that the sample is a boring location.

Sample Depth:

The location within the vertical sample column will be identified through the use of a systematic sample naming convention. Following the sample location designator, as described in more detail in the following subsections, the depth will be identified through use of the code "_##-##" where the "##" is substituted by an alphabetic depth designator, as follows:

AA	0 Feet
AB	0.5 Feet
AC	1 Feet
AD	1.5 Feet
AE	2 Feet
AF	2.5 Feet
AG	3 Feet
AH	3.5 Feet
AI	4 Feet
AJ	4.5 Feet
AK	5 Feet

For all sample types, duplicate sample pairs will have the designators "_1" for the environmental sample and "_2" for the duplicate sample added to the end of the sample ID, and field blanks will be designated with "_3" appended to the sample ID.

The field duplicate sample will be disguised to the laboratory for analysis but its location from which it was taken will be documented in the electronic field log for future reference.

Investigation-Derived Waste Management

All investigation-derived waste generated during off-site sampling activities will be containerized and temporarily staged at the Hatco Site. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, and decontamination fluids. All investigation-derived waste generated during on-site sampling activities will be handled in accordance with applicable Federal and State requirements. Waste will be segregated according to waste stream, e.g., sampling equipment, personal protective equipment, soil cuttings, and decontamination fluids, then containerized in 55-gallon drums or other DOT-approved containers.

Composite soil and sediment samples will be collected for waste characterization in accordance with the frequency instituted by the disposal facility and will be compared to EPA regulatory limits established under the Resource Conservation and Recovery Act (RCRA). The results will also be compared to levels established by TSCA. At a minimum, waste classification samples will be analyzed for Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs), TCLP SVOCs, TCLP pesticides/herbicides, TCLP metals, PCBs, and RCRA characteristics. For TCLP VOA analysis, discrete samples will be collected using an EnCore sampling device.

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CP_outlet_01	Morris Pond outlet	sediment	0-0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
CP_outlet_02	Morris Pond outlet	sediment	0-0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
CP_outlet_03	Morris Pond outlet	sediment	0-0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
CP_outlet_04	Morris Pond outlet	sediment	0-0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
EPEC_B01	Drainage ditch	sediment	0 - 0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
EPEC_B02	Drainage ditch	sediment	0 - 0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
EPEC_B03	Drainage ditch	sediment	0 - 0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
EPEC_B04	Drainage ditch	sediment	0 - 0.5		PCBS, SVOC + 15
			1 - 1.5	HOLD	PCBS, SVOC + 15
HD-2	Drainage ditch	sediment	1 - 1.5		PCBS, SVOC + 15
CABC_01	North of Industrial Avenue at Channel convergence area	soil / sediment	0.5 - 1.0 or 6-inch interval with visible impacts (if encountered)		PCBS, VOC + 15, SVOC + 15
CABC_02	North of Industrial Avenue at Channel convergence area	soil / sediment	0.5 - 1.0 or 6-inch interval with visible impacts (if encountered)		PCBS, VOC + 15, SVOC + 15
CD-NAPL_01	Within NAPL area	hard tarry material	0-0.5		PCBS, SVOC + 15
CDG_1 - CDG_270	Grid sample locations	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3.5-4	HOLD	PCBS, SVOC + 15
CD_B45_20E	Step-out sample location	soil	4.5-5		PCBS, SVOC + 15
			5-5.5	HOLD	PCBS, SVOC + 15
			5.5-6	HOLD	PCBS, SVOC + 15
CD_BC22	Step-out sample location	soil	3.5-4		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
			4.5-5	HOLD	PCBS, SVOC + 15
CD_196	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_197	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_198	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_199	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_200	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_201	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_202	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_203	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_204	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_205	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_206	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_207	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_208	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_209	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_210	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_211	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_212	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_213	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_214	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_215	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_216	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_217	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_218	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_219	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_220	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_221	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_222	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_223	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_224	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
			5-5.5	HOLD	PCBS, SVOC + 15
CD_225	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5		PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
			5-5.5	HOLD	PCBS, SVOC + 15
CD_226	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_227	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_228	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_229	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_230	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_231	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_232	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_233	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_234	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_235	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_236	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_237	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_238	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_239	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_240	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_241	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_242	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_243	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_244	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_245	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_246	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_247	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_248	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_249	Former Channel D extent	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_250	Ponded area	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3.5-4		PCBS, SVOC + 15
CD_251	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_252	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_253	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_254	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_255	Ponded area	sediment	1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_256	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15

Table 1
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Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_257	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_258	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_259	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_260	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_261	Ponded area	sediment	1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_262	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_263	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_264	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_265	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_266	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_267	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_268	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_269	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_270	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_271	Ponded area	sediment	1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_272	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_273	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_274	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_275	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_276	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_277	Ponded area	sediment	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_278	Ponded area	sediment	1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15

Table 1
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Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_279	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_280	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_281	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_282	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_283	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_284	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_285	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_286	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_287	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_288	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_289	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_290	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_291	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_292	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_293	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_294	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_295	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_296	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_297	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15

Table 1
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Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_298	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_299	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_300	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_301	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_302	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_303	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_304	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
			5-5.5	HOLD	PCBS, SVOC + 15
CD_305	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
			5-5.5	HOLD	PCBS, SVOC + 15
CD_306	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_307	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
			4-4.5	HOLD	PCBS, SVOC + 15
CD_308	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_309	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_310	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_311	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_312	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_313	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_314	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_315	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_316	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_317	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_318	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_1Z_5N	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
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Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_1Z_5E	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_5S	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_5W	Step-out sample location	soil	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_10N	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_10E	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_10S	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_1Z_10W	Step-out sample location	soil	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_6X_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_6X_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10W_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_10W_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_10W_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_10W_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_10W_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_10W_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_10W_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_10W_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-EB4-5N	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_EB4_5E	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB4_5S	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB4_5W	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-EB4-5N	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15

Table 1
Sample Summary for
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Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD-EB4-10N	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
CD_EB4_10E	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB4_10S	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB4_10W	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-EB6-5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-EB6-10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_EB6_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-EB7-5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB7_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD-EB8-5N	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_5E	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_5S	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_5W	Step-out sample location	only sample if soil matrix	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_10N	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_10E	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_10S	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_EB8_10W	Step-out sample location	only sample if soil matrix	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD-1I-5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_1I_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1I_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD-1J-5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5		PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_1J_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
CD_4J_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4J_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_4K_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15

Table 1
Sample Summary for
Hatco
Channel D
Fords, New Jersey

Boring ID	Location	Environmental Media	Depth (ft below ground surface)	Lab Instruction	Analytical Parameters
CD_7E_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7E_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7FW	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_7F_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			1-1.5	HOLD	PCBS, SVOC + 15
CD_10E_5N	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_5E	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_5S	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_5W	Step-out sample location	TBD	0-0.5		PCBS, SVOC + 15
			2-2.5		PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_10N	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_10E	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_10S	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15
CD_10E_10W	Step-out sample location	TBD	0-0.5	HOLD	PCBS, SVOC + 15
			2-2.5	HOLD	PCBS, SVOC + 15
			3-3.5	HOLD	PCBS, SVOC + 15

NOTES:
See Figure 1 for sampling locations.
Blind field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a rate of 1 per 20 samples per analytical parameter.
PCB - EPA Method 8082 defined by SW-846
BEHP - EPA Method 8270 definded by SW-846
TBD - Matrix to be evaluated and determined on a location-specific basis in the field
HOLD - Sample will be held at the lab and run for analysis pending adjacent sample results

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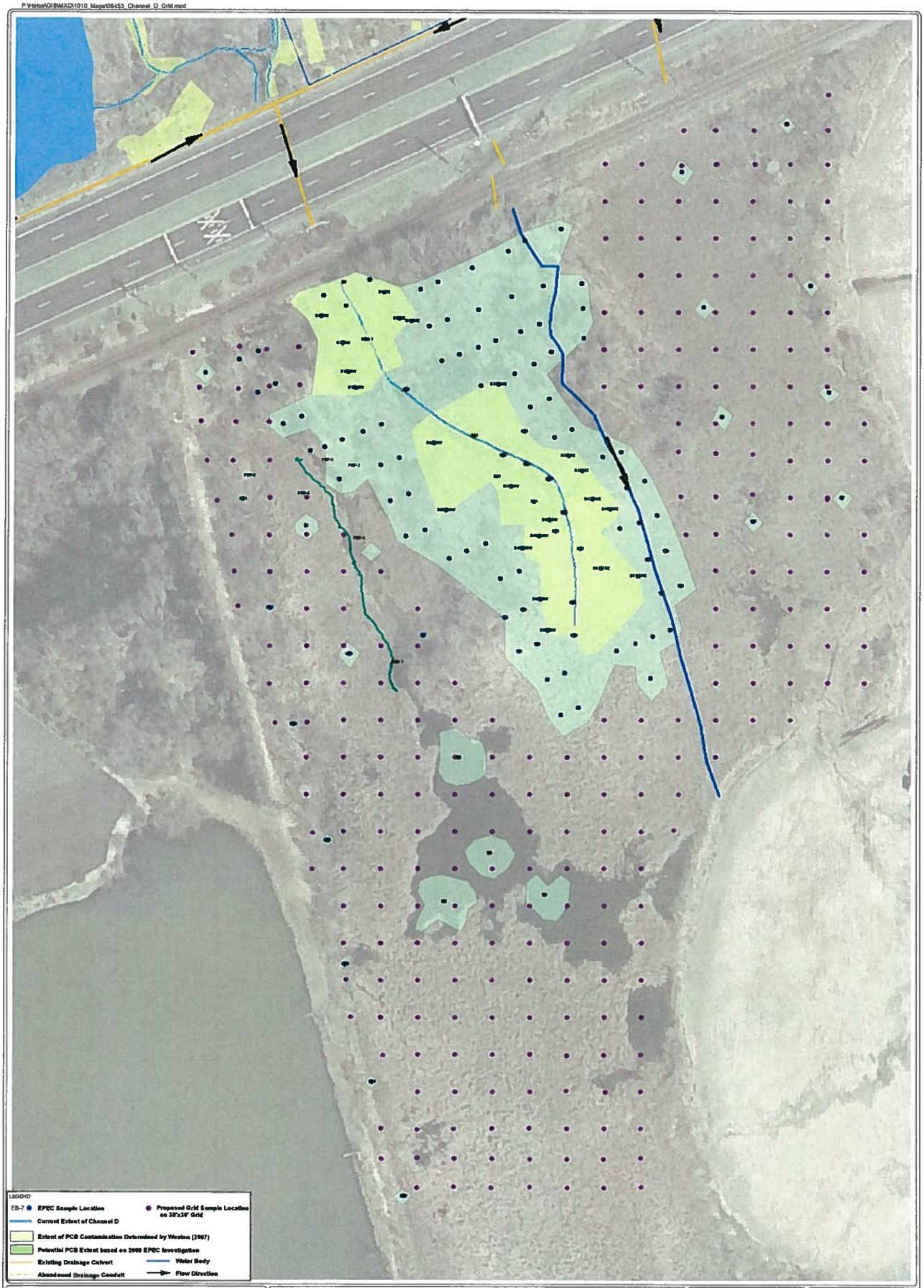


SCALE

35 17.5 0 35 70

Graphic Scale in Feet

NOTE

1. Drainage-related feature locations are based on Brown and Caldwell, "Impacts from Hatco Drainage on the EPEC Site" report figure 1-1 August 2010

PROJECT

Hatco Remediation - Channel D

CLIENT NAME

Hatco

TITLE

PROPOSED SOIL AND SEDIMENT SAMPLING LOCATIONS
GRID AND FORMER CHANNEL D- HATCO

WESTON

DRAWING NUMBER

08834

FIGURE #

1

DRAWN BY

S. Poultney

REVIEWED BY

Alanna Garrison

PROJECT MANAGER

Dan Kopcow

SCALE

1" = 35'

DATE

January 2011

N

P:\Hatco\GIS\MXD\1010_Maps\08835_Channel_D_add_samples_010811.mxd

SCALE 100 50 0 100
Graphic Scale In Feet

NOTE
1. Drainage-related feature locations are based on Brown and Caldwell, "Impacts from Hatco Drainage on the EPEC Site" report figure 1-1, August 2010

PROJECT: Hatco Remediation - Channel D

CLIENT NAME: Hatco

TITLE: PROPOSED SOIL AND SEDIMENT SAMPLING LOCATIONS UPGRADIENT OF EPEC SITE

WESTON

DRAWING NUMBER: 08835

FIGURE #: 2

DRAWN BY: S. Poultney

REVIEWED BY: Alanna Garrison

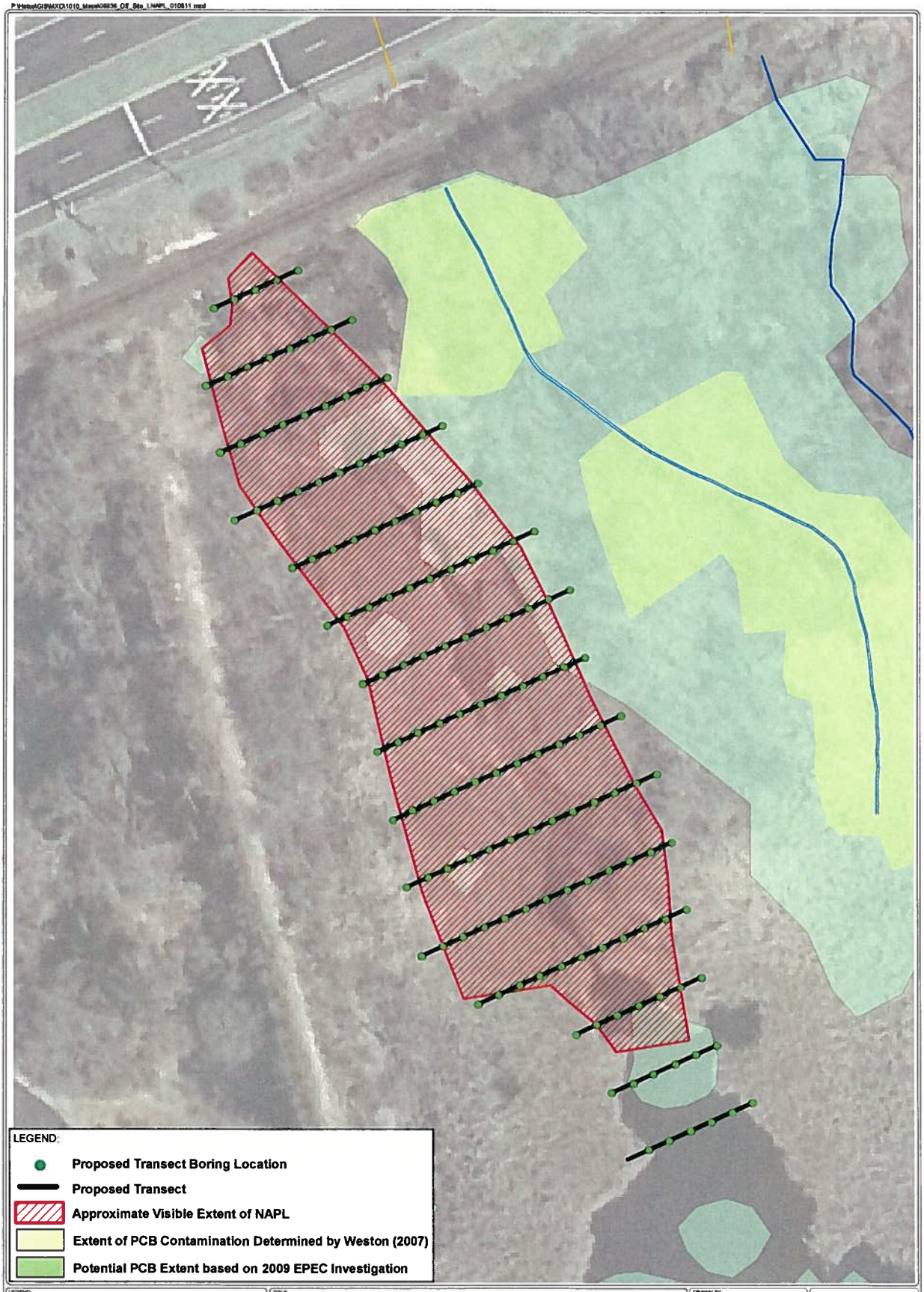
PROJECT MANAGER: Dan Kopcow

SCALE: 1" = 110'

DATE: January 2011

N

P:\Hatco\GIS\MXD\1010_Maps\08836_OS_Site_LNAPL_010811.mxd



LEGEND: 40 20 0 40
Graphic Scale In Feet

SOURCE
1. NAPL feature locations are based on Brown and Caldwell, "Impacts from Hatco Drainage on the EPEC Site" report figure 1-1. August 2010

PROJECT: Hatco Remediation - Channel D

CLIENT NAME: Hatco

TITLE: PROPOSED PHYSICAL DELINEATION TRANSECTS
CHANNEL D - HATCO

WESTON

DRAWING NUMBER: 08836

FIGURE #: 3

DRAWN BY: J. Lynes

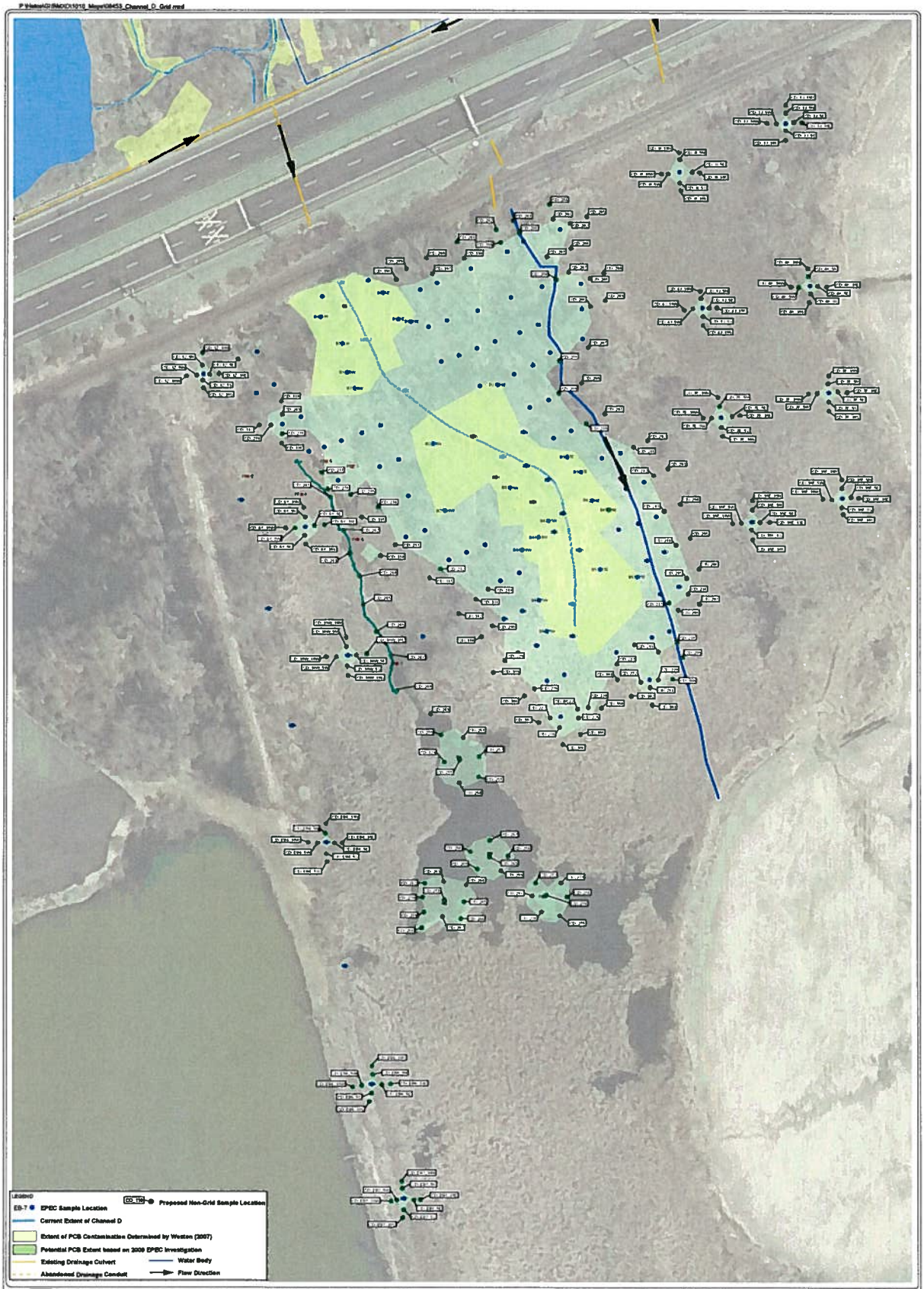
REVIEWED BY: Alanna Garrison

PROJECT MANAGER: Dan Kopcow

SCALE: 1" = 40'

DATE: January 2011

N W E S



SCALE

35 17.5 0 35 70

Graphic Scale in Feet

NOTE

1. Drainage-related feature locations are based on Brown and Caldwell, "Impacts from Hatco Drainage on the EPEC Site" report figure 1.1 August 2010

PROJECT: Hatco Remediation - Channel D

CLIENT NAME: Hatco

TITLE

PROPOSED SOIL AND SEDIMENT SAMPLING LOCATIONS
DELINEATION SAMPLES
CHANNEL D - HATCO

WESTON

DRAWING NUMBER: 06849

FIGURE #: 4

DRAWN BY: S. Poultney

REVIEWED BY: Alanna Garrison

PROJECT MANAGER: Dan Kopcow

SCALE: 1" = 35'

DATE: January 2011

N