HEARING DATE AND TIME: March 29, 2011 at 9:45 a.m. (Eastern Time)
RESPONSE DEADLINE: March 22, 2011 at 4:00 p.m. (Eastern Time)

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UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re	:	**Chapter 11 Case No.**
	:	
MOTORS LIQUIDATION COMPANY, *et al.*,	:	**09-50026 (REG)**
f/k/a General Motors Corp., *et al.*,	:	
	:	
Debtors.	:	**(Jointly Administered)**
	:	

RESPONSE OF WASTE-STREAM, INC.
TO DEBTORS' 209TH OMNIBUS OBJECTION TO CLAIMS
(as to Claim Number 66754)

Waste-Stream, Inc. ("Waste-Stream"), by and through its undersigned attorneys, hereby submits its response (the "Response") to the Debtors' 209th Omnibus Objection to Claims [Docket No. 8946] (the "Omnibus Objection") with respect to Claim Number 66754. As grounds for this Response, Waste-Stream states as follows:[1]

BACKGROUND

1. On November 30, 2009, Waste-Stream filed a claim against Motors Liquidation Company (the "Debtor" and, together with its affiliated debtors in the above-captioned Chapter 11

[1] Capitalized terms used and not otherwise defined herein shall have the meanings ascribed to such terms in the Omnibus Objection. To avoid repetition, Waste-Stream has focused this Response on the aspects of the Omnibus Objection most relevant to its claim. Other claimants have also filed responses to the Omnibus Objection (and to the Debtors' similar 208th Omnibus Objection) on other grounds that are also applicable to the Waste-Stream Claim, and Waste-Stream hereby adopts those grounds and incorporates them herein by reference.

Case, the "Debtors") for up to $30,920,000 in damages to property owned by Waste-Stream in Potsdam, New York, and contaminated by the Debtor (the "Potsdam Property"), which claim was assigned number 66754 (the "Waste-Stream Claim").[2]

2. In the over two years following the filing of the Waste-Stream Claim, the Debtor has never contested the underlying basis for the Waste-Stream Claim—that the Debtor's hazardous substances contaminated the Potsdam Property. Nor has the Debtor engaged with Waste-Stream in any substantive discussion regarding the basis, scope, or details of the Waste-Stream Claim.

3. However, through the Omnibus Objection, filed on January 28, 2011, the Debtors have made the unsupported, blanket statement that the Waste-Stream Claim should be disallowed in full solely on the basis of Section 502(e)(1)(B) of the Bankruptcy Code. While the Debtors purport to reserve rights to object to the Waste-Stream Claim on grounds of "duplication" or other grounds apart from Section 502(e)(1)(B), the Debtors make no arguments in respect of any other grounds, and Waste-Stream reserves all of its rights in respect of any such further objection or any such other grounds. With respect to the Debtors' Section 502(e)(1)(B) argument, the Omnibus Objection contains no specific factual support whatsoever and provides no description or consideration of the basis, scope, or details of the Waste-Stream Claim in particular.

GROUNDS FOR RESPONSE

A. The Waste-Stream Claim, on its Face, Cannot Be Wholly Subject to Section 502(e)(1)(B).

4. First, the Omnibus Objection should be overruled in respect of the Waste-Stream Claim because the Omnibus Objection fails to state any facts that would permit the Court to determine that the Waste-Stream Claim in particular is wholly within the parameters of Section 502(e)(1)(B) of the Bankruptcy Code. To the contrary, both the text and the amount stated on the face of the Waste-Stream Claim demonstrate, *prima facie*, that even if a portion of the Waste-Stream Claim were deemed

[2] A copy of the Waste-Stream Claim is attached hereto as Exhibit A.

to meet the criteria of Section 502(e)(1)(B), other portions of the Waste-Stream Claim are necessarily outside the scope of Section 502(e)(1)(B).[3]

5. As a textual matter, the Waste-Stream Claim expressly states that it includes a claim for "all direct, indirect, nominal, and consequential damages, interests, costs, attorneys' fees and other amounts owed or owing to it, whether liquidated, unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, legal, equitable, secured, or unsecured" related to the Debtor's contamination of the Potsdam Property. *Waste-Stream Claim* at p. 2, ¶ 5. The Debtors' assertion that the Waste-Stream Claim should be disallowed on the basis that it is a claim for "reimbursement or contribution" of an entity "that is liable with the debtor" to a third party is plainly inconsistent with these explicit words of the Waste-Stream Claim itself.[4] While the Waste-Stream Claim includes certain grounds that might, under some circumstances, meet the criteria of Section 502(e)(1)(B), the Waste-Stream Claim clearly states that its scope is broader than the criteria set forth in Section 502(e)(1)(B). Specifically, Waste-Stream asserts that the Debtor is "directly" liable to it for damages related to the Debtor's contamination of the Potsdam Property owned by Waste-Stream. It is beyond doubt that such a direct claim is outside the "reimbursement or contribution" and "co-liability" requirements of Section 502(e)(1)(B).

6. In addition, the amount of the Waste-Stream Claim—up to $30,920,000—far exceeds the amount for which Waste-Stream and the Debtor might be "co-liable" to a third party. The third party to whom Waste-Stream and the Debtor might be co-liable for damages to the Potsdam Property is the New York State Department of Environmental Conservation ("NYSDEC"). While NYSDEC would likely assert that each of Waste-Stream and the Debtor (and other responsible parties) are jointly and severally liable (and therefore co-liable) to NYSDEC for all of its claims for remediation of the

[3] Pursuant to Fed. R. Bankr. P. 3001(f), the Waste-Stream Claim constitutes *prima facie* evidence of the validity and amount of the claim, and the Debtors' Omnibus Objection does not satisfy the Debtors' burden to refute such evidence.
[4] The Debtors and Waste-Stream agree that Section 502(e)(1)(B) contains three basic requirements that are relevant here, all of which must be satisfied to permit disallowance: (1) that the claim is for "reimbursement or contribution," (2) that the claimant is "liable with the debtor" to a third party in respect of the claim, and (3) that the claim is "contingent."

Potsdam Property, the amount of that co-liability remains uncertain. Two potentially relevant figures are available: (a) the $4,279,489.53 face amount of the claim filed by NYSDEC against the Debtor related to the Potsdam Property (the "NYSDEC Claim")[5] and (b) the $12,130,000 estimated clean-up costs for the Potsdam Property as stated by the NYSDEC on page 9 of its February 2011 Proposed Remedial Action Plan for the site, a copy of which is attached hereto as Exhibit B (the "Proposed Remedial Action Plan"). If the Debtor is only liable to NYSDEC for $4 million, $12.1 million, or any like amount, then it is logically impossible that the Debtor and Waste-Stream could be "co-liable" to NYSDEC for the entire $31 million amount of the Waste-Stream Claim. As a result, on the record before the Court and on the basis of available facts, it is impossible to determine that the entire Waste-Stream Claim is subject to disallowance under Section 502(e)(1)(B).

7. It is troubling that the Debtors have asked the Court to disallow the Waste-Stream Claim in full on the sole basis that the prior Bench Decisions issued by the Court on Section 502(e)(1)(B) are allegedly "directly on point and controlling ***in most respects***;" because claims at issue in the Omnibus Objection "***generally are the same type*** of private party claims disallowed by this Court in the Bench Decisions;" and because a "***similar conclusion*** with respect to disallowing the Contribution Claims" is required in this case. *Omnibus Objection* at ¶ 1 (emphasis added). At a minimum, the Debtors should be required to make a showing that the Bench Decisions ***are wholly controlling*** as to the Waste-Stream Claim ***in all respects***, that the Waste-Stream Claim is ***exactly the same type*** of claim as at issue in the Bench Decisions in all material respects, and that a ***conclusion identical to that in the Bench Decisions*** applies to, and should be ordered in respect of, the entire Waste-Stream Claim. The Debtors have not even approached such a showing in respect of the Waste-Stream Claim.

[5] This claim, assigned number 50831, is expressly referenced in the Omnibus Objection as allegedly "surviving" any disallowance of the Waste-Stream Claim. A copy of the initial page of this claim is attached hereto as Exhibit C.

8. Argument by vague and defective analogy cannot support disallowance of a $31 million claim, and, in fact, there are specific facts in this case—such as Waste-Stream's status as owner of the Potsdam Property—that make any such analogy inappropriate. In addition to the foregoing, Waste-Stream also contends that its status as owner of a property for which a Proposed Remedial Action Plan has been issued, and for which a remediation cost of over $12.1 million has been determined, invalidates any argument that up to $12.1 million of the Waste-Stream Claim is "contingent" for Section 502(e)(1)(B) purposes. Waste-Stream's ownership of the Potsdam Property makes its connection to the damages caused by the Debtor anything but "contingent."

B. Application of the Section 502(e)(1)(B) Criteria to the Waste-Stream Claim Is Premature.

9. While it is clear that not all of the Waste-Stream Claim could be subject to disallowance under Section 502(e)(1)(B), it is not immediately apparent how the Court could presently determine what portion of the Waste-Stream Claim might be subject to Section 502(e)(1)(B), and what portion is not. This is true primarily because in order to determine "co-liability" of the Debtor and Waste-Stream under Section 502(e)(1)(B), the Court must first determine the extent of the "liability" to the NYSDEC for which there could be "co-liability." If, for example, the NYSDEC Claim were allowed in full for its face amount of $4,279,489.53, and if the Court were to then determine that the Waste-Stream Claim should be disallowed to the extent of such $4,279,489.53 on Section 502(e)(1)(B) grounds, the Court could only then determine whether the amount of Waste-Stream's other and additional claims, up to $26,640,510.47, should be allowed or disallowed.

10. Moreover, an order disallowing the Waste-Steam Claim in full now would unduly prejudice Waste-Stream and could result in a potential windfall to the Debtors. Suppose, *arguendo*, that the Waste-Stream Claim were disallowed now solely on the basis that it is alleged to be, in whole, a contribution claim for contingent amounts for which the Debtor and Waste-Stream might be co-liable to the NYSDEC. The Debtors could then object to the NYSDEC Claim and, if that objection were

successful—in other words, if the NYSDEC Claim were also disallowed in full—then the Debtor would skirt liability to both Waste-Stream and NYSDEC for environmental damage to the Potsdam Property. That result would pervert the purpose of Section 502(e)(1)(B), which is to protect a debtor from double-liability for the same amount—not to give the debtor a "free pass" from liability on that amount altogether.

11. Therefore, if the Debtors desire to object to claims for liability in respect of the Potsdam Property, all such claims must be resolved together, at the same time, in the same proceeding.

C. The Court Should Expressly Reserve Rights of Waste-Stream Against Third Parties.

12. As described above, Waste-Stream believes that disallowance of the Waste-Stream Claim on Section 502(e)(1)(B) grounds is improper and that a decision on the Omnibus Objection is premature. However, whether the Court allows or disallows all or any part of the Waste-Stream Claim at this time, the Court should simultaneously and expressly reserve all of Waste-Stream's rights against all private and public parties other than the Debtors. Any determination of the Waste-Stream Claim against the Debtor has no effect upon the rights, claims, and defenses of Waste-Stream against other parties responsible for contamination of the Potsdam Property and governmental entities, such as NYSDEC, with oversight of the Potsdam Property. Therefore, any determination of the Waste-Stream Claim should be without prejudice to all rights, claims, and defenses of Waste-Stream, including, without limitation, its right to assert that any failure of a private or public party to collect any amount from the Debtors in respect of the Potsdam Property will in no way increase any liability that Waste-Stream would otherwise have in respect of the Potsdam Property. For the avoidance of doubt, Waste-Stream believes any order on the Waste-Stream Claim should contain language to this effect.

WHEREFORE, Waste-Stream hereby requests that the Court overrule the Omnibus Objection in respect of the Waste-Stream Claim, expressly reserve all rights, claims, and defenses of Waste-

Stream against all private and public parties other than the Debtors, and order such other and further relief as the Court deems just and equitable.

Dated: March 22, 2011

WASTE-STREAM, INC.,
By its attorneys,

/s/ George W. Shuster, Jr.

George W. Shuster, Jr.
WILMER CUTLER PICKERING
HALE AND DORR LLP
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EXHIBIT A

UNITED STATES BANKRUPTCY COURT FOR THE SOUTHERN DISTRICT OF NEW YORK

PROOF OF CLAIM

Name of Debtor (Check Only One):	Case No.
☑ Motors Liquidation Company (f/k/a General Motors Corporation)	09-50026 (REG)
☐ MLCS, LLC (f/k/a Saturn, LLC)	09-50027 (REG)
☐ MLCS Distribution Corporation (f/k/a Saturn Distribution Corporation)	09-50028 (REG)
☐ MLC of Harlem, Inc. (f/k/a Chevrolet-Saturn of Harlem, Inc.)	09-13558 (REG)

NOTE: *This form should not be used to make a claim for an administrative expense arising after the commencement of the case, but may be used for purposes of asserting a claim under 11 U.S.C. § 503(b)(9) (see Item # 5). All other requests for payment of an administrative expense should be filed pursuant to 11 U.S.C. § 503.*

Name of Creditor (the person or other entity to whom the debtor owes money or property): **Waste-Stream, Inc.**

Name and address where notices should be sent:

Waste-Stream, Inc.
c/o Casella Waste Systems, Inc.
25 Greens Hill Lane
Rutland, VT 05701
Attn: General Counsel (re: Potsdam Site)

Telephone number: (802) 772-2200
Email Address: david.carpenter@casella.com

☐ Check this box to indicate that this claim amends a previously filed claim.

Court Claim Number: _____
(*If known*)

Filed on: _____

Name and address where payment should be sent (if different from above):

Telephone number:

☐ Check this box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars.

☐ Check this box if you are the debtor or trustee in this case.

Your Claim is Scheduled As Follows:

FILED
U.S. BANKRUPTCY COURT
2009 NOV 30 P 4:
S.D.N.Y.

If an amount is identified above, you have a claim scheduled by one of the Debtors as shown. (This scheduled amount of your claim may be an amendment to a previously scheduled amount.) If you agree with the amount and priority of your claim as scheduled by the Debtor and you have no other claim against the Debtor, you do not need to file this proof of claim form, EXCEPT AS FOLLOWS: If the amount shown is listed as DISPUTED, UNLIQUIDATED, or CONTINGENT, a proof of claim MUST be filed in order to receive any distribution in respect of your claim. If you have already filed a proof of claim in accordance with the attached instructions, you need not file again.

1. Amount of Claim as of Date Case Filed, June 1, 2009: $ 30,920,000 (estimated unliquidated damages)

If all or part of your claim is secured, complete item 4 below; however, if all of your claim is unsecured, do not complete item 4. If all or part of your claim is entitled to priority, complete item 5. If all or part of your claim is asserted pursuant to 11 U.S.C. § 503(b)(9), complete item 5.

☐ Check this box if claim includes interest or other charges in addition to the principal amount of claim. Attach itemized statement of interest or charges.

2. Basis for Claim: Indemnification (CERCLA 107) for environmental cleanup obligations, natural resource damages, and toxic tort liability. (See attached)
(See instruction #2 on reverse side.)

3. Last four digits of any number by which creditor identifies debtor: _____

3a. Debtor may have scheduled account as: _____
(See instruction #3a on reverse side.)

4. Secured Claim (See instruction #4 on reverse side.)
Check the appropriate box if your claim is secured by a lien on property or a right of setoff and provide the requested information.

Nature of property or right of setoff: ☐ Real Estate ☐ Motor Vehicle ☐ Equipment ☐ Other
Describe:

Value of Property: $_____ **Annual Interest Rate** ___%

Amount of arrearage and other charges as of time case filed included in secured claim, if any: $_____

Basis for perfection: _____

Amount of Secured Claim: $_____ **Amount Unsecured:** $_____

5. Amount of Claim Entitled to Priority under 11 U.S.C. § 507(a). If any portion of your claim falls in one of the following categories, check the box and state the amount.

Specify the priority of the claim.

☐ Domestic support obligations under 11 U.S.C. § 507(a)(1)(A) or (a)(1)(B).

☐ Wages, salaries, or commissions (up to $10,950*) earned within 180 days before filing of the bankruptcy petition or cessation of the debtor's business, whichever is earlier – 11 U.S.C. § 507(a)(4).

☐ Contributions to an employee benefit plan – 11 U.S.C. § 507(a)(5).

☐ Up to $2,425* of deposits toward purchase, lease, or rental of property or services for personal, family, or household use – 11 U.S.C. § 507(a)(7).

☐ Taxes or penalties owed to governmental units – 11 U.S.C. § 507(a)(8).

☐ Value of goods received by the Debtor within 20 days before the date of commencement of the case - 11 U.S.C. § 503(b)(9) (§ 507(a)(2))

☐ Other – Specify applicable paragraph of 11 U.S.C. § 507(a)(__).

Amount entitled to priority:

$_____

**Amounts are subject to adjustment on 4/1/10 and every 3 years thereafter with respect to cases commenced on or after the date of adjustment.*

6. Credits: The amount of all payments on this claim has been credited for the purpose of making this proof of claim.

7. Documents: Attach redacted copies of any documents that support the claim, such as promissory notes, purchase orders, invoices, itemized statements or running accounts, contracts, judgments, mortgages, and security agreements. You may also attach a summary. Attach redacted copies of documents providing evidence of perfection of a security interest. You may also attach a summary. (*See instruction 7 and definition of "redacted" on reverse side.*)

DO NOT SEND ORIGINAL DOCUMENTS. ATTACHED DOCUMENTS MAY BE DESTROYED AFTER SCANNING.

If the documents are not available, please explain in an attachment.

Date: 11/30/2009

Signature: The person filing this claim must sign it. Sign and print name and title, if any, of the creditor or other person authorized to file this claim and state address and telephone number if different from the notice address above. Attach copy of power of attorney, if any.

FOR COURT USE ONLY

Penalty for presenting fraudulent claim: Fine of up to $500,000 or imprisonment for up to 5 years, or both. 18 U.S.C. §§ 152 and 3571.

Modified B10 (GCG) (12/08)

OFFICE COPY

Case No. 09-50026, United States Bankruptcy Court for the Southern District of New York
General Motors Corporation (n/k/a "Motors Liquidation Company")

SUPPORTING MEMORANDUM TO PROOF OF CLAIM FILED BY WASTE-STREAM, INC.

November 30, 2009

General Motors Corporation (n/k/a "Motors Liquidation Company") (hereinafter "GM") is a "responsible party" under various environmental laws, including the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") the New York State Environmental Conservation Law, and the New York State Navigation Law, with respect to the New York State Inactive Hazardous Site known as the Waste Stream, Inc. Site, located in Potsdam, New York (the "Site"). The Site is owned by Waste-Stream, Inc.

GM and/or its predecessors in interest sent hazardous waste to, or in the immediate vicinity of, the Site. GM (with others) is the subject of two Consent Orders with the New York State Department of Environmental Conservation ("NYSDEC") (No. A6-0222-09-02, dated April 30, 1990 and A6-0399-9911 dated December 20, 2000) relating to investigation and remediation of the Site.

This proof of claim asserts the estimated costs relating to investigation and remediation of environmental contamination at the Site could be as high as $30,920,000 (the "Clean-up Costs"), though the "preferred remedy" for the Site is estimated to be less. The final amount of Clean-up Costs may be lower or higher than the claimed amount, however, depending upon the remedy approved by NYSDEC and the amount of any natural resource damages, toxic tort damages, or other liabilities or damages, costs or fees. GM's allocable share of the Clean-up Costs is undetermined and unliquidated at this time.

Attached hereto as Exhibits to this Proof of Claim filed are the following

- 1990 Consent Order
- 2000 Consent Order
- Excerpts from May 2009 Arcadis *Feasibility Study Report* (Executive Summary and cost estimates for alternatives). A full copy may be provided upon request.

In addition to the foregoing, Waste-Stream, Inc. also makes a claim for all direct, indirect, nominal or consequential damages, interests, costs, attorneys' fees and other amounts owed or owing to it, whether liquidated, unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, legal, equitable, secured or unsecured.

Waste-Stream, Inc. expressly reserves its right to replace, amend and/or supplement this proof of claim at any time and for whatever reason and to assert any and all other claims of whatever kind or nature (including administrative claims) accruing to it at law, in equity or otherwise that it has or may have against GM that come to its attention or arise after the filing of this proof of claim. The filing of this proof of claim shall not be deemed a waiver of any such claims or rights.

By executing and filing this proof of claim, Waste-Stream, Inc. does not waive any other right, remedy, claim, interest, or rights with respect to any claim that Waste-Stream, Inc. has or may have against GM or any other person or persons.

Nothing contained in this proof of claim shall be deemed or construed as (a) a consent by Waste-Stream, Inc. to the jurisdiction of the Court or any other court with respect to proceedings, if any, commenced in any case against, or otherwise involving, Waste-Stream, Inc.; (c) a waiver or release of, or any limitation on, Waste-Stream, Inc.'s right to trial by jury in the Court or any other court in any proceeding; (d) a waiver or release of, or any limitation on, Waste-Stream, Inc.'s rights to have any orders entered only after *de novo* review by the United States District Court; (e) a waiver or release of, or any limitation on, Waste-Stream, Inc.'s right to seek withdrawal of the reference with respect to any matter pertaining to GM or arising in GM's bankruptcy case, including any matter relating to this proof of claim; or (f) a waiver or release of, or any limitation on, Waste-Stream, Inc.'s right to assert that any portion of the claims asserted herein are entitled to treatment as administrative or priority claims.

EXHIBIT A

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-5501

Thomas C. Jorling
Commissioner

May 2, 1990

Don Schiemann, Esq.
General Motors Corporation
Legal Department
P.O. Box 33122
New Center One Building
Detroit, MI 48232

Jeff R. Clark, Esq.
Nixon, Hargrave, Devans & Doyle
P.O. Box 1051
Lincoln First Tower
Rochester, NY 14603

Daniel S. Cohen, Esq.
Evans, Sebern, Bankert & Peet
31 Genesee Street
Utica, NY 13501

Re: PCB Contaminated Equipment at Waste Stream Management - Potsdam, New York

Gentlemen:

Enclosed herewith is a copy of the duly executed Order on Consent regarding the above matter.

In accordance with the approved Work Plan, please give Peter Ouderkirk of the DEC Region 7, ten days notice prior to the initiation of the cleanup process.

Thank you for your cooperation in bringing this matter to a conclusion.

Very truly yours,

Marianna Wojnas

Marianna Wojnas
Attorney
Division of Environmental Enforcement
(518) 457-3296

MW/tle
Enclosure

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Work Plan for the Remediation of PCB Contaminated Equipment at 145 Outer Maple St., Potsdam, New York, Pursuant to Article 27, Titles 3, 9, and 13 of the Environmental Conservation Law of the State of New York (the "ECL") by:

General Motors Corporation - Central Foundry Division, Mineral Processing Corporation and Waste Stream Management, Inc.

Respondents.

ORDER ON CONSENT

Index # A6-0222-09-02

WHEREAS:

1. The New York State Department of Environmental Conservation (the "Department") is responsible for the enforcement of Article 27, Title 3 of the Environmental Conservation Law entitled "Waste Transporter Permits", Title 9 entitled "Industrial Hazardous Waste Management", and Title 13 entitled "Inactive Hazardous Waste Disposal Sites".

2. Respondent, General Motors - Central Foundry Division ("GM - CFD"), is a corporation organized and existing under the laws of the State of Delaware and is registered to do business in New York, and transacting business in the Town of Massena, County of St. Lawrence, State of New York.

3. Respondent, Mineral Processing Corporation ("MPC"), is a corporation organized and existing under the State of New York. MPC owns and operated a now defunct dross foundry in Massena, New York where it, inter alia, reprocessed waste materials to reclaim aluminum for re-sale.

4. Respondent, Waste Stream Management, Inc. ("WSM"), is a corporation organized and existing under the State of New York and is doing business in the State of New York at its Potsdam facility.

5. Respondents, GM - CFD, MPC, and WSM are subject to New York State rules and regulations contained in 6 NYCRR Part 364 and Parts 370 - 373, promulgated pursuant to Article 27, Titles 3 and 9 of the Environmental Conservation Law.

6. In approximately October 1985, GM - CFD sold and disposed of four pieces of scrap equipment (one hydraulic press, one mill machine and two plastic injection molding machines) to MPC.

7. In approximately November 1985, MPC transported such equipment from GM - CFD to MPC's place of business in Massena.

8. In approximately April 1989, MPC sold and disposed of four pieces of equipment purchased from GM - CFD to WSM.

9. In approximately April 1989 WSM transported such equipment from MPC in Massena to WSM's place of business in Potsdam, hereinafter referred to as the "Potsdam property".

10. Laboratory results of samples taken of such equipment, which is now located at the Potsdam property, indicate concentration levels of polychlorinated biphenyl (PCBs) greatly exceeding 50 ppm.

11. Solid wastes containing 50 ppm or greater PCB's are regulated by the State of New York as hazardous wastes,

requiring compliance with both New York State statutes and regulations and 40 CFR Part 761.

12. Pursuant to the aforementioned environmental conservation laws, including Environmental Conservation Law Article 27, Title 71 and regulations promulgated thereto, the Department has the enforcement authority to seek administrative, civil and/or criminal sanctions and penalties for violations of such laws and regulations.

13. The Department and Respondents acknowledge that the goal of this Order shall be the expeditious development and implementation of a work plan which will include at a minimum, provisions for investigation of the Potsdam property areas in which the equipment has been placed or stored, cleaning the contaminated equipment, sampling and clean-up of soil in the immediate areas of the equipment which are contaminated by PCBs, oversight of clean-up activities by licensed engineers, certification by such engineers that the clean-up activities were done in accordance with the work plan, and any appropriate follow-up as may be required by the Department.

14. Respondents, having waived their rights to a hearing in this matter, and having consented to the issuance and entry of this Order, agree to be bound by its terms.

NOW, THEREFORE, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. By March 1, 1990, Respondents shall develop and submit

to the Department a work plan outlining the nature and extent of the work to be undertaken. Thereafter, the Department shall review and make a determination whether the work plan is acceptable to the Department. If the work plan is not acceptable to the Department the Respondent shall be given an additional 30 day period in which to revise and resubmit the work plan to the Department. If the revised work plan is not acceptable to the Department the Respondents shall have violated this Order.

II. Within 10 days of receiving the approval of the Department, Respondents shall commence the implementation and performance of the approved work plan, attached as Appendix "A" and incorporated into this Order making it an enforceable part hereof.

III. Respondents shall complete performance of all investigation, sampling, decontamination, clean-up, and oversight activities in accordance with the approved work plan.

IV. In transporting the four pieces of equipment from the Potsdam property to GM - CFD's place of business in Massena, in order to decontaminate such machinery in accordance with the approved work plan, GM - CFD shall be considered a generator solely for the purpose of 6 NYCRR Part 372. GM - CFD's acceptance of this status shall only be for purposes of accomplishing the work to be performed pursuant to this Order on Consent and shall not be construed as an

admission of liability, or used as evidence of any liability other than in connection with any violation(s) of Part 372 in transporting such machinery to GM - CFD's facilities pursuant to this Order on Consent.

V. Respondents shall provide the Department with notice at least 5 working days in advance of work to be conducted pursuant to the terms of this Order.

VI. Respondent, WSM, shall permit any duly designated officer, employee, consultant, contractor, or agent of the Department to enter upon its Potsdam property or areas in the vicinity of its Potsdam property which may be under the control of Respondent, WSM and any areas necessary to gain access thereto, for purposes of inspection and of making or causing to be made such sampling and tests as the Department deems necessary, and for assurance of Respondents' compliance with the terms of this Order.

VII. If Respondents retain a third-party professional consultant, contractor and/or laboratory to perform the obligations required by this Order, such consultant, contractor, and/or laboratory shall be acceptable to the Department. Approval of consultants retained by Respondents by the Department shall not be unreasonably withheld.

VIII. Respondents shall not suffer any penalty under any of the terms of this Order, or be subject to any proceeding or actions for any remedy or relief, if they cannot comply with any requirements hereof because of an act of God or war,

provided, however, the Respondents shall immediately notify the Department in writing when they obtain knowledge of any such condition and request an extension or modification of the terms of this Order.

IX. The failure of Respondents to comply with any term of this Order shall constitute a default and a failure to perform an obligation under this Order and under the Environmental Conservation Law.

X. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights including, but not limited to, the following:

a. the Department's right to enforce at law or in equity the terms and conditions of this Order against any or all of the Respondents, their directors, officers, employees, servants, agents, successors and assigns in the event that Respondents shall fail to satisfy any of the terms hereof;

b. the Department's right to bring any action at law or in equity against any person including Respondents, their directors, officers, employees, servants, agents, successors and assigns with respect to areas or resources that may have been affected or contaminated as a result of the release or migration of hazardous or industrial wastes at or from the Potsdam property or at or from areas in the vicinity of the Potsdam property;

c. any action or proceeding to which the Department

may be entitled in connection with, relating to, or arising out of the presence of hazardous wastes at the Potsdam property, or the release or migration of hazardous wastes from the Potsdam property;

d. any of Respondents' defenses against any such claims, actions, proceedings, causes of actions or demands; and

e. Respondents' right to seek contribution from each other or any legal or equitable rights or claims Respondents may have against anyone other than the Department.

XI. The terms of this Order shall not be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers, either at common law or as granted pursuant to statute or regulation.

XII. Respondents shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of the terms of this Order by Respondents, their directors, officers, employees, servants, agents, successors or assigns.

XIII. The effective date of this Order shall be the date it is signed by the Commissioner or his designee.

XIV. If the Respondents desire to deviate from the provisions of this Order in any way, they shall make timely

written application therefor to the Commissioner, setting forth reasonable grounds for the relief sought.

XV. The terms of this Order shall be deemed to bind jointly and severally the Respondents, their officers, directors, agents, servants, employees, successors, and assigns.

XVI. Nothing herein shall be construed to bind any entity not specifically bound by the terms of this Order.

XVII. The terms hereof shall constitute the complete and entire Order between the Respondents and the Department concerning this matter. No terms, conditions, understandings or agreements purporting to modify or vary the terms hereof shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestions or comments by the Department regarding reports, proposals, plans, specifications, schedules or any other writing submitted by the Respondents shall be construed as relieving the Respondents of their obligation to obtain such formal approvals as may be required by this Order.

DATED: Albany, New York
April 30, 1990

THOMAS C. JORLING
Commissioner
New York State Department of
Environmental COnservation

BY:

Edward O. Sullivan
Deputy Commissioner

CONSENT BY RESPONDENTS

Respondent hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained in this Order.

GENERAL MOTORS CORPORATION

By: Benjamin Schershel

Title: Plant Manager

Date: 3/17/90

STATE OF NEW YORK)
) SS.:
COUNTY OF)

On this 17 day of MARCH, 1990, before me personally came Benjamin Schershel to me known, who, being by me duly sworn, did depose and say that he resides in MASSENA, N.Y; that he is the PLANT MANAGER of CENTRAL FOUNDARY, General Motors Corporation, the corporation described herein and that he executed the foregoing instrument on behalf of said corporation; that he represents that he has the authorization to bind the corporation to this Order and that he has signed his name hereto.

David B. Northrop
Notary Public

DAVID B. NORTHROP
NOTARY PUBLIC IN THE STATE OF NEW YORK
APPOINTED IN ST. LAWRENCE COUNTY
MY COMMISSION EXPIRES July 31, 1990

CONSENT BY RESPONDENTS

Respondent hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained in this Order.

MINERAL PROCESSING CORPORATION

By: Jacob Pollock

Title: Pres.

Date: 3-16-90

STATE OF ~~NEW YORK~~ OHIO)
) s.s.:
COUNTY OF Summit)

On this 16TH day of MARCH, 1990, before me personally came JACOB POLLOCK, to me known, who being duly sworn, did depose and say that he resides in AKRON, OHIO; that he is the PRESIDENT of the MINERAL PROCESSING corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Charlotte A. Eberhardt
Notary Public

CHARLOTTE A. EBERHARDT, Notary Public
Residence - Summit County
State Wide Jurisdiction, Ohio
My Commission Expires June 2, 1993

CONSENT BY RESPONDENTS

Respondent hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained in this Order.

WASTE STREAM MANAGEMENT, INC.

By: Chester W. Bisnett

Title: Vice-President

Date: 3/15/90

STATE OF NEW YORK)
) c.c.:
COUNTY OF)

On this 15th. day of March, 1990, before me personally came Chester W. Bisnett, to me known, who being duly sworn, did depose and say that he resides in Potsdam, N.Y., that he is the Vice-President of the WASTE STREAM MANAGEMENT, INC. corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Charlene M. Reed
Notary Public

Charlene M. Reed
Notary Public State of New York
#4954667
Qualified in ST. LAWRENCE COUNTY
My Commission Expires 8-14-91

(DISK C.O.#1/FILE:GMMPWS2.MW)

EXHIBIT B

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Focused Remedial Investigation/Feasibility Study for an Inactive Hazardous Waste Disposal Site, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by:	ORDER ON CONSENT INDEX # A6-0399-9911 Site #6-45-022
Waste Stream, Inc. **General Motors Corporation, and** **Niagara Mohawk Power Corporation,** Respondents.	

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"). This Order is issued pursuant to the Department's authority under, inter alia, ECL Article 27, Title 13 and ECL 3-0301.

2. Respondent, General Motors Corporation, ("GM ") is a business corporation organized and existing under the laws of the State of Delaware and is registered to conduct business in New York State in the Town of Massena, New York.

3. Respondent, Waste-Stream Inc., ("WSI") is a business corporation organized and existing under the laws of the State of New York, conducting business at 145 Outer Maple Street, Potsdam, New York.

4. Respondent, Niagara Mohawk Power Corporation, ("NiMo") is a business corporation organized and existing under the laws of the State of New York, conducting business at 300 Erie Boulevard West, Syracuse, New York.

5. GM, WSI and MiMo are collectively referred to herein as "Respondents".

6. WSI is the owner of a 25 acre parcel of property located at 145 Outer Maple Street in the City of Potsdam, New York (hereinafter referred to as "the Site"), which property has been operated by Respondent WSI as a salvage yard. Portions of the property have been found to be contaminated with PCBs, heavy metals and petroleum residuals. A site map is attached as Appendix A to this Order.

7. The Site is an inactive hazardous waste disposal site, as that term is defined at ECL 27-1301.2, which the Department asserts constitutes a significant threat to the public health or environment. The Site has been listed by the Department in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 6-45-022. The Department has classified the Site as a Classification "2" pursuant to ECL 27-1305.4.b.

8. A. Pursuant to ECL 27-1313.3.a, whenever the Commissioner of Environmental Conservation (the "Commissioner") "finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the department, at such site, and (ii) to implement such program within reasonable time limits specified in the order."

B. Any person under order pursuant to ECL 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the remedial program committed to under order. ECL 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative and/or criminal sanctions.

C. The Department also has the power, inter alia, to provide for the prevention and abatement of all water, land, and air pollution. ECL 3-0301.1.i.

9. The Department and Respondents agree that the goals of this Order are for Respondents to (i) implement a Focused Remedial Investigation ("Focused RI") and Feasibility Study ("FS") for the Site as set forth in the Department-approved Work Plan

attached hereto as Appendix "B"; and (ii) reimburse the State's administrative costs as provided in Paragraph IX of this Order.

10. Respondents, without any admission of law or fact, having waived Respondents' right to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agree to be bound by its terms. Respondents consent to and agree not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agree not to contest the validity of this Order or its terms.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Initial Submittal

Within thirty (30) days after the effective date of this Order, Respondents shall submit to the Department all data within Respondents' possession or control, including data which may come within Respondents control in the future, regarding environmental conditions on-Site and off-Site, and other information described below, unless the Respondents have previously provided such data to the Department. The data and other information shall include:

A. A brief history and description of the Site, including the types, quantities, physical state, location, and dates of disposal of hazardous waste including methods of disposal and spillage of such wastes;

B. A comprehensive list and copies of all existing relevant reports with titles, authors, and subject matter, as well as a description of the results of all previous investigations of the Site and areas in the vicinity of the Site, including copies of all available topographic and property surveys, engineering studies and aerial photographs. Respondents represent that prior to the signing of this Order, they have provided the above referenced information to the Department.

II. Performance and Reporting of Focused Remedial Investigation

A. Respondents shall commence and perform the Focused RI in accordance with the schedule contained in the Department-approved Focused RI/FS Work Plan which is attached to this Order as Appendix "B" and made an enforceable part of this Order.

B. During the performance of the field activities undertaken pursuant to the Focused RI, Respondents shall have on-Site at all times a representative who is qualified to supervise such field activities.

C. Within the time frame set forth in the Department-approved Focused RI/FS Work Plan, Respondents shall submit to the Department a Focused Remedial Investigation Report ("FRI Report") that shall:

(1) include a description of all work performed during implementation of the Department-approved Focused RI/FS Work Plan and all data generated and all other relevant information obtained during the Focused Remedial Investigation:

(2) provide all of the assessments and evaluations set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, ("CERCLA")[42 USC 9601 *et seq.*], the National Contingency Plan (" NCP") of March 8, 1990, the United States Environmental Protection Agency ("USEPA") guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," dated October 1988 and any revisions to that guidance document in effect at the time the Focused RI Work Plan was submitted, and appropriate USEPA and Department technical and administrative guidance documents;

(3) identify any additional data that must be collected; and

(4) include a certification by the individual or firm with responsibility for the day to day performance of the Focused RI that all activities that comprised the Focused RI were performed in full accordance with the Department-approved Focused RI/FS Work Plan.

D. If, after review of the FRI Report by the Department, the Department notifies Respondents that additional data is needed to fully characterize the nature and extent of contamination on-Site and/or off-Site, then Respondents shall submit a supplemental Investigation Work Plan to the Department for review. Respondents shall submit the Supplemental Investigation Work Plan within sixty (60) days of receipt by Respondents of the Department's written notification that additional data is required. At the conclusion of the work required under the Supplemental Investigation Work Plan, Respondents shall submit a Supplemental Investigation Report which includes all of the data and information described in Subparagraph II.C of this Agreement.

III. Feasibility Study

A. In accordance with the schedule set forth in the Department-approved Focused RI/FS Work Plan, Respondents shall submit a complete Feasibility Study ("FS") evaluating on-Site and off-Site remedial actions to eliminate and/or control, to the maximum extent practicable, all health and environmental hazards and potential hazards at the Site. The FS shall be prepared by and have the signature and seal of a professional engineer who shall certify that the FS was prepared in accordance with this Order.

B. Respondents shall perform and prepare the FS in accordance with the Department-approved Focused RI/FS Work Plan and in a manner consistent with CERCLA, the NCP, and the guidance documents identified in Subparagraph II.C.2.

C. After the Department's approval of the FS, Respondents shall cooperate and assist the Department in soliciting public comment on the proposed remedial action plan selected by the Department, in accordance with CERCLA, the NCP, the guidance documents identified in Subparagraph II.C.2, and with any Department policy and guidance documents in effect at the time the public comment period is initiated.

IV. Interim Remedial Measures

A. 1. Respondents may propose one or more IRMs for the Site including IRMs that may be conducted prior to completion of the RI/FS.

2. In proposing each IRM, Respondents shall submit to the Department a work plan that includes a chronological description of the anticipated IRM activities together with a schedule for performance ("IRM Work Plan").

3. Upon the Department's determination that the proposal is an appropriate IRM and upon the Department's approval of such work plan, the IRM Work Plan shall be incorporated into and become an enforceable part of this Order and Respondents shall submit to the Department for its review and approval in accordance with the schedule contained in the Department-approved IRM Work Plan, detail documents and specifications prepared, signed, and sealed by a professional engineer to implement the Department-approved IRM. Such documents shall include a health and safety plan, contingency plan, and if required, a citizen participation plan that incorporates appropriate activities as outlined in the Department's publication, "New York State Inactive Hazardous Waste Citizen Participation Plan," dated June 1998, and any subsequent revisions thereto, and 6 NYCRR Part 375. Respondents shall then carry out such IRM in accordance with the Department-approved IRM Work Plan, detailed documents and specifications, and this Order. Respondents shall notify the Department of any significant difficulties that may be encountered in implementing the Department-approved IRM Work Plan, detailed documents, or specifications and shall not modify any obligation unless approved by the Department.

4. During implementation of all construction activities identified in the Department-approved IRM Work Plan, Respondents shall have on-Site at all times a representative who is qualified to supervise the work done.

5. Within the schedule contained in the Department-approved IRM Work Plan, Respondents shall submit to the Department a final engineering report

prepared by a professional engineer that includes a certification by that individual that all activities that comprised the IRM were completed in accordance with the Department-approved IRM Work Plan and this Order.

a. If the performance of the IRM encompasses construction activities, the final engineering report also shall include a detailed post-remedial operation and maintenance plan ("IRM O&M Plan"); "as-built" drawings and a final engineering report (each including all changes made to the Remedial Design during construction); and a certification by a professional engineer that the IRM was implemented and all construction activities were completed in accordance with the Department-approved detailed documents and specifications for the IRM and all such activities were personally witnessed by him or her or by a person under his or her direct supervision. The IRM O&M Plan, "as built" drawings, final engineering report, and certification must be prepared, signed, and sealed by a professional engineer.

b. Upon the Department's approval of the IRM O&M Plan, Respondents shall implement the IRM O&M Plan in accordance with the requirements of the Department-approved IRM O&M Plan.

6. After receipt of the final engineering report and certification, the Department shall notify Respondents whether the Department is satisfied that the IRM was completed according to the Department-approved IRM Work Plan and design.

V. Progress Reports

Respondents shall submit to the parties identified in Subparagraph XIII.B, copies of written monthly progress reports that:

A. describe the actions which have been taken toward achieving compliance with this Order during the previous month;

B. include all results of sampling and tests and all other data received or generated by Respondents or Respondents' contractors or agents in the previous month,

including quality assurance/quality control information, whether conducted pursuant to this Order or conducted independently by Respondents;

C. identify all work plans, reports, and other deliverables required by this Order that were completed and submitted during the previous month;

D. describe all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the next month and provide other information relating to the progress at the Site;

E. include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the implementation of Respondents' obligations under the Order, and efforts made to mitigate those delays;

F. include any modifications to any work plans that Respondents have proposed to the Department or that the Department has approved; and

G. describe all activities undertaken in support of the Citizen Participation Plan during the previous month and those to be undertaken in the next month. Respondents shall submit these progress reports to the Department by the tenth day of every month following the effective date of this Order.

H. Respondents also shall allow the Department to attend, and shall provide at least seven (7) days advance notice to the Department of any of the following: prebid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting.

VI. Review of Submittals

A. 1. The Department shall review each of the submittals Respondents make pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify Respondents in writing of its approval or disapproval of the

submittal and all Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

B. 1. If the Department disapproves a submittal, it shall so notify Respondents in writing and shall specify the reasons for its disapproval. Within forty-five (45) days after receiving written notice that Respondents' submittal has been disapproved, Respondents shall make a revised submittal to the Department that addresses all of the Department's stated reasons for disapproving the first submittal.

2. After receipt of the revised submittal, the Department shall notify Respondents in writing of its approval or disapproval. If the Department approves the revised submittal, it shall be incorporated into and become an enforceable part of this Order. If the Department disapproves the revised submittal, Respondents shall be in violation of this Order unless, within ten (10) days of receipt of the Department's notice of disapproval, Respondents serve upon the Department a request for the appointment of an Administrative Law Judge ("ALJ") who shall establish procedures to review the matter in dispute and issue a decision. The ALJ's decision shall constitute a final agency action for purposes of judicial review pursuant to Article 78 of the CPLR. If Respondents disagree with the ALJ's decision, Respondents shall have the right to seek judicial review of the ALJ's decision under Article 78 of the CPLR if Respondents commence such a proceeding no later than thirty (30) days after receipt of a copy of the ALJ's decision.

VII. Penalties

A. Subject to the provisions of Subparagraph VI.B.2, Respondents' failure to comply with any term of this Order constitutes a violation of this Order and the ECL. The Department shall not seek any penalties or other relief for failure to comply with this Order during the period of time accorded to Respondents to invoke the dispute resolution mechanisms set forth in Subparagraph VI.B.2 and the period of time that a dispute between the Department and Respondents is pending before an ALJ or a court of

competent jurisdiction pursuant to Subparagraph VI.B.2. Respondents shall have ten (10) days to comply with any adverse determination by an ALJ or a court of competent jurisdiction. In the event that Respondents fail to comply with any such determination within ten (10) days, Respondents shall be in violation of this Order and the Department may take any action or pursue any remedy it has pursuant to any provision of statutory or common law.

B. Respondents shall not suffer any penalty under this Order or be subject to any action or proceeding if it cannot comply with any requirement hereof because of war, riot, or an unforeseeable disaster arising exclusively from natural causes which the exercise of ordinary human prudence could not have prevented. Respondents shall, within five (5) days of when it obtains knowledge of any such condition, notify the Department in writing. Respondents shall include in such notification the measures taken and to be taken by Respondents to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such five (5) day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondents shall have the burden of proving that an event is a defense to compliance pursuant to this subparagraph.

VIII. Entry upon Site

Respondents hereby consent to the entry upon the Site or areas in the vicinity of the Site which may be under the control of Respondents by any duly designated employee, consultant, contractor, or agent of the Department or any State agency for purposes of inspection, sampling, testing and ensuring Respondents's compliance with this Order. The Department shall assist Respondents in obtaining access to an area adjoining the site to perform an aspect of the remedial program if Respondents have first utilized reasonable efforts to gain access to an adjoining area without success. During Remedial Construction, Respondents shall provide the Department with suitable office

space at the Site, including access to a telephone, and shall permit the Department full access to all records relating to matters addressed by this Order and to job meetings.

IX. Payment of State Costs

Within thirty (30) days after receipt of an itemized invoice from the Department, Respondents shall pay to the Department a sum of money, not to exceed $50,000.00 (excluding costs associated with any IRMs that may be undertaken in accordance with Paragraph IV herein, which IRM related costs may be capped at an agreed upon amount once IRM work plans are submitted), which shall represent reimbursement for the State's response costs and expenses including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for work related to the Site, as well as for reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with this Order. Such payment shall be made by certified check payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010.

Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (e.g., supplies, travel, contractual) and shall be documented by expenditure reports.

X. Department Reservation of Rights

A. Nothing in this Order shall be construed as barring, diminishing, or in any way affecting any of the Department's civil, criminal, or administrative rights or authorities.

B. Nothing in this Order shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

XI. Indemnification

Respondents shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondents and/or any of Respondents' directors, officers, employees, servants, agents, successors, and assigns.

XII. Public Notice

A. Within thirty (30) days after the effective date of this Order, Respondent WSI shall file a Declaration of Covenants and Restrictions with the St. Lawrence County Clerk to give of this Order to any party who may acquire an interest in this Site.

B. If Respondent WSI proposes to convey the whole or any part of Respondent WSI's ownership interest in the Site, Respondent WSI shall, not fewer than sixty (60) days before the date of conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed date of the conveyance and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order.

XIII. Communications

A. All written communications required by this Order shall be made by United States Postal Service, by private courier service, or hand delivered as follows:

1. Communication from Respondents shall be sent to:

Darrell Sweredoski, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
State Office Building
Watertown, New York 13601

with copies to:

G. Anders Carlson, Ph.D
Director, Bureau of Environmental Exposure Investigation
New York State Department of Health
Flanagan Square
547 River Street
Troy, New York 12180

Central Field Unit Leader
NYSDEC
Division of Environmental Enforcement
50 Wolf Road, Room 627
Albany, New York 12233-5500

2. Communications to Respondents shall be sent to:

Richard Brickwedde, Esq.
Green & Seifter
One Lincoln Center
Syracuse, NY 13202

Don A. Schiemann, Esq
General Motors Corporation
New Center One Building
Mail Code 482-208-815
3031 West Grand Blvd.
Detroit, MI 48202

William J. Holzhauer, Esq.
Niagara Mohawk Power Corporation
300 Erie Blvd. West
Syracuse, NY 13202

Richard R. Capozza, Esq.
Hiscock & Barclay
221 S. Warren St,.
Syracuse, NY 13221-4878

William Stephens, Esq.
Raichle, Banning, Weiss & Stephens
410 Main St.
Buffalo, NY 14202

B. Copies of work plans and reports shall be submitted as follows:

- Two copies (one unbound) to Mr. Sweredoski
- Two copies to Dr. Carlson

C. 1. Within thirty (30) days of the Department's approval of any report submitted pursuant to this Order, Respondents shall submit to Mr. Sweredoski a computer readable magnetic media copy of the approved report in American Standard Code for Information Interchange (ASCII) format.

2. Within thirty (30) days after the Department's approval of either the Focused RI report or the Feasibility Study, Respondents shall submit one copy of each report to Mr. Sweredoski on either a 3-1/2" computer diskette, or compact disk, in a software format(s) compatible with the Department's. Copies of the report shall include all text, figures, drawings, and all software files to make up a complete report. If more than one file is used, Respondents shall include an index identifying the contents of the individual files.

D. The Department and Respondents reserve the right to designate additional or different addressees for communication or written notice to the other.

XIV. Miscellaneous

A. Any outstanding remedial obligations of Respondents GM and WSI under the Order on Consent dated April 30, 1990 (Index # A6-0222-09-02) for this same Site (#645022) will be superseded by the terms of this Order; all other outstanding obligations of Respondents GM and WSI shall remain in full force and effect.

B. All activities and submittals required by this Order shall address both on-Site and off-Site contamination resulting from the disposal of hazardous wastes at the Site.

C. Respondents shall retain professional consultants, laboratories, quality assurance/quality control personnel, and third party data validators acceptable to the Department to perform the technical and analytical obligations required by this Order. The qualifications of the firms or individuals selected by Respondents shall be submitted to the Department within thirty (30) days after the effective date of this Order. The Department's approval of these firms or individuals shall be obtained before the start of any activities for which Respondents and such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondents shall rest solely with Respondents.

D. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Respondents, as well as the right to take its own samples. Respondents shall make available to the Department the results of all sampling and data generated by Respondents with respect to implementation of this Order and shall submit these results in the progress reports required by this Order.

E. Respondents shall notify the Department at least ten (10) working days in advance of any field activities to be conducted pursuant to this Order.

F. Respondents shall use their best efforts to obtain all permits, easements, rights-of-entry, approvals, or authorizations necessary to perform Respondents' obligations under this Order.

G. Respondents and Respondents' officers, directors, agents, servants, employees, successors, and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall in no way alter Respondents' responsibilities under this Order. Respondents' employees, servants, and agents shall be obliged to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondents.

H. Respondents shall provide a copy of this Order to each contractor hired to perform the work required by this Order and to each person representing Respondents

with respect to the Site and shall condition all contracts entered into in order to carry out the obligations identified in this Order upon performance in conformity with the terms of this Order. Respondents or Respondents' contractors shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Respondents shall nonetheless be responsible for ensuring that Respondents' contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

I. All references to "professional engineer" in this Order are to an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law. If such individual is a member of a firm, that firm must be authorized to offer professional engineering services in the State of New York in accordance with Article 145 of the New York State Education Law.

J. All references to "days" in this Order are to calendar days unless otherwise specified.

K. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Order.

L. 1. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other submittal shall be construed as relieving Respondents of Respondents' obligation to obtain such formal approvals as may be required by this Order.

2. If Respondents desire that any provision of this Order be changed, Respondents shall make timely written application, signed by Respondents, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be mailed to Mr. Sweredoski and to the Field Unit Leader.

M. Except as otherwise provided in this Order, the obligations of Respondents to finance and perform obligations under this Order are joint and several. In the event of

the insolvency or failure of any or more of Respondents to implement any obligation of this Order, the remaining Respondents shall complete all such requirements.

N. This Agreement may be executed in counterparts, and each one shall be treated as an original.

O. The effective date of this Order is the fifth day after the date that the Commissioner or his designee signs it.

DATED: Albany, New York
12/20 ,2000

JOHN P. CAHILL, COMMISSIONER
New York State Department
of Environmental Conservation

By: _____
Michael J. O'Toole, Jr.
Director, Division Of Environmental Remediation

CONSENT BY RESPONDENT

Respondent, Waste Stream, Inc., hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: Jerry S. CiFor

Title: V.P. / Treasurer

Date: 12/6/00

Vermont
STATE OF ~~NEW YORK~~)
) s.s.:
COUNTY OF Rutland)

On the 11th day of Dec., in the year 2000, before me, the undersigned, personally appeared Jerry S. CiFor, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies) as VP & Treasurer, and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Amy L Colvin

Signature and Office of individual
taking acknowledgment
2/10/03

CONSENT BY RESPONDENT

Respondent, General Motors Corporation, hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: Don A. Schiemann

Title: Attorney

Date: October 30, 2000

STATE OF NEW YORK)
) s.s.:
COUNTY OF)

On the 30th day of October, in the year 2000, before me, the undersigned, personally appeared Don A. Schiemann, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies) as Attorney, and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Carolyn E Stoehr
Signature and Office of individual taking acknowledgment

CAROLYN E STOEHR
Notary Public, Wayne County, MI
My Commission Expires Jul 9, 2004

CONSENT BY RESPONDENT

Respondent, Niagara Mohawk Power Corporation, hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: David H. King

David H. King
Title: Executive Director

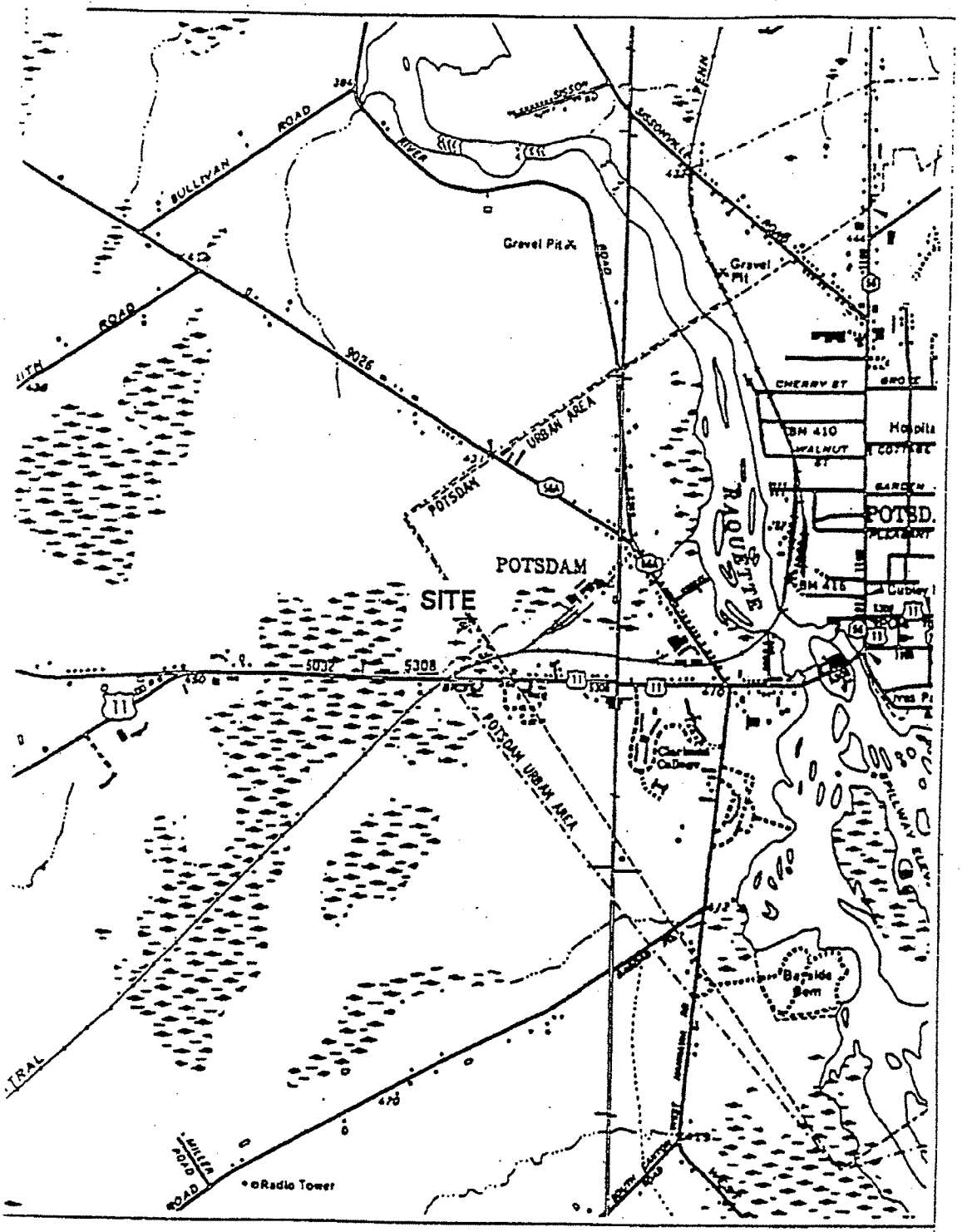
Date: October 25, 2000

STATE OF NEW YORK)
) s.s.:
COUNTY OF ONONDAGA)

On the 25th day of October, in the year 2000, before me, the undersigned, personally appeared David H. King, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies) as Exec. Director, and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Signature and Office of individual
taking acknowledgment

VICKI L. WILLIAMS-Piazza
Notary Public in the State of New York
Qualified in Onondaga County, No. 4848074
My Commission Expires March 30, 2001



Location Map

5-30022 Waste Stream Inc.

NYSDOT Planimetric Quadrangle(s):
WEST POTSDAM, POTSDAM

N

0 500 1000 1500 2000
FEET

Scale 1:24,000

EXHIBIT C

Executive Summary

Introduction

This Feasibility Study (FS) Report presents an evaluation of remedial alternatives to address environmental impacts identified at the Waste-Stream, Inc. (WSI) site (Site #6-45-022) located in Potsdam, New York. This FS Report has been prepared by ARCADIS U.S., Inc. (ARCADIS) on behalf of the WSI Group. Members of the WSI Group include WSI, National Grid, and General Motors Corporation (GM). The FS has been conducted in accordance with an Order on Consent (Index #A6-0399-9911) between the WSI Group and the New York State Department of Environmental Conservation (NYSDEC), which became effective on December 22, 2000.

This FS Report has been prepared to evaluate remedial alternatives to address environmental impacts at the site in a manner consistent with the Order on Consent and with the following documents:

- NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4025 titled, *Guidelines for Remedial Investigations/Feasibility Studies* (NYSDEC, 1989).
- NYSDEC TAGM #4030 titled, *Selection of Remedial Actions at Inactive Hazardous Waste Sites* (NYSDEC, 1990).
- United States Environmental Protection Agency (USEPA) guidance document titled, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under the Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), Interim Final (USEPA, 1988).
- USEPA guidance document entitled, *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* (USEPA, 2005a).
- Applicable provisions of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) regulations contained in Title 40 of the Code of Federal Regulations (CFR) Part 300.
- Applicable provisions of the New York State Environmental Conservation Law (ECL) and associated regulations, including Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 375 (6NYCRR Part 375).

- NYSDEC *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2002).

The purpose of this FS Report is to identify and evaluate remedial alternatives that are:

- Appropriate for site-specific conditions
- Protective of human health and the environment
- Consistent with relevant sections of NYSDEC guidance, the NCP, and CERCLA

The overall objective of this FS Report is to recommend an appropriate remedial alternative that satisfies the remedial action objectives (RAOs) established for the site.

Background

The WSI site consists of the WSI property, areas immediately adjacent to the WSI property, the wetlands located northeast of the property (referred to as the northern drainage area [NDA]), and the drainage swale that conveys stormwater runoff from the WSI property to the NDA. The WSI property is an active scrap yard located at 147 Outer Maple Street (U.S. Route 11) in the Town and Village of Potsdam, St. Lawrence County, New York. The WSI property consists of two parcels that comprise an area of approximately 29.2 acres. The Focused RI activities concentrated on an approximately 10-acre developed area located in the southern portion of Parcel No. 2 where scrapyard operations were formerly or are currently being conducted.

The WSI property is occupied by several structures, including a scale house, maintenance building, office building, storage barn, tin press, former solid waste transfer station (which has not operated since November 2001), a former above ground fuel storage tank area, and various outbuildings. Various scrap processing equipment (large hydraulic shear, car crusher, etc.) are also located at the site. Scrap storage piles and material staging areas (for roll-off containers, trailers, etc.) previously occupied portions of the operations area at the site.

The WSI property has operated as a metal recycling facility and scrap yard since approximately 1957, initially as Chet Bisnett and subsequently by Chet Bisnett, Inc. (CBI). CBI merged with B&C Carting in 1987 and the resulting company was renamed Waste Stream Management, Inc. (WSMI). WSMI was subsequently renamed Waste-

Stream Inc. (WSI) and has operated the site from 1987 until the present. In 1998, WSI became a wholly owned subsidiary of Casella Waste Systems, Inc.

Prior to the mid-1960s, operations were primarily conducted within the southern portion of the property. During the period between the mid-1960s and mid-1970s, facility operations shifted toward the north (extending just north of the former solid waste transfer station). Site activities conducted during this period reportedly included tin press operations, metal shearing, car crushing, and scrap metal processing. During this period, the facility reportedly processed scrap electrical transformers that contained polychlorinated biphenyl- (PCB-) containing dielectric fluids (mineral oil). The transformers were reportedly drained for subsequent recycling/wire recovery. The transformer recycling/wire recovery activities were conducted in an area north of the existing tin press operation. During the period between the mid-1960s and mid-1970s, the facility also reportedly processed scrap manufacturing equipment that had fluid reservoirs with PCB-containing oils. The manufacturing equipment that was brought to the site during this period was staged and processed (including disassembly and cutting) in an area southwest of the maintenance shop.

Environmental Impacts

The investigation activities and results were presented in the following NYSDEC-approved reports:

- *Remedial Investigation/Feasibility Study Work Plan* (Revision 1.0), September 2000, InteGreyted Consultants, LLC (InteGreyted, 2000).
- *Focused Remedial Investigation Report* (Focused RI Report) (ARCADIS, 2003).
- Supplemental Remedial Investigation Report (Supplemental RI Report) (ARCADIS, 2006).

PCBs are the primary constituent of concern (COC) in surface and subsurface soil and sediment at the site. Additional COCs include volatile organic compounds (VOCs) (in groundwater), semi-volatile organic compounds (SVOCs) (primarily polynuclear aromatic hydrocarbons [PAHs]) and inorganic constituents.

Analytical results for soil samples collected as part of the remedial investigation were initially screened against the soil cleanup objectives presented in the NYSDEC Division of Hazardous Waste Remediation Document entitled "Technical and Administrative

Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels" HWR 94-4046 (TAGM 4046), dated January 24, 1994 (NYSDEC, 1994a). With its adoption in December 2006, the soil cleanup objectives in 6NYCRR Part 375-6 replaced TAGM 4046. 6NYCRR Part 375-6 provides soil cleanup objectives that are protective of human health and the environment based on current and foreseeable future use of the subject property. The foreseeable use of this site is continued use as an industrial site, namely a scrap yard for select materials (non-ferrous metals) and as a transfer station for materials/equipment to be managed at other WSI facilities. Operations at the site are conducted in accordance with a Site Operations Plan prepared by InteGreyted. The areas surrounding the property include wooded, wetland and residential areas.

Remedial Action Objectives

RAOs are medium-specific goals that result in the protection of human health and the environment. The RAOs were used to evaluate potential remedial options relative to their capacity to protect human health and the environment considering exposure pathways and applicable standards, criteria, and guidelines (SCGs).

The RAOs for the site, in consideration of COCs, exposure pathways, and receptors, are presented in the following table.

Environmental Media	COCs	Remedial Action Objective
Surface and Subsurface Soil	• PCBs • SVOCs (PAHs) • Inorganics	Eliminate or mitigate, to the extent practicable and feasible: • Direct contact/inhalation of impacted soil by current site workers, future site workers, off-site receptors and trespassers. • Direct contact/inhalation of contaminants in dust generated from soils by off-site receptors/residents and trespassers. • The potential for migration of contaminants in soil to groundwater.

Environmental Media	COCs	Remedial Action Objective
		• Off-site migration of contaminants in soil via surface water runoff. • Impacts to biota from ingestion/direct contact or bioaccumulation through the terrestrial food chain.
Groundwater	• PCBs • VOCs (primarily benzene, toluene, ethylbenzene, and xylene [BTEX], 1,2-Dichloroethane and vinyl chloride)	Eliminate or mitigate, to the extent practicable and feasible: • Dermal contact with impacted groundwater by site workers, site visitors and trespassers. • Ingestion of impacted groundwater by site workers and site visitors. • Off-site migration of contaminants via groundwater.
Sediment	• PCBs • SVOCs (primarily PAHs) • Inorganics	Eliminate or mitigate, to the extent practicable and feasible: • Impacts to biota from ingestion of impacted sediments or from bioaccumulation through uptake through the aquatic food chain.

Remedial Technology Screening and Development of Remedial Alternatives

General response actions (GRAs) were identified to address impacted site media. GRAs are medium-specific and describe actions that will satisfy the RAOs, and may include various actions such as treatment, containment, institutional controls, excavation, or any combination of such actions.

Potentially applicable technologies and technology process options associated with each of the GRAs underwent preliminary and secondary screening to select the technologies that would most-effectively achieve the RAOs identified for the site. The preliminary screening was performed to reduce the number of potentially applicable technologies and technology processes based on technical implementability. This screening was based on several considerations, including: successful full-scale demonstrations of the technology; compatibility of the technology with the specific media, location, and constituent distribution; time-frame to acquire necessary permits; and area required for setup/operation. To further reduce the technology processes to be assembled into remedial alternatives, the technology processes were subjected to a secondary screening. The objective of the secondary screening was to choose, when possible, one representative remedial technology process for each remedial technology category to simplify the subsequent development and evaluation of the remedial alternatives.

Technologies/process options that were retained following the screening were used to develop remedial alternatives. Consideration was given to the NCP (40 CFR Part 300.430), which indicates the following range of alternatives should be developed to the extent practical:

- The "No-Action" alternative.
- Alternatives that provide protection of human health and the environment by preventing or minimizing exposure to the COCs through the use of containment options and/or institutional controls.
- Alternatives that remove COCs to the extent possible, thereby minimizing the need for long-term management.
- Alternatives that treat the COCs but vary in the degree of treatment employed and long-term management needed.

Detailed Evaluation of Remedial Alternatives

Following preliminary and secondary screening, and the development of the media-specific remedial alternatives, a detailed description of each remedial alternative was prepared and evaluated with respect to the criteria presented in the NYSDEC guidance for Feasibility Studies in TAGM 4030 (NYSDEC, 1990) and "Guidance for

Conducting Remedial Investigations and Feasibility Studies under CERCLA" (USEPA, 1988).

- Short-Term Effectiveness
- Long-Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility, or Volume
- Implementability
- Compliance with SCGs
- Overall Protection of Human Health and the Environment
- Cost

These evaluation criteria encompass statutory requirements and include other gauges such as overall feasibility.

Following completion of the detailed evaluation of each remedial alternative, a comparative analysis using the seven criteria was completed. The comparative analysis identifies the advantages and disadvantages of each alternative relative to each other and with respect to the seven criteria. The results of the comparative analysis were used as a basis for recommending preferred media-specific remedial alternatives for addressing the RAOs established for the site.

Preferred Site-Wide Remedy

The evaluation of the alternative for remediation of soil, groundwater, and wetland sediment at the site was completed in accordance with the procedures outlined in NYSDEC TAGM 4030 as well as USEPA guidance for the completion of feasibility studies in accordance with CERCLA and the NCP.

Based on the comparative analysis of the soil, groundwater, and sediment alternatives presented in Section 6, the preferred site-wide remedy consists of Alternatives S4, GW3, and SD3. This site-wide remedy would cost-effectively achieve the best balance of the seven NYSDEC evaluation criteria and would achieve the site-specific RAOs in a reasonable time frame. This remedy represents a permanent reduction in the toxicity,

mobility, and volume of soil and sediment containing elevated concentrations of PCBs; mitigates potential exposure to remaining material containing PCBs through construction of a cap; and documents potential permanent reduction (via natural processes) in the toxicity, mobility, and volume of VOCs in site groundwater.

As detailed in respective subsections of Section 5, the primary components of the preferred site-wide remedy consist of the following:

- Excavating approximately 4,500 CY of soil beyond the WSI property boundary containing COCs at concentrations greater than ecological SCOs and backfilling excavation areas with imported material that meets those soil cleanup objectives.
- Excavating approximately 5,300 CY of soil containing PCBs at concentrations greater than 50 ppm within the WSI property boundary.
- Excavating approximately 14,700 CY of sediment such that the average PCB concentration in remaining sediments is less than 1 ppm.
- Managing approximately 5,400 CY of soil containing PCBs at concentrations greater than or equal to 50 ppm as a TSCA-regulated/NYS hazardous waste at an off-site RCRA Subtitle C Landfill.
- Managing approximately 4,900 CY of sediment containing PCBs at concentrations greater than or equal to 50 ppm as a TSCA-regulated/NYS hazardous waste at an off-site RCRA Subtitle C Landfill.
- Consolidating approximately 4,400 CY of soil containing PCBs at concentrations less than 50 ppm on-site.
- Consolidating approximately 9,800 CY of sediment containing PCBs at concentrations less than 50 ppm on-site.
- Constructing a cap over consolidated materials and remaining impacted soils containing PCBs at concentrations greater than ecological SCOs.
- Abandoning existing monitoring wells and installing up to 10 new groundwater monitoring wells at locations both upgradient and downgradient from areas at the site where dissolved-phase COCs were detected during the RI.

- Backfilling the southern drainage areas with rip-rap stone to prevent (to the extent practicable) vegetation re-establishment or wildlife habitation.

- Restoring the northern drainage area via the importation and placement of general fill, topsoil, wetland seed mixtures, shrubs, and trees.

- Implementing institutional controls in the form of deed restrictions to prevent current or future site owners from conducting activities that would potentially jeopardize the integrity of the cap.

- Implementing institutional controls in the form of deed restrictions, groundwater use restrictions, and continued supply of bottled water for potable use to limit the use of site groundwater.

- Implementing institutional controls in the form of deed restrictions to prevent current or future site owners from conducting activities that result in exposure to remaining PCB-impacted sediment.

- Conducting annual inspections to monitor the cap for erosion or other damage and repairing of the cap, as needed.

- Conducting annual groundwater monitoring to document the reduction of COC concentrations in site groundwater and to verify impacted groundwater is not migrating further downgradient.

- Conducting annual wetland vegetation monitoring to document that wetlands have been re-established and the northern drainage area is capable of supporting the aquatic and terrestrial wildlife that is present prior to the implementation of the remedial alternative.

- Conducting biennial biota monitoring that includes submitting biota samples for PCBs and lipids content to assess the effectiveness of this remedial alternative.

The total estimated cost associated with implementation of the preferred site-wide remedy is summarized in the following table.

Cost	Estimated Amount
Estimated Capital Cost	$9,780,000
Estimated 30-Year Present Worth of O&M Cost	$950,000
Total Estimated Present Worth Cost	**$10,730,000**

Table 5-1
Cost Estimate for Alternative S2 - Institutional Controls

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
2	Permanent Site Fencing	4,000	LF	$35	$140,000
				Total Capital Cost	$190,000
				Contingency (20%)	$38,000
				Subtotal Cost	$228,000
OPERATION AND MAINTENANCE COSTS (30 YEAR					
3	Annual Inspection/Maintenance	1	LS	$6,000	$6,000
4	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$11,000
				Contingency (20%)	$2,200
				Subtotal Cost	$13,200
5				30-Year Total Present Worth Cost of O&M	$163,812
				Total Estimated Cost	**$391,812**
				Rounded to	**$390,000**

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing intrusive on-site activities.

2. Permanent site fencing cost estimate includes all labor, equipment, and materials necessary to purchase and install a six-foot woven steel chain link fence equipped with top rail.

3. Annual inspection/maintenance cost estimate includes all labor, equipment, and materials necessary to conduct annual inspection of new site perimeter fencing and repair/replace up to 100 linear-feet of fencing per year. Cost estimate also includes periodic collection of stormwater samples to comply with current site permits.

4. Inspection of institutional controls and notifications to NYSDEC cost estimate includes Institutional costs associated with implementing Institutional controls to minimize the potential for human exposure to remaining impacted soils. Such Institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with Institutional controls include verifying the status of Institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the Institutional controls are being maintained and remain effective.

5. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-2
Cost Estimate for Alternative S3 - Capping of Soil Containing COCs > Ecological SCOs with Removal of Soil Beyond WSI Property Limits

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Permanent Site Fencing	4,000	LF	$35	$140,000
5	Erosion Control	2,000	LF	$1	$2,000
6	Construction and Maintenance of Soil Staging Area	1	LS	$100,000	$100,000
7	Soil Excavation and Handling of Excavated Materials	5,000	CY	$30	$150,000
8	Soil Excavation Dewatering	2	month	$5,000	$10,000
9	Verification Sampling	130	each	$400	$52,000
10	Select Fill Importation, Placement, Grading and Compaction (Backfill)	5,000	CY	$25	$125,000
11	Site Regrading and Compaction	4,400	CY	$10	$44,000
12	Demarcation Layer	71,900	SY	$1	$71,900
13	Clay Importation, Placement, Grading and Compaction (Cap)	21,800	CY	$20	$436,000
14	Topsoil Importation, Placement, and Grading (Cap)	10,900	CY	$25	$272,500
15	Seed, Mulch, and Fertilizer	15.2	acre	$5,000	$76,000
16	Stormwater Management	1	LS	$300,000	$300,000
17	Solid Waste Characterization	15	each	$750	$11,250
18	Liquid Waste Characterization	1	each	$750	$750
19	Soil Waste Transportation and Off-Site Management - Solid Waste Landfill	750	ton	$50	$37,500
20	Soil Waste Transportation and Off-Site Management - RCRA Landfill	150	ton	$145	$21,750
21	Management of Wastewater	20,000	gal	$0.20	$4,000
22	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$2,014,150
23				Administration and Engineering (10%)	$195,090
				Construction Management (5%)	$97,545
				Contingency (20%)	$402,830
				Subtotal Cost	$2,709,615
OPERATION AND MAINTENANCE COSTS (30 YEAR					
24	Annual Monitoring/Maintenance	1	LS	$10,000	$10,000
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
26				30-Year Total Present Worth Cost of O&M	$223,380
				Total Estimated Cost	**$2,932,995**
				Rounded to	**$2,900,000**

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Table 5-2
Cost Estimate for Alternative S3 - Capping of Soil Containing COCs > Ecological SCOs with Removal of Soil Beyond WSI Property Limits

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to facilitate soil excavation and construct a soil cap.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Permanent site fencing cost estimate includes all labor, equipment, and materials necessary to purchase and install a six-foot woven steel chain link fence equipped with top rail.

5. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

6. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct two approximately 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

7. Soil excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate material, transfer excavated material to on-site staging area, and load staged material for off-site transportation. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples. Cost estimate includes air monitoring during excavation activities.

8. Soil excavation dewatering cost estimate includes rental of one frac tank, pumps, and piping. Cost estimate assumes water removed from excavations and material and decontamination areas will be temporarily stored on-site in a frac tank prior to transportation for off-site management.

9. Verification sampling cost estimate includes the laboratory analysis of soil samples collected from soil excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted soil has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

10. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

11. Site regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact material excavated beyond the WSI property boundary within the WSI property boundary. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

12. Demarcation layer cost estimate includes all labor, equipment, and materials necessary to purchase and install light-weight non-woven geotextile material as base layer to provide visual demarcation between clean cover materials and potentially impacted underlying soils. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

13. Clay importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact clay or other suitable material. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 95% maximum compaction. Cost estimate includes survey verification and compaction testing.

Table 5-2
Cost Estimate for Alternative S3 - Capping of Soil Containing COCs > Ecological SCOs with Removal of Soil Beyond WSI Property Limits

WSI - Waste-Stream, Inc. Site - Potsdam, New York

14. Top soil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil.

15. Seed, mulch, and fertilizer cost estimate includes all labor, equipment, and materials necessary to purchase and apply seed, fertilizer, and mulch to site soil. Quantity estimate based on capping area within WSI property boundary and backfilled excavation areas beyond the WSI property boundary.

16. Stormwater management cost estimate includes all labor, equipment, and materials necessary to construct on-site stormwater collection trenches, drainage swales, and stormwater detention basins from management of stormwater runoff during and following remedial activities. Final stormwater management system to be developed during the remedial design phase.

17. Solid waste characterization cost estimate includes the analysis of soil samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated material. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard.

18. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides. Liquid waste characterization to be conducted in accordance with the requirements provided by off-site management facility.

19. Soil waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes soil would be management at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

20. Soil waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes that soil would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

21. Management of wastewater cost estimate include the transportation and off-site management of water generated during soil excavation activities. Volume estimate includes removal of one pore volume of saturated soil prior to excavation and removal of water from open excavation up to 2 times prior to backfilling.

22. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing activities that would jeopardize the integrity of the multi-media cap.

23. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

24. Annual monitoring/maintenance cost estimate includes all labor, equipment, and materials necessary to maintain the soil cap to prevent soil erosion. Cost estimate includes annual inspection of capped area to verify integrity of the soil cap. Cost estimate assumes annual cap maintenance including placement of up to six inches of topsoil and vegetation for up to 10,000 square-feet of soil cap. Cost estimate also includes annual inspection and repair/replacement of up to 100 linear-feet of new site perimeter fencing. Cost estimate also includes annual inspection and maintenance of stormwater management structures (e.g., ponds, ditches, etc.).

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to prevent current or future site workers from performing activities that would jeopardize the integrity of the soil cap. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

Table 5-2
Cost Estimate for Alternative S3 - Capping of Soil Containing COCs > Ecological SCOs with Removal of Soil Beyond WSI Property Limits

WSI - Waste-Stream, Inc. Site - Potsdam, New York

26. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-3
Cost Estimate for Alternative S4 - Excavation of Soil (PCBs ≥ 50 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Permanent Site Fencing	4,000	LF	$35	$140,000
5	Erosion Control	2,000	LF	$1	$2,000
6	Construction and Maintenance of Soil Staging Area	1	LS	$100,000	$100,000
7	Soil Excavation and Handling of Excavated Materials	10,300	CY	$30	$309,000
8	Soil Excavation Dewatering	2	month	$7,000	$14,000
9	Verification Sampling	240	each	$400	$96,000
10	Select Fill Importation, Placement, Grading and Compaction (Backfill)	5,000	CY	$25	$125,000
11	Site Regrading and Compaction (Backfill)	4,400	CY	$10	$44,000
12	Demarcation Layer	71,900	SY	$1	$71,900
13	Clay Importation, Placement, Grading and Compaction (Cap)	21,800	CY	$20	$436,000
14	Topsoil Importation, Placement, and Grading (Cap)	10,900	CY	$25	$272,500
15	Seed, Mulch, and Fertilizer	15.2	acre	$5,000	$76,000
16	Stormwater Management	1	LS	$300,000	$300,000
17	Solid Waste Characterization	31	each	$750	$23,250
18	Liquid Waste Characterization	1	each	$750	$750
19	Soil Waste Transportation and Off-Site Management - Solid Waste Landfill	750	ton	$50	$37,500
20	Soil Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
21	Management of Wastewater	30,000	gal	$0.20	$6,000
22	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$3,387,900
23				Administration and Engineering (10%)	$216,990
				Construction Management (5%)	$108,495
				Contingency (20%)	$677,580
				Subtotal Cost	$4,390,965
OPERATION AND MAINTENANCE COSTS (30 YEAR					
24	Annual Monitoring/Maintenance	1	LS	$10,000	$10,000
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
26				30-Year Total Present Worth Cost of O&M	$223,380
				Total Estimated Cost	$4,614,345
				Rounded to	$4,600,000

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Table 5-3
Cost Estimate for Alternative S4 - Excavation of Soil (PCBs ≥ 50 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform soil excavation and construct a multi-media cap.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Permanent site fencing cost estimate includes all labor, equipment, and materials necessary to purchase and install a six-foot woven steel chain link fence equipped with top rail.

5. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

6. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct two approximately 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

7. Soil excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate material, transfer excavated material to on-site staging area, and load staged material for off-site transportation or on-site consolidation. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples. Cost estimate includes air monitoring during excavation activities.

8. Soil excavation dewatering cost estimate includes rental of one frac tank, pumps, and piping. Cost estimate assumes water removed from excavations and material and decontamination areas will be temporarily stored on-site in a frac tank prior to transportation for off-site management.

9. Verification sampling cost estimate includes the laboratory analysis of soil samples collected from soil excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted soil has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

10. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

11. Site regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact material excavated beyond the WSI property boundary for use as backfill within the WSI property boundary. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

12. Demarcation layer cost estimate includes all labor, equipment, and materials necessary to purchase and install light-weight non-woven geotextile material as base layer to provide visual demarcation between clean cover materials and potentially impacted underlying soils. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

13. Clay importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact clay or other suitable material. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 95% maximum compaction. Cost estimate includes survey verification and compaction testing.

14. Top soil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil.

Table 5-3
Cost Estimate for Alternative S4 - Excavation of Soil (PCBs ≥ 50 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

15. Seed, mulch, and fertilizer cost estimate includes all labor, equipment, and materials necessary to purchase and apply seed, fertilizer, and mulch to site soil. Quantity estimate based on capping area within WSI property boundary and backfilled excavation areas beyond the WSI property boundary.

Table 5-3
Cost Estimate for Alternative S4 - Excavation of Soil (PCBs ≥ 50 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

16. Stormwater management cost estimate includes all labor, equipment, and materials necessary to construct on-site stormwater collection trenches, drainage swales, and stormwater detention basins from management of stormwater runoff during and following remedial activities. Final stormwater management system to be developed during the remedial design phase.

17. Solid waste characterization cost estimate includes the analysis of soil samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated material. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard.

18. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides. Liquid waste characterization to be conducted in accordance with the requirements provided by off-site management facility.

19. Soil waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes soil would be management at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

20. Soil waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations greater than 50 ppm off-site for management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes that soil would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

21. Management of wastewater cost estimate include the transportation and off-site management of water generated during soil excavation activities. Volume estimate includes removal of one pore volume of saturated soil prior to excavation and removal of water from open excavation up to 2 times prior to backfilling.

22. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing activities that would jeopardize the integrity of the multi-media cap.

23. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

24. Annual monitoring/maintenance cost estimate includes all labor, equipment, and materials necessary to maintain the soil cap to prevent soil erosion. Cost estimate includes annual inspection of capped area to verify integrity of the soil cap. Cost estimate assumes annual cap maintenance including placement of up to six inches of topsoil and vegetation for up to 10,000 square-feet of soil cap. Cost estimate also includes annual inspection and repair/replacement of up to 100 linear-feet of new site perimeter fencing. Cost estimate also includes annual inspection and maintenance of stormwater management structures (e.g., ponds, ditches, etc.).

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to prevent current or future site workers from performing activities that would jeopardize the integrity of the soil cap. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

26. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-4
Cost Estimate for Alternative S5 - Excavation of Soil (PCBs ≥ 25 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Permanent Site Fencing	4,000	LF	$35	$140,000
5	Erosion Control	2,000	LF	$1	$2,000
6	Construction and Maintenance of Soil Staging Area	1	LS	$100,000	$100,000
7	Soil Excavation and Handling of Excavated Materials	11,700	CY	$30	$351,000
8	Soil Excavation Dewatering	2	month	$7,000	$14,000
9	Verification Sampling	280	each	$400	$112,000
10	Select Fill Importation, Placement, Grading and Compaction (Backfill)	5,000	CY	$25	$125,000
11	Site Regrading and Compaction (Backfill)	4,000	CY	$10	$40,000
12	Demarcation Layer	71,900	SY	$1	$71,900
13	Clay Importation, Placement, Grading and Compaction (Cap)	21,800	CY	$20	$436,000
14	Topsoil Importation, Placement, and Grading (Cap)	10,900	CY	$25	$272,500
15	Seed, Mulch, and Fertilizer	15.2	acre	$5,000	$76,000
16	Stormwater Management	1	LS	$300,000	$300,000
17	Solid Waste Characterization	36	each	$750	$27,000
18	Liquid Waste Characterization	1	each	$750	$750
19	Soil Waste Transportation and Off-Site Management - Solid Waste Landfill	3,500	ton	$50	$175,000
20	Soil Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
21	Management of Wastewater	30,000	gal	$0.20	$6,000
22	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$3,583,150
23				Administration and Engineering (10%)	$222,765
				Construction Management (5%)	$111,383
				Contingency (20%)	$716,630
				Subtotal Cost	$4,633,928
OPERATION AND MAINTENANCE COSTS (30 YEAR					
24	Annual Monitoring/Maintenance	1	LS	$10,000	$10,000
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
26				30-Year Total Present Worth Cost of O&M	$223,380
				Total Estimated Cost	**$4,857,308**
				Rounded to	**$4,900,000**

Table 5-4
Cost Estimate for Alternative S5 - Excavation of Soil (PCBs ≥ 25 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform soil excavation and construct a soil cap.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Permanent site fencing cost estimate includes all labor, equipment, and materials necessary to purchase and install a six-foot woven steel chain link fence equipped with top rail.

5. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

6. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct two approximately 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

7. Soil excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate material, transfer excavated material to on-site staging area, and load staged material for off-site transportation or on-site consolidation. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples. Cost estimate includes air monitoring during excavation activities.

8. Soil excavation dewatering cost estimate includes rental of one frac tank, pumps, and piping. Cost estimate assumes water removed from excavations and material and decontamination areas will be temporarily stored on-site in a frac tank prior to transportation for off-site management.

9. Verification sampling cost estimate includes the laboratory analysis of soil samples collected from soil excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted soil has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

10. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

11. Site regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact 4,000 CY of material excavated beyond the WSI property boundary (containing PCBs at concentrations less than 25 ppm) for use as backfill within the WSI property boundary. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

Table 5-4
Cost Estimate for Alternative S5 - Excavation of Soil (PCBs ≥ 25 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

12. Demarcation layer cost estimate includes all labor, equipment, and materials necessary to purchase and install light-weight non-woven geotextile material as base layer to provide visual demarcation between clean cover materials and potentially impacted underlying soils. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

13. Clay importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact clay or other suitable material. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 95% maximum compaction. Cost estimate includes survey verification and compaction testing.

14. Top soil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil.

15. Seed, mulch, and fertilizer cost estimate includes all labor, equipment, and materials necessary to purchase and apply seed, fertilizer, and mulch to site soil. Quantity estimate based on capping area within WSI property boundary and backfilled excavation areas beyond the WSI property boundary.

16. Stormwater management cost estimate includes all labor, equipment, and materials necessary to construct on-site stormwater collection trenches, drainage swales, and stormwater detention basins from management of stormwater runoff during and following remedial activities. Final stormwater management system to be developed during the remedial design phase.

17. Solid waste characterization cost estimate includes the analysis of soil samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated material. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard.

18. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides. Liquid waste characterization to be conducted in accordance with the requirements provided by off-site management facility.

19. Soil waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes soil would be management at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

20. Soil waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes that soil would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

21. Management of wastewater cost estimate include the transportation and off-site management of water generated during soil excavation activities. Volume estimate includes removal of one pore volume of saturated soil prior to excavation and removal of water from open excavation up to 2 times prior to backfilling.

22. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing activities that would jeopardize the integrity of the multi-media cap.

23. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

24. Annual monitoring/maintenance cost estimate includes all labor, equipment, and materials necessary to maintain the soil cap to prevent soil erosion. Cost estimate includes annual inspection of capped area to verify integrity of the soil cap. Cost estimate assumes annual cap maintenance including placement of up to six inches of topsoil and vegetation for up to 10,000 square-feet of soil cap. Cost estimate also includes annual inspection and repair/replacement of up to 100 linear-feet of new site perimeter fencing. Cost estimate also includes annual inspection and maintenance of stormwater management structures (e.g., ponds, ditches, etc.).

Table 5-4
Cost Estimate for Alternative S5 - Excavation of Soil (PCBs ≥ 25 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to prevent current or future site workers from performing activities that would jeopardize the integrity of the soil cap. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

26. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-5
Cost Estimate for Alternative S6 - Excavation of Soil (PCBs ≥ 10 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Permanent Site Fencing	4,000	LF	$35	$140,000
5	Erosion Control	2,000	LF	$1	$2,000
6	Construction and Maintenance of Soil Staging Areas	1	LS	$150,000	$150,000
7	Soil Excavation and Handling of Excavated Materials	19,200	CY	$30	$576,000
8	Soil Excavation Dewatering	3	month	$7,000	$21,000
9	Verification Sampling	470	each	$400	$188,000
10	Select Fill Importation, Placement, Grading and Compaction (Backfill Beyond WSI Property Boundary)	5,000	CY	$25	$125,000
11	Site Regrading and Compaction (Backfill)	3,800	CY	$10	$38,000
12	Select Fill Importation, Placement, Grading and Compaction (Backfill within WSI Property Boundary)	5,000	CY	$25	$125,000
13	Demarcation Layer	71,900	SY	$1	$71,900
14	Clay Importation, Placement, Grading and Compaction (Cap)	21,800	CY	$20	$436,000
15	Topsoil Importation, Placement, and Grading (Cap)	10,900	CY	$25	$272,500
16	Seed, Mulch, and Fertilizer	15.2	acre	$5,000	$76,000
17	Stormwater Management	1	LS	$300,000	$300,000
18	Solid Waste Characterization	58	each	$750	$43,500
19	Liquid Waste Characterization	1	each	$750	$750
20	Soil Waste Transportation and Off-Site Management - Solid Waste Landfill	15,000	ton	$50	$750,000
21	Soil Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
22	Management of Wastewater	40,000	gal	$0.20	$8,000
23	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$4,657,650
24				Administration and Engineering (10%)	$267,440
				Construction Management (5%)	$133,720
				Contingency (20%)	$931,530
				Subtotal Cost	$5,990,340
OPERATION AND MAINTENANCE COSTS (30 YEAR					
25	Annual Monitoring/Maintenance	1	LS	$10,000	$10,000
26	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
27				30-Year Total Present Worth Cost of O&M	$223,380
				Total Estimated Cost	**$6,213,720**
				Rounded to	**$6,200,000**

Table 5-5
Cost Estimate for Alternative S6 - Excavation of Soil (PCBs ≥ 10 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform soil excavation and construct a soil cap.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Permanent site fencing cost estimate includes all labor, equipment, and materials necessary to purchase and install a six-foot woven steel chain link fence equipped with top rail.

5. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

6. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct an approximate 100-foot by 200-foot and an approximate 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

7. Soil excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate material, transfer excavated material to on-site staging area, and load staged material for off-site transportation or on-site consolidation. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples. Cost estimate includes air monitoring during excavation activities.

8. Soil excavation dewatering cost estimate includes rental of one frac tank, pumps, and piping. Cost estimate assumes water removed from excavations and material and decontamination areas will be temporarily stored on-site in a frac tank prior to transportation for off-site management.

9. Verification sampling cost estimate includes the laboratory analysis of soil samples collected from soil excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted soil has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

10. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

11. Site regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact 3,800 CY of material excavated beyond the WSI property boundary (containing PCBs at concentrations less than 10 ppm) for use as backfill within the WSI property boundary.

12. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Note that 14,200 CY of excavated volume requires backfilling within the WSI property boundary. As indicated in Note #11, 3,800 CY of soil (from beyond the WSI property boundary) would be consolidated on-site, thereby leaving 10,400 CY within the WSI property boundary that requires backfilling. If Alternative SED3 is selected as the preferred sediment alternative, 2,100 CY of excavated sediment (containing PCBs at concentrations less than 10 ppm) would be avaible for use as backfill within the WSI property, thereby requiring an additional 8,300 CY of backfilling. If Alternative SED4 is selected as the preferred sediment alternative, 8,700 CY of excavated sediment (containing PCBs at concentrations less than 10 ppm) would be avaible for use as backfill within the WSI property, therefore requiring an additional 1,700 CY of backfilling. Therefore, this cost estimate includes importation of an additional 5,000 CY (average of 8,300 and 1,700 CY) of general fill to restore the site to pre-existing lines and grades (prior to capping). Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

13. Demarcation layer cost estimate includes all labor, equipment, and materials necessary to purchase and install light-weight non-woven geotextile material as base layer to provide visual demarcation between clean cover materials and potentially impacted underlying soils. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

14. Clay importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact clay or other suitable material. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 95% maximum compaction. Cost estimate includes survey verification and compaction testing.

15. Top soil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil.

16. Seed, mulch, and fertilizer cost estimate includes all labor, equipment, and materials necessary to purchase and apply seed, fertilizer, and mulch to site soil. Quantity estimate based on capping area within WSI property boundary and backfilled excavation areas beyond the WSI property boundary.

17. Stormwater management cost estimate includes all labor, equipment, and materials necessary to construct on-site stormwater collection trenches, drainage swales, and stormwater detention basins from management of stormwater runoff during and following remedial activities. Final stormwater management system to be developed during the remedial design phase.

18. Solid waste characterization cost estimate includes the analysis of soil samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated material. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard.

19. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides. Liquid waste characterization to be conducted in accordance with the requirements provided by off-site management facility.

20. Soil waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes soil would be managed at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

21. Soil waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes that soil would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

Table 5-5
Cost Estimate for Alternative S6 - Excavation of Soil (PCBs ≥ 10 ppm) with Off-Site Management; Removal of Soil Beyond WSI Property Limits; On-Site Consolidation and Capping

WSI - Waste-Stream, Inc. Site - Potsdam, New York

22. Management of wastewater cost estimate include the transportation and off-site management of water generated during soil excavation activities. Volume estimate includes removal of one pore volume of saturated soil prior to excavation and removal of water from open excavation up to 2 times prior to backfilling.

23. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing activities that would jeopardize the integrity of the multi-media cap.

24. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

25. Annual monitoring/maintenance cost estimate includes all labor, equipment, and materials necessary to maintain the soil cap to prevent soil erosion. Cost estimate includes annual inspection of capped area to verify integrity of the soil cap. Cost estimate assumes annual cap maintenance including placement of up to six inches of topsoil and vegetation for up to 10,000 square-feet of soil cap. Cost estimate also includes annual inspection and repair/replacement of up to 100 linear-feet of new site perimeter fencing. Cost estimate also includes annual inspection and maintenance of stormwater management structures (e.g., ponds, ditches, etc.).

26. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to prevent current or future site workers from performing activities that would jeopardize the integrity of the soil cap. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

27. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-6
Cost Estimate for Alternative S7 - Excavation of Soil Containing COCs > Unrestricted Use SCOs with Off-Site Management

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Erosion Control	4,000	LF	$1	$4,000
5	Construction and Maintenance of Soil Staging Area	1	LS	$150,000	$150,000
6	Soil Excavation and Handling of Excavated Materials	90,800	CY	$30	$2,724,000
7	Soil Excavation Dewatering	10	month	$50,000	$500,000
8	Verification Sampling	1,260	each	$400	$504,000
9	Select Fill Importation, Placement, Grading and Compaction (Backfill)	90,800	CY	$25	$2,270,000
10	Seed, Mulch, and Fertilizer	15.5	acre	$5,000	$77,500
11	Stormwater Management	1	LS	$300,000	$300,000
12	Solid Waste Characterization	272	each	$750	$204,300
13	Liquid Waste Characterization	3	each	$750	$2,250
14	Soil Waste Transportation and Off-Site Management - Solid Waste Landfill	128,100	ton	$50	$6,405,000
15	Soil Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
16	Groundwater Discharge to POTW	275,000	gal	$0.02	$5,500
				Total Capital Cost	$14,430,550
17				Administration and Engineering (10%)	$684,555
				Construction Management (5%)	$342,278
				Contingency (20%)	$2,886,110
				Subtotal Cost	$18,343,493
				Total Estimated Cost	$18,343,493
				Rounded to	$18,400,000

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to facilitate soil excavation.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

Table 5-6
Cost Estimate for Alternative S7 - Excavation of Soil Containing COCs > Unrestricted Use SCOs with Off-Site Management

WSI - Waste-Stream, Inc. Site - Potsdam, New York

5. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct an approximate 100-foot by 200-foot and an approximate 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

6. Soil excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate material, transfer excavated material to on-site staging area, and load staged material for off-site transportation or on-site consolidation. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples. Cost estimate includes air monitoring during excavation activities.

7. Soil excavation dewatering cost estimate includes rental of a portal water treatment system capable of operating at 30 gallons per minute. Cost estimate assumes water treatment system includes pumps, influent piping and hoses, frac tank, carbon filters, bag filters, discharge piping and hoses, and flow meter. Cost estimate assumes bag filters will require change out approximately once per day of operation. Cost estimate assumes treated water would be discharged to POTW via local sanitary sewer. Cost estimate based on information provided to ARCADIS by Baker Tanks on March 8, 2007. Cost estimate includes sampling of treated water.

8. Verification sampling cost estimate includes the laboratory analysis of soil samples collected from soil excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted soil has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

9. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

10. Seed, mulch, and fertilizer cost estimate includes all labor, equipment, and materials necessary to purchase and apply seed, fertilizer, and mulch to site soil. Quantity estimate based on backfilled excavation areas within and beyond the WSI property boundary.

11. Stormwater management cost estimate includes all labor, equipment, and materials necessary to construct on-site stormwater collection trenches, drainage swales, and stormwater detention basins from management of stormwater runoff both during and following remedial activities. Final stormwater management system to be developed during the remedial design phase.

12. Solid waste characterization cost estimate includes the analysis of soil samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated material. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard.

13. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides. Liquid waste characterization to be conducted in accordance with the requirements provided by POTW.

14. Soil waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes soil would be managed at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

15. Soil waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport soil containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard. Cost estimate assumes that soil would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

Table 5-6
Cost Estimate for Alternative S7 - Excavation of Soil Containing COCs > Unrestricted Use SCOs with Off-Site Management

WSI - Waste-Stream, Inc. Site - Potsdam, New York

16. Groundwater discharge to POTW cost estimate includes fee for discharging treated water generated during soil excavation activities to a sanitary sewer for management at the local POTW. Volume estimate includes removal of one pore volume of saturated soil prior to excavation and removal of water from open excavation up to 2 times prior to backfilling.

17. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

Table 5-7
Cost Estimate for Alternative GW2 - Institutional Controls

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$50,000
				Contingency (20%)	$10,000
				Subtotal Cost	$60,000
OPERATION AND MAINTENANCE COSTS					
2	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$5,000
				Contingency (20%)	$1,000
				Subtotal Cost	$6,000
3				30-Year Total Present Worth Cost of O&M	$74,460
				Total Estimated Cost	**$134,460**
				Rounded to	**$135,000**

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent potential future use of site groundwater.

2. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to site groundwater. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

3. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-8
Cost Estimate for Alternative GW3 - Continued Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
2	Abandon Existing Monitoring Wells	10	each	$2,000	$20,000
3	Groundwater Monitoring Well Installation	10	each	$5,000	$50,000
4	Annual Groundwater Monitoring Field Activities	1	LS	$7,500	$7,500
5	Laboratory Analysis	12	each	$400	$4,800
6	Waste Management	2	drum	$250	$500
7	Prepare Annual Groundwater Monitoring Report	1	LS	$6,000	$6,000
				Total Capital Cost	$138,800
				Administration and Engineering (10%)	$13,880
				Contingency (20%)	$27,760
				Total Cost	$180,440
OPERATION AND MAINTENANCE COSTS					
8	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
9	Annual Groundwater Monitoring	1	LS	$12,800	$12,800
10	Prepare Annual Groundwater Monitoring Report	1	LS	$6,000	$6,000
				Total O&M Cost	$23,800
				Contingency (20%)	$4,760
				Total Cost	$28,560
11				30-Year Total Present Worth Cost of O&M	$354,430
				Total Estimated Cost	**$534,870**
				Rounded to	**$530,000**

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent potential future use of site groundwater.

2. Abandon existing monitoring wells cost estimate includes all labor, equipment, and materials necessary to over-drill and grout existing groundwater monitoring wells. Cost estimate assumes abandonment activities can be complete two drillers and a geologist at a rate of two wells per day.

3. Groundwater monitoring well installation cost estimate includes all labor, equipment, and materials necessary to install shallow groundwater monitoring wells to a depth up to 20 feet below ground surface. Cost estimate assumes monitoring wells are constructed of PVC with cast iron, flush-mount, locking covers.

4. Annual groundwater monitoring field activities cost estimate includes all equipment, materials, and labor necessary to conduct groundwater monitoring activities once per year. Cost estimate assumes that two workers will require four days to collect groundwater samples from 10 wells.

5. Laboratory analysis cost estimate includes all labor, equipment, and materials necessary to submit groundwater samples for laboratory analysis for BTEX, select SVOCs, and PCBs that were detected in groundwater samples collected during the RI. Cost estimate assumes 12 groundwater samples will be collected per monitoring event including up to three QA/QC samples (field duplicate, matrix spike, and matrix spike duplicate).

6. Waste management cost estimate includes all labor, equipment, and materials necessary to manage PPE and wastewater generated during annual groundwater monitoring activities. Cost estimate assumes monitoring activities will generate two drums of waste material per year.

7. Prepare annual groundwater monitoring report includes all labor and materials necessary to summarize the results from the annual groundwater monitoring field activities and laboratory analysis. Cost estimate includes reproduction and delivery of report to NYSDEC.

8. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to site groundwater. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

9. See Notes 4, 5, and 6.

10. See Note 7.

11. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-9
Cost Estimate for Alternative GW4 - Chemical Oxidation of Dissolved-Phase VOCs

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Abandon Existing Monitoring Wells	10	each	$2,000	$20,000
2	Groundwater Monitoring Well Installation	10	each	$5,000	$50,000
3	Mobilization/Demobilization	1	LS	$6,000	$6,000
4	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
5	Install Temporary Fencing	600	LF	$30	$18,000
6	Design, Planning, and Permitting	1	LS	$4,000	$4,000
7	Equipment Usage and Technology License	1	LS	$12,000	$12,000
8	Injection Well Installation	14	each	$1,800	$25,200
9	System Infrastructure Installation	1	LS	$18,000	$18,000
10	System Startup and Testing	1	LS	$2,500	$2,500
11	System Operation	1	LS	$7,200	$7,200
12	Project Management and Administration	1	LS	$4,500	$4,500
13	Quarterly Groundwater Monitoring	4	month	$2,000	$8,000
14	Laboratory Analysis	24	each	$120	$2,880
15	Summary Report	1	LS	$6,000	$6,000
16	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$241,780
				Administration and Engineering (20%)	$48,356
				Construction Management (10%)	$24,178
				Contingency (20%)	$48,356
				Subtotal Cost	$362,670
OPERATION AND MAINTENANCE COSTS					
17	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
18	Annual Groundwater Monitoring	1	LS	$12,800	$12,800
19	Prepare Annual Groundwater Monitoring Report	1	LS	$6,000	$6,000
				Total O&M Cost	$23,800
				Contingency (20%)	$4,760
				Subtotal Cost	$28,560
20				30-Year Total Present Worth Cost of O&M	$354,430
				Total Estimated Cost	**$717,100**
				Rounded to	**$720,000**

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Abandon existing monitoring wells cost estimate includes all labor, equipment, and materials necessary to over-drill and grout existing groundwater monitoring wells. Cost estimate assumes abandonment activities can be complete two drillers and a geologist at a rate of two wells per day.

2. Groundwater monitoring well installation cost estimate includes all labor, equipment, and materials necessary to install shallow groundwater monitoring wells to a depth up to 20 feet below ground surface. Cost estimate assumes monitoring wells are constructed of PVC with cast iron, flush-mount, locking covers.

3. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform in-situ chemical oxidation of impacted site groundwater.

Table 5-9
Cost Estimate for Alternative GW4 - Chemical Oxidation of Dissolved-Phase VOCs

WSI - Waste-Stream, Inc. Site - Potsdam, New York

4. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

5. Temporary fencing cost estimate includes labor, equipment, and materials necessary to purchase, install, and remove temporary six-foot woven steel chain link fence equipped with top tension wire.

6. Design, planning, and permitting cost estimate includes all labor, equipment, and materials necessary to complete final system design, project plans such as design documents and operation plans, and obtain necessary permits associated with construction and operation of the injection system. Cost estimate based information provided to ARCADIS by Resource Control Corporation (RCC) in February 2007.

7. Equipment usage and technology license cost estimate includes rental of ozone production and injection equipment, as well as associated licensing, for a period of one month. Cost estimate based information provided to ARCADIS by RCC in February 2007.

8. Injection well installation cost estimate includes all labor, equipment, and materials necessary to install up to 14 ozone injection wells. Cost estimate assumes injection wells will be installed via hollow-stem drilling methods to a depth up to 25 feet below ground surface. Cost estimate based information provided to ARCADIS by RCC in February 2007.

9. System infrastructure installation cost estimate includes all labor, equipment, and materials necessary to complete installation of system components such as wellhead connections, process piping, construction of manifolds, and connection to and setup of equipment trailer(s). Cost estimate based information provided to ARCADIS by RCC in February 2007.

10. System startup and testing cost estimate includes all labor, equipment, and materials necessary to complete mechanical and electrical testing of all components, equipment calibration, system performance verification, and system optimization during initial remedial activities. Cost estimate based information provided to ARCADIS by RCC in February 2007.

11. System operation cost estimate includes all labor and electrical usage for system operation for a period of one month. Cost estimate assumes a system operator will visit the site two times per week to monitor system operation. Cost estimate assumes remedial system can be operated by the existing power supply at the site and a utility usage cost of $200. Cost estimate based information provided to ARCADIS by RCC in February 2007.

12. Project management and administration cost estimate includes project coordination with remedial contractor consisting of one design meeting, one preconstruction meeting, and one progress meeting to be held at the site. Cost estimate based information provided to ARCADIS by RCC in February 2007.

13. Quarterly groundwater monitoring field activities cost estimate includes all equipment, materials, and labor necessary to conduct quarterly groundwater sampling activities for one year following chem-ox application. Cost estimate assumes that two workers will require one day to collect groundwater samples from up to 4 wells in the vicinity of the chem-ox application.

14. Laboratory analysis cost estimate includes all labor, equipment, and materials necessary to analyze groundwater samples for VOCs only. Cost assumes 6 samples will be collected each quarter (including QA/QC samples - duplicate, matrix spike, and matrix spike duplicate) from up to 4 new wells for a period of one year.

15. Summary report cost estimate includes all labor necessary to prepare a report summarizing remedial activities and monthly groundwater sampling activities one year after implementation of remedial activities.

16. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent potential future use of site groundwater.

17. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to site groundwater. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

Table 5-9
Cost Estimate for Alternative GW4 - Chemical Oxidation of Dissolved-Phase VOCs

WSI - Waste-Stream, Inc. Site - Potsdam, New York

18. Annual groundwater monitoring cost estimate includes all labor, equipment, and materials to complete annual groundwater monitoring activities and laboratory analysis. Cost estimate assumes that two workers will require four days to collect groundwater samples from 10 wells. Cost include laboratory analysis for BTEX, select SVOCs, and PCBs that were detected in groundwater samples collected during the RI.

19. Prepare annual groundwater monitoring report includes all labor and materials necessary to summarize the results from the annual groundwater monitoring field activities and laboratory analysis. Cost estimate includes reproduction and delivery of report to NYSDEC.

20. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-10
Cost Estimate for Alternative SD2 - Institutional Controls

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
1	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$50,000
				Contingency (20%)	$10,000
				Subtotal Cost	$60,000
OPERATION AND MAINTENANCE COSTS					
2	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$5,000
				Contingency (20%)	$1,000
				Subtotal Cost	$6,000
3				30-Year Total Present Worth Cost of O&M	$74,460
				Total Estimated Cost	$134,460
				Rounded to	$135,000

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing intrusive activities.

2. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to remaining impacted sediment. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

3. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

Table 5-11
Cost Estimate for Alternative SD3 - Average-Based Sediment Removal to Achieve PCBs < 1 ppm with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Erosion Control	4,000	LF	$1	$4,000
5	Construction and Maintenance of Soil Staging Areas	1	LS	$100,000	$100,000
6	Permitting	1	LS	$50,000	$50,000
7	Sediment Excavation and Handling of Excavated Materials	14,700	CY	$91	$1,337,700
8	Sediment Regrading and Compaction	9,800	CY	$10	$98,000
9	Temporary Water Treatment System	4	month	$50,000	$200,000
10	Verification Sampling	300	each	$400	$120,000
11	Perforated Drainpipe	500	LF	$150	$75,000
12	Geotextile Fabric	3,900	SY	$3	$11,700
13	Rip-Rap	3,000	CY	$85	$255,000
14	Wetland Restoration Vegetation Plan	1	LS	$50,000	$50,000
15	Select Fill Importation, Placement, Grading and Compaction	9,000	CY	$25	$225,000
16	Topsoil Importation, Placement, and Grading	2,300	CY	$25	$57,500
17	Wetlands Restoration	2.8	acre	$40,000	$112,000
18	Solid Waste Characterization	49	each	$750	$36,750
19	Liquid Waste Characterization	10	each	$750	$7,500
20	Sediment Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
21	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$4,074,150
22				Administration and Engineering (10%)	$289,965
				Construction Management (5%)	$144,983
				Contingency (20%)	$814,830
				Subtotal Cost	$5,323,928
OPERATION AND MAINTENANCE COSTS (30 YEAR BIENNIAL)					
23	Biennial Wetland Biota Monitoring	1	LS	$35,000	$35,000
				Total O&M Cost	$35,000
				Contingency (20%)	$7,000
				Subtotal Cost	$42,000
24				30-Year Total Present Worth Cost of O&M	$251,580
OPERATION AND MAINTENANCE COSTS (30 YEAR ANNUAL)					
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$5,000
				Contingency (20%)	$1,000
				Subtotal Cost	$6,000
26				30-Year Total Present Worth Cost of O&M	$74,460
OPERATION AND MAINTENANCE COSTS (5 YEAR ANNUAL)					
27	Annual Wetland Vegetation Monitoring	1	LS	$15,000	$15,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
28				5-Year Total Present Worth Cost of O&M	$73,800
				Total Estimated Cost	**$5,723,768**
				Rounded to	**$5,700,000**

Table 5-11
Cost Estimate for Alternative SD3 - Average-Based Sediment Removal to Achieve PCBs < 1 ppm with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

3. Cost estimate assumes Soil Alternatives S3 through S6 would be implemented as part of site remedial activities. Costs for construction of site cap on WSI property are not included with the cost estimate for this sediment alternative.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform sediment removal activities.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

5. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct two approximately 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

6. Permitting cost estimate includes all labor necessary to file for and obtain necessary permits for conducting work in southern and northern drainage area wetlands.

7. Sediment excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate sediment, transfer excavated material to staging/dewatering/amendment area, and load staged material for off-site transportation or on-site consolidation. Cost estimate includes construction of access roads into northern drainage area, excavation area dewatering, construction of mixing area, mixing/amending excavated material, amendment (i.e., with wood chips, inert wood ash, or Portland cement), and air monitoring during excavation activities. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples.

8. Sediment regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact excavated sediment for use as backfill within the WSI property boundary. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing. Note that this cost estimate has been prepared assuming Alternative S4 would be selected as the preferred soil alternative. However, this sediment alternative could also be paired with either Soil Alternative S5 or S6 (which would change the volume of sediment that could be consolidated on-site and volume of sediment to be managed off-site). Off-site management and on-site consolidation volumes and costs associated with the implementation of this sediment alternative in conjunction with Soil Alternatives S5 and S6 are summarized in the table below.

Table 5-11
Cost Estimate for Alternative SD3 - Average-Based Sediment Removal to Achieve PCBs < 1 ppm with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

	Soil Alternative	
	S5 (PCBs >25 ppm)	S6 (PCBs >10 ppm)
Sediment Available for Regrading and Compaction (CY)	6,000	2,100
Sediment Waste Transportation and Off-Site Management - Solid Waste Landfill (CY)	3,800	7,700
Total Estimated Cost of Sediment Alternative SD3	$6,100,000	$6,400,000

9. Temporary groundwater treatment system cost estimate includes rental of a portal water treatment system capable of operating at 30 gallons per minute. Cost estimate assumes water treatment system includes pumps, influent piping and hoses, frac tank, carbon filters, bag filters, discharge piping and hoses, and flow meter. Cost estimate assumes bag filters will require change out approximately once per day of operation. Cost estimate assumes treated water would be discharged to site wetlands. Cost estimate based on information provided to ARCADIS by Baker Tanks on March 8, 2007. Cost estimate includes sampling of treated water.

10. Verification sampling cost estimate includes the laboratory analysis of sediment samples collected from sediment excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted sediment has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

11. Perforated drainpipe cost estimate includes all labor, equipment, and materials necessary to install a perforated drainpipe to replace the on-site portion of the drainage ditch/culvert with a perforated HDPE drainpipe. Cost estimate assumes drainpipe would be covered and includes costs for drainpipe excavation backfill materials.

12. Geotextile fabric cost estimate includes all labor, equipment, and materials necessary to purchase and install non-woven geotextile as a base layer within the southern drainage areas and the portion of the drainage swale not within the WSI property prior to placement of rip-rap stone. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

13. Rip-rap cost estimate includes all labor, equipment, and materials necessary to place rip-rap stone for backfill in the southern drainage areas and the portion of drainage swale not within the WSI property.

14. Wetland restoration plan cost estimate includes all labor necessary to prepare a wetland restoration plan. Cost estimate includes five days of wetland investigation activities (including collection and analysis of soil samples for soil characterization) by two workers. Cost estimate includes office support for writing wetland restoration plan to include a wetland grading plan, vegetation requirements, and post-restoration monitoring activities.

15. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill to replace removed sediment to within six inches of proposed wetland final grades during wetland restoration activities. Cost estimate assumes two feet of general fill required per each excavation area. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

16. Topsoil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil (consistent with existing wetland materials) to meet previously existing wetland grades during wetland restoration activities.

17. Wetland restoration cost estimate includes all labor, equipment, and materials necessary to restore wetlands with seed mixtures, shrubs, and trees.

18. Solid waste characterization cost estimate includes the analysis of sediment samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated sediment. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard plus an additional 10% for the addition of stabilizing agents.

19. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides.

Table 5-11
Cost Estimate for Alternative SD3 - Average-Based Sediment Removal to Achieve PCBs < 1 ppm with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

20. Sediment waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport sediment containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard plus an additional 10% for stabilizing agents. Cost estimate assumes that sediment would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008. Note that this cost estimate has been prepared under the assumption that Alternative S4 would be selected as the preferred soil alternative. See Note 8 for off-site management/on-site consolidation volumes associated with the implementation of other soil alternatives.

21. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing intrusive activities in on-site and off-site wetlands.

22. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

23. Biennial wetland biota monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland monitoring following remedial activities. Cost estimate assumes two workers will require 10 days to collect up to 40 biota samples (e.g., minnows, fish, frogs, etc.) from the northern drainage area (NDA) and drainage swale area that discharges to the NDA. Cost estimate assumes biota samples will be analyzed for PCBs and percent lipids. The scope of monitoring activities is based on the September 2002 FWIA IIC Sampling Plan. The scope of sampling activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of a report to document results of sampling activities and laboratory analysis of samples.

24. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to remaining impacted sediment. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

26. See Note 24.

27. Annual wetland vegetation monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland vegetation monitoring for five years following remedial activities. Cost estimate assumes two workers will require five days to inspect site wetlands to verify that restored vegetation has been established. The scope of monitoring activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of an annual report to document results of investigation activities.

28. See Note 24.

Table 5-12
Cost Estimate for Alternative SD4 - Area-Based Sediment Removal (PCBs > 1 ppm)
with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Erosion Control	4,000	LF	$1	$4,000
5	Construction and Maintenance of Soil Staging Areas	1	LS	$100,000	$100,000
6	Permitting	1	LS	$50,000	$50,000
7	Sediment Excavation and Handling of Excavated Materials	21,300	CY	$91	$1,938,300
8	Sediment Regrading and Compaction	16,400	CY	$10	$164,000
9	Temporary Water Treatment System	6	month	$50,000	$300,000
10	Verification Sampling	420	each	$400	$168,000
11	Perforated Drainpipe	500	LF	$150	$75,000
12	Geotextile Fabric	3,900	SY	$3	$11,700
13	Rip-Rap	3,000	CY	$85	$255,000
14	Wetland Restoration Vegetation Plan	1	LS	$50,000	$50,000
15	Select Fill Importation, Placement, Compaction, and Grading	14,000	CY	$25	$350,000
16	Topsoil Importation, Placement, and Grading	3,500	CY	$25	$87,500
17	Wetlands Restoration	4.4	acre	$10,000	$44,000
18	Solid Waste Characterization	71	each	$750	$53,250
19	Liquid Waste Characterization	10	each	$750	$7,500
20	Sediment Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
21	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$4,992,250
22				Administration and Engineering (10%)	$381,775
				Construction Management (5%)	$190,888
				Contingency (20%)	$998,450
				Subtotal Cost	$6,563,363
OPERATION AND MAINTENANCE COSTS (30 YEAR BIENNIAL)					
23	Biennial Wetland Biota Monitoring	1	LS	$35,000	$35,000
				Total O&M Cost	$35,000
				Contingency (20%)	$7,000
				Subtotal Cost	$42,000
24				30-Year Total Present Worth Cost of O&M	$251,580
OPERATION AND MAINTENANCE COSTS (30 YEAR ANNUAL)					
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$5,000
				Contingency (20%)	$1,000
				Subtotal Cost	$6,000
26				30-Year Total Present Worth Cost of O&M	$74,460
OPERATION AND MAINTENANCE COSTS (5 YEAR ANNUAL)					
27	Annual Wetland Vegetation Monitoring	1	LS	$15,000	$15,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
28				5-Year Total Present Worth Cost of O&M	$73,800
				Total Estimated Cost	**$6,963,203**
				Rounded to	**$7,000,000**

Table 5-12
Cost Estimate for Alternative SD4 - Area-Based Sediment Removal (PCBs > 1 ppm)
with On-Site Consolidation and Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

3. Cost estimate assumes Soil Alternatives S3 through S6 would be implemented as part of site remedial activities. Costs for construction of site cap on WSI property are not included with the cost estimate for this sediment alternative.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform sediment removal activities.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

5. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct two approximately 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

6. Permitting cost estimate includes all labor necessary to file for and obtain necessary permits for conducting work in southern and northern drainage area wetlands.

7. Sediment excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate sediment, transfer excavated material to staging/dewatering/amendment area, and load staged material for off-site transportation or on-site consolidation. Cost estimate includes construction of access roads into northern drainage area, excavation area dewatering, construction of mixing area, mixing/amending excavated material, amendment (i.e., with wood chips, inert wood ash, or Portland cement), and air monitoring during excavation activities. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples.

8. Sediment regrading and compaction cost estimate includes all labor, equipment, and materials necessary to regrade and compact excavated sediment for use as backfill within the WSI property boundary. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing. Note that this cost estimate has been prepared assuming Alternative S4 would be selected as the preferred soil alternative. However, this sediment alternative could also be paired with either Soil Alternative S5 or S6 (which would change the volume of sediment that could be consolidated on-site and volume of sediment to be managed off-site). Off-site management and on-site consolidation volumes and costs associated with the implementation of this sediment alternative in conjunction with Soil Alternatives S5 and S6 are summarized in the table below.

	Soil Alternative	
	S5 (PCBs > 25 ppm)	S6 (PCBs > 10 ppm)
Sediment Available for Regrading and Compaction (CY)	12,600	8,700
Sediment Waste Transportation and Off-Site Management - Solid Waste Landfill (CY)	3,800	7,700
Total Estimated Cost of Sediment Alternative SD4	$7,300,000	$7,600,000

9. Temporary groundwater treatment system cost estimate includes rental of a portal water treatment system capable of operating at 30 gallons per minute. Cost estimate assumes water treatment system includes pumps, influent piping and hoses, frac tank, carbon filters, bag filters, discharge piping and hoses, and flow meter. Cost estimate assumes bag filters will require change out approximately once per day of operation. Cost estimate assumes treated water would be discharged to site wetlands. Cost estimate based on information provided to ARCADIS by Baker Tanks on March 8, 2007. Cost estimate includes sampling of treated water.

10. Verification sampling cost estimate includes the laboratory analysis of sediment samples collected from sediment excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted sediment has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

11. Perforated drainpipe cost estimate includes all labor, equipment, and materials necessary to install a perforated drainpipe to replace the on-site portion of the drainage ditch/culvert with a perforated HDPE drainpipe. Cost estimate assumes drainpipe would be covered and includes costs for drainpipe excavation backfill materials.

12. Geotextile fabric cost estimate includes all labor, equipment, and materials necessary to purchase and install non-woven geotextile as a base layer within the southern drainage areas and the portion of the drainage swale not within the WSI property prior to placement of rip-rap stone. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

13. Rip-rap cost estimate includes all labor, equipment, and materials necessary to place rip-rap stone for backfill in the southern drainage areas and the portion of drainage swale not within the WSI property.

14. Wetland restoration plan cost estimate includes all labor necessary to prepare a wetland restoration plan. Cost estimate includes five days of wetland investigation activities (including collection and analysis of soil samples for soil characterization) by two workers. Cost estimate includes office support for writing wetland restoration plan to include a wetland grading plan, vegetation requirements, and post-restoration monitoring activities.

15. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill to replace removed sediment to within six inches of proposed wetland final grades during wetland restoration activities. Cost estimate assumes two feet of general fill required per each excavation area. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

16. Topsoil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil (consistent with existing wetland materials) to meet previously existing wetland grades during wetland restoration activities. Cost estimate includes survey verification and compaction testing.

17. Wetland restoration cost estimate includes all labor, equipment, and materials necessary to restore wetlands with seed mixtures, shrubs, and trees.

18. Solid waste characterization cost estimate includes the analysis of sediment samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated sediment. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard plus an additional 10% for the addition of stabilizing agents.

19. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides.

20. Sediment waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport sediment containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard plus an additional 10% for stabilizing agents. Cost estimate assumes that sediment would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008. Note that this cost estimate has been prepared under the assumption that Alternative S4 would be selected as the preferred soil alternative. See Note 8 for off-site management/on-site consolidation volumes associated with the implementation of other soil alternatives.

21. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing intrusive activities in on-site and off-site wetlands.

22. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

23. Biennial wetland biota monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland monitoring following remedial activities. Cost estimate assumes two workers will require 10 days to collect up to 40 biota samples (e.g., minnows, fish, frogs, etc.) from the northern drainage area (NDA) and drainage swale area that discharges to the NDA. Cost estimate assumes biota samples will be analyzed for PCBs and percent lipids. The scope of monitoring activities is based on the September 2002 FWIA IIC Sampling Plan. The scope of sampling activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of a report to document results of sampling activities and laboratory analysis of samples.

24. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to remaining impacted sediment. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

26. See Note 24.

27. Annual wetland vegetation monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland vegetation monitoring for five years following remedial activities. Cost estimate assumes two workers will require five days to inspect site wetlands to verify that restored vegetation has been established. The scope of monitoring activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of an annual report to document results of investigation activities.

28. See Note 24.

Table 5-13
Cost Estimate for Alternative SD5 - Area-Based Sediment Removal (PCBs > 0.1 ppm)
with Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

Item #	Description	Estimated Quantity	Unit	Unit Price (materials and labor)	Estimated Amount
CAPITAL COSTS					
1	Mobilization/Demobilization	1	LS	$100,000	$100,000
2	Utility Location and Markout	1	LS	$2,000	$2,000
3	Construct and Remove Equipment Decontamination Pad	1	LS	$7,500	$7,500
4	Erosion Control	4,000	LF	$1	$4,000
5	Construction and Maintenance of Soil Staging Areas	1	LS	$150,000	$150,000
6	Permitting	1	LS	$50,000	$50,000
7	Sediment Excavation and Handling of Excavated Materials	37,800	CY	$91	$3,439,800
8	Temporary Water Treatment System	11	month	$50,000	$550,000
9	Verification Sampling	640	each	$400	$256,000
10	Perforated Drainpipe	500	LF	$150	$75,000
11	Geotextile Fabric	3,900	SY	$3	$11,700
12	Rip-Rap	3,000	CY	$85	$255,000
13	Wetland Restoration Vegetation Plan	1	LS	$50,000	$50,000
14	Select Fill Importation, Placement, Compaction, and Grading	27,200	CY	$25	$680,000
15	Topsoil Importation, Placement, and Grading	6,800	CY	$25	$170,000
16	Wetlands Restoration	8.5	acre	$10,000	$85,000
17	Solid Waste Characterization	125	each	$750	$93,750
18	Liquid Waste Characterization	20	each	$750	$15,000
19	Sediment Waste Transportation and Off-Site Management - Solid Waste Landfill	29,800	ton	$50	$1,490,000
20	Sediment Waste Transportation and Off-Site Management - RCRA Landfill	8,100	ton	$145	$1,174,500
21	Legal Expenses for Institutional Controls	1	LS	$50,000	$50,000
				Total Capital Cost	$8,709,250
22				Administration and Engineering (10%)	$604,475
				Construction Management (5%)	$302,238
				Contingency (20%)	$1,741,850
				Subtotal Cost	$11,357,813
OPERATION AND MAINTENANCE COSTS (30 YEAR BIENNIAL)					
23	Biennial Wetland Biota Monitoring	1	LS	$35,000	$35,000
				Total O&M Cost	$35,000
				Contingency (20%)	$7,000
				Subtotal Cost	$42,000
24				30-Year Total Present Worth Cost of O&M	$251,580
OPERATION AND MAINTENANCE COSTS (30 YEAR ANNUAL)					
25	Inspection of Institutional Controls and Notifications to NYSDEC	1	LS	$5,000	$5,000
				Total O&M Cost	$5,000
				Contingency (20%)	$1,000
				Subtotal Cost	$6,000
26				30-Year Total Present Worth Cost of O&M	$74,460
OPERATION AND MAINTENANCE COSTS (5 YEAR ANNUAL)					
27	Annual Wetland Vegetation Monitoring	1	LS	$15,000	$15,000
				Total O&M Cost	$15,000
				Contingency (20%)	$3,000
				Subtotal Cost	$18,000
28				5-Year Total Present Worth Cost of O&M	$73,800
				Total Estimated Cost	**$11,757,653**
				Rounded to	**$11,800,000**

Table 5-13
Cost Estimate for Alternative SD5 - Area-Based Sediment Removal (PCBs > 0.1 ppm)
with Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

General Notes:

1. Cost estimate is based on ARCADIS' past experience and vendor estimates using 2009 dollars.

2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. ARCADIS is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.

Assumptions:

1. Mobilization/demobilization cost estimate includes mobilization and demobilization of all equipment, materials, and labor necessary to perform sediment removal activities.

2. Utility location and markout cost estimate includes labor, equipment, and materials necessary to locate, identify, and markout underground utilities at the site. Cost assumes that utility location and markout would be conducted by a private utility locating company over a period of two days at a daily rate of $1,000 per day.

3. Construct and remove equipment decontamination pad cost estimate includes labor, equipment, and materials necessary to construct and remove a 60-foot by 30-foot decontamination pad and appurtenances. The decontamination pad would consist of 40-mil high-density polyethylene (HDPE) with a six-inch gravel drainage layer placed over the HDPE liner, surrounded by a one-foot high berm and sloped to a collection sump for the collection of decontamination water.

4. Erosion control cost estimate includes all labor, equipment, and materials necessary to purchase and install a three-foot silt fence equipped with stakes 10-foot on-center.

5. Construction and maintenance of soil staging area cost estimate includes labor, equipment, and materials to construct an approximate 100-foot by 200-foot and an approximate 100-foot by 100-foot material staging areas consisting of a 12-inch gravel fill layer bermed and sloped to a sump and covered with a 40-mil HDPE liner for the segregation of excavated material. Maintenance costs include inspecting and repairing staging area as necessary and covering staged soil with polyethylene sheeting. Cost assumes construction cost of approximately $4 per square foot of pad.

6. Permitting cost estimate includes all labor necessary to file for and obtain necessary permits for conducting work in southern and northern drainage area wetlands.

7. Sediment excavation and handling of excavated materials cost estimate includes all labor, equipment, and materials necessary to excavate sediment, transfer excavated material to staging/dewatering/amendment area, and load staged material for off-site transportation or on-site consolidation. Cost estimate includes construction of access roads into northern drainage area, excavation area dewatering, construction of mixing area, mixing/amending excavated material, amendment (i.e., with wood chips, inert wood ash, or Portland cement), and air monitoring during excavation activities. Estimated excavation limits and volumes (in-place) based on thiessen polygons created from previously collected site samples.

8. Temporary groundwater treatment system cost estimate includes rental of a portal water treatment system capable of operating at 30 gallons per minute. Cost estimate assumes water treatment system includes pumps, influent piping and hoses, frac tank, carbon filters, bag filters, discharge piping and hoses, and flow meter. Cost estimate assumes bag filters will require change out approximately once per day of operation. Cost estimate assumes treated water would be discharged to site wetlands. Cost estimate based on information provided to ARCADIS by Baker Tanks on March 8, 2007. Cost estimate includes sampling of treated water.

9. Verification sampling cost estimate includes the laboratory analysis of sediment samples collected from sediment excavation areas for PCBs, SVOCs, and RCRA metals to verify impacted sediment has been removed to proposed soil cleanup objectives. Cost estimate assumes a soil sample is collected every 2,500 square-feet of excavation bottom and every 50 linear-feet of excavation sidewalls.

10. Perforated drainpipe cost estimate includes all labor, equipment, and materials necessary to install a perforated drainpipe to replace the on-site portion of the drainage ditch/culvert with a perforated HDPE drainpipe. Cost estimate assumes drainpipe would be covered and includes costs for drainpipe excavation backfill materials.

11. Geotextile fabric cost estimate includes all labor, equipment, and materials necessary to purchase and install non-woven geotextile as a base layer within the southern drainage areas and the portion of the drainage swale not within the WSI property prior to placement of rip-rap stone. Cost estimate includes an additional 10% of material for folding, wrinkles, and overlaps.

12. Rip-rap cost estimate includes all labor, equipment, and materials necessary to place rip-rap stone for backfill in the southern drainage areas and the portion of drainage swale not within the WSI property.

13. Wetland restoration plan cost estimate includes all labor necessary to prepare a wetland restoration plan. Cost estimate includes five days of wetland investigation activities (including collection and analysis of soil samples for soil characterization) by two workers. Cost estimate includes office support for writing wetland restoration plan to include a wetland grading plan, vegetation requirements, and post-restoration monitoring activities.

14. Select fill importation, placement, grading and compaction cost estimate includes all labor, equipment, and materials necessary to purchase, place, grade and compact general fill to replace removed sediment to within six inches of proposed wetland final grades during wetland restoration activities. Cost estimate assumes two feet of general fill required per each excavation area. Cost estimate assumes material to be placed in 12-inch lifts and compaction to 90% maximum compaction. Cost estimate includes survey verification and compaction testing.

15. Topsoil importation, placement, and grading cost estimate includes all labor, equipment, and materials necessary to purchase, place, and grade six inches of topsoil (consistent with existing wetland materials) to meet previously existing wetland grades during wetland restoration activities. Cost estimate includes survey verification and compaction testing.

16. Wetland restoration cost estimate includes all labor, equipment, and materials necessary to restore wetlands with seed mixtures, shrubs, and trees.

17. Solid waste characterization cost estimate includes the analysis of sediment samples (including, but not limited to, PCBs, VOCs, SVOCs, and RCRA Metals). Costs assumes that waste characterization samples would be collected at a frequency of one sample per every 500 tons of excavated sediment. The estimated weight of material was based on an assumed 1.5 tons per cubic-yard plus an additional 10% for the addition of stabilizing agents.

18. Liquid waste characterization cost estimate includes the analysis of wastewater sample for PCBs, VOCs, SVOCs, metals, and pesticides.

19. Sediment waste transportation and off-site management - solid waste landfill cost estimate includes all labor, equipment, and materials necessary to transport sediment containing PCBs at concentrations less than 50 ppm for off-site management at an appropriate landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard plus an additional 10% for stabilizing agents. Cost estimate assumes sediment would be managed at Seneca Meadows Landfill located in Waterloo, New York. Cost estimate includes transportation fuel charge and all applicable taxes. Cost estimate is based on information provided to ARCADIS by Seneca Meadows Landfill on December 16, 2008.

20. Sediment waste transportation and off-site management - RCRA landfill cost estimate includes all labor, equipment, and materials necessary to transport sediment containing PCBs at concentrations greater than 50 ppm for off-site management at an appropriately permitted RCRA landfill. Cost estimate assumes a material density of 1.5 tons per cubic-yard plus an additional 10% for stabilizing agents. Cost estimate assumes that sediment would be managed at Model City Landfill located in Niagara Falls, New York. Cost estimate includes transportation fuel charge, local, and state taxes. Cost estimate is based on information provided to ARCADIS by Waste Management on December 15, 2008.

21. Legal expenses for institutional controls cost estimate includes all labor and materials necessary to institute environmental easements and deed restrictions to prevent current or future site workers from performing intrusive activities in on-site and off-site wetlands.

22. Administration and engineering and construction management costs are based on an assumed 10% and 5% (respectively) of the total capital costs, not including costs for off-site management of material.

Table 5-13
Cost Estimate for Alternative SD5 - Area-Based Sediment Removal (PCBs > 0.1 ppm)
with Off-Site Management and Long-Term Biota Monitoring

WSI - Waste-Stream, Inc. Site - Potsdam, New York

23. Biennial wetland biota monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland monitoring following remedial activities. Cost estimate assumes two workers will require 10 days to collect up to 40 biota samples (e.g., minnows, fish, frogs, etc.) from the northern drainage area (NDA) and drainage swale area that discharges to the NDA. Cost estimate assumes biota samples will be analyzed for PCBs and percent lipids. The scope of monitoring activities is based on the September 2002 FWIA IIC Sampling Plan. The scope of sampling activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of a report to document results of sampling activities and laboratory analysis of samples.

24. Present worth is estimated based on a 7% beginning-of-year discount rate (adjusted for inflation) in accordance with OSWER Directive 9355.3-20 "Revisions to OMB Circular A-94 on Guidelines and Discount Rates for Benefit-Cost Analysis" (USEPA, 1993). It is assumed that "year zero" is 2008.

25. Inspection of institutional controls and notifications to NYSDEC cost estimate includes costs associated with implementing institutional controls to minimize the potential for human exposure to remaining impacted sediment. Such institutional controls may include governmental controls, proprietary controls, enforcement tools, and/or informational devices. Annual costs associated with institutional controls include verifying the status of institutional controls and preparing/submitting notification to the NYSDEC to demonstrate that the institutional controls are being maintained and remain effective.

26. See Note 24.

27. Annual wetland vegetation monitoring cost estimate includes all labor, equipment, and materials necessary to conduct annual wetland vegetation monitoring for five years following remedial activities. Cost estimate assumes two workers will require five days to inspect site wetlands to verify that restored vegetation has been established. The scope of monitoring activities shall be reviewed and revised, as appropriate, prior to conducting sampling activities. Cost estimate includes preparation of an annual report to document results of investigation activities.

28. See Note 24.

EXHIBIT B

PROPOSED REMEDIAL ACTION PLAN

Waste Stream Inc.
State Superfund Project
Potsdam, St Lawrence County
Site No. 645022
February 2011

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

PROPOSED REMEDIAL ACTION PLAN

Waste Stream Inc.
Potsdam, St Lawrence County
Site No. 645022
February 2011

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Potsdam Public Library
2 Park Street
Potsdam, NY 13676
Phone: 315-265-7230

A public comment period has been set from:

02/28/2011 to 03/29/2011

A public meeting is scheduled for the following date:

March 17, 2011 at 7:00 PM

Public meeting location:

Village of Potsdam, Civic Center, Community Room, 2 Park Street, Potsdam

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through 03/29/2011 to:

Peter Ouderkirk
NYS Department of Environmental Conservation
Division of Environmental Remediation
317 Washington St
Watertown, NY 13601-3787
psouderk@gw.dec.state.ny.us

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Waste Stream Inc. is located on the west end of the Village of Potsdam in St. Lawrence County. The site is approximately 27 acres in size and is located at 147 Outer Maple

Street (NYS Rte 11).

Site Features: The main site consists of an active scrap yard, weigh station, and offices. The site also included a municipal waste transfer station which is now inactive. Drainage from the site is conveyed through several open and piped ditches which flow off-site to the east. The on-site drainage swales have been identified as the Southern Drainage Areas (SDA). Surface water from the on-site SDA passes into a 450 foot long swale that flows off-site into an 8.5 acre wetland area northeast of the site. The wetland area has been identified as the Northern Drainage Area (NDA). The wetland area eventually drains to the Raquette River, located approximately 0.6 miles to the east.

Current Zoning/Uses: The surrounding parcels are currently used for commercial and railroad rights of way. The site is zoned by the Town of Potsdam as "residential-agricultural", occupancy classification "S" for storage as defined by the NYS Building Code. The future use of the property is considered commercial. However, the current zoning is residential-agricultural. Therefore, a restricted residential use will be considered the current and future use.

Historic Use: Currently, metal scrap is stockpiled and prepared for salvage at the site. Historically the handling, cutting and processing of scrap and machinery led to the release of fluids containing volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals and polychlorinated biphenyls (PCBs). The dismantling of hydraulic equipment and transformers were the predominant source of the PCB contamination.

Site Geology and Hydrogeology: Subsurface conditions encountered at the site consist of approximately 30 to 50 feet of overburden soils overlying sandstone and limestone bedrock. The overburden soils are identified as a poorly drained, high lime, loamy glacial material which are comprised of a variety of marine and lake silt and clay deposits. Limestone and sandstone are the principal bedrock underlying the overburden. Shallow groundwater is found at depths between 1 and 6 feet below grade. The direction of shallow groundwater flow varies across the site but the predominant flow directions are northeast and southeast. Groundwater in the deep overburden flows toward the southeast. The site does not overlie a primary or principal aquifer.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Waste Stream, Inc

General Motors Corporation

Niagara Mohawk Power Corporation

An order on consent, Index A6-0399-9911 was issued by the Department on December 20, 2000. The order was signed by Waste Stream Inc, General Motors Corporation and Niagara Mohawk Power Corporation.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of

concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

polychlorinated biphenyls (pcb)	fluoranthene
benz(a)anthracene	phenanthrene
benzo(a)pyrene	1,2-dichloroethane
benzo(b)fluoranthene	benzene
benzo[k]fluoranthene	ethylbenzene
chrysene	vinyl chloride
indeno(1,2,3-cd)pyrene	bis(2-ethylhexyl)phthalate
toluene	naphthalene
xylene (mixed)	copper
anthracene	lead
dibenz[a,h]anthracene	mercury

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable standards, criteria and guidance for:

- groundwater
- surface water
- soil
- sediment

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

6.3: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not expected to come into direct contact with contaminated groundwater unless they dig below the ground surface. Bottled drinking water is supplied to on-site workers and groundwater is not currently used for drinking or cooking purposes, therefore exposure to contaminants in groundwater via ingestion is unlikely. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Should the current use of the site change then an evaluation of the potential for soil vapor intrusion to occur should be completed. People may also come in contact with contaminants present in the adjacent off-site wetland sediments.

6.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU(s) 01, which is/are included in the RI report(s), present(s) a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

The primary contaminants of concern at the site known at this time include VOCs, SVOCs, metals and PCBs. The past scrapping of PCB contaminated equipment has contaminated both on-site and off-site environmental media. On-site surface and subsurface soils, groundwater and sediments have been impacted by VOCs, SVOCs, metals and PCBs. On-site subsurface soils contain PCBs ranging from non-detect to 4,400 ppm. On-site soils contain arsenic, barium, cadmium, copper, lead, mercury, and zinc above both the unrestricted and restricted residential SCOs. VOCs and SVOCs have been documented in the vicinity of the former shear and tin press. On-site groundwater has been impacted by VOCs, SVOCs, metals and PCBs. The groundwater is not used as a source of potable water.

Off-site soils have been impacted by VOCs and SVOCs in the vicinity of the former tin press. Off-site sediment and surface water found in the drainage swale and Northern Drainage Areas (NDA) have been contaminated with PCBs and metals. Levels of PCBs in the sediments found off-site in the NDA range from 0.025 ppm to 3,400 ppm.

Sediments in the NDA contain levels of metals and PCBs that are known to affect the survival of benthic organisms and are known to bioaccumulate in fish and mink. This results in reduced availability of food for forage species and has a reproductive effect on fish, terrestrial wildlife, and birds. Sediments in the drainage ditch downstream of the NDA contain levels of PCBs that exceed the NYSDEC's sediment screening criteria for wildlife bioaccumulation.

Tissue sampling from fish and bullfrogs located in the NDA, the drainage swale leading to the NDA, and the drainage ditch downstream of the NDA, contain elevated levels of PCBs which indicates bioaccumulation of this contaminant is occurring.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Exhibit B. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit C. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit D.

7.1: Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

7.2: Elements of the Proposed Remedy

The basis for the Department's proposed remedy is set forth at Exhibit E.

The estimated present worth cost to implement the remedy is $12,130,000. The cost to construct the remedy is estimated to be $11,180,000 and the estimated average annual cost is $94,600.

The elements of the proposed remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. During the design phase, additional soil and sediment sampling will be performed to confirm the delineation during the RI regarding the horizontal and vertical extent of PCB contamination; and assumptions that inorganic contamination is located in the organic sediments of the wetland and not beneath in the glacial till. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which will otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation of approximately 5,000 cubic yards (CY) of soil from off-site areas that contain VOC, SVOC, PCBs and metals contamination at concentrations greater than the lower of protection of ecological resource or residential use SCOs. This soil will be consolidated on-site beneath a soil cover. The approximate limits of this excavation are shown on Figure 6.

3. Excavating approximately 5,300 CY of soil from on-site and approximately 100 CY of soil from off-site along the southern property line that contain PCBs at concentrations greater than or equal to 50 ppm. This soil will be disposed of off-site at an approved facility. The approximate limits of this excavation are shown on Figure 6.

4. Excavating approximately 4,900 CY of sediment from off-site in the northern drainage area that contain PCBs at concentrations greater than or equal to 50 ppm. This sediment will be disposed of off-site at permitted hazardous waste disposal facility. The approximate limits of this excavation are shown on Figure 7.

5. Excavating approximately 21,300 CY of sediment from both on-site (approximately 4,400 CY from the SDA) and off-site (approximately 16,400 CY from the NDA) areas that

contain PCBs at concentrations between 1 and 50 ppm. This sediment will be consolidated on-site beneath a soil cover. The approximate limits of this excavation are shown on Figure 7.

6. All on-site excavations will be backfilled with a minimum 24 inch layer of material that meets the lower of 6NYCRR 375-6.7(d) protection of ecological resource or restricted-residential criteria as applicable, for backfill. All off-site excavations will be backfilled with material that meets the lower of 6NYCRR 375-6.7(d) protection of ecological resource or residential criteria as applicable, for backfill. Excavations within 5 feet of the high groundwater elevation will be backfilled with materials that meet 6 NYCRR Part 375-6.8 SCO for the protection of groundwater. A demarcation layer will be placed at the bottom of excavated areas, as applicable.

7. A cover will be constructed over the soil and sediment that is consolidated on-site and over any remaining soil that contains contamination above the ecological resource or restricted residential SCOs, whichever is lower. The cover will be a minimum of 24 inches thick and will consist of clean soil underlain by a demarcation layer. The top six inches of soil will be of sufficient quality to support vegetation. Clean soil will constitute soil that meets the 6 NYCRR Part 375-6.8(d) criteria for backfill. Soil and sediment placed in the consolidation area must be placed at least 5 feet above the seasonally high groundwater table. Working areas, including roadways and parking lots, where soil contamination exceeds the ecological resource SCOs will be covered by either pavement or concrete that is a minimum of 6 inches thick.

8. The southern drainage areas (SDA-1 and SDA-3) will be backfilled with rip-rap stone to prevent vegetation re-establishment and discourage wildlife habitation.

9. The SDA-2 drainage swale and the Northern Drainage Area will be restored via the importation and placement of appropriate fill materials, topsoil, wetland seed mixtures, shrubs and trees in order to create a natural condition. The Design will include a restoration plan with the restoration details.

10. Existing monitoring wells will be decommissioned and new groundwater monitoring wells will be installed at locations both upgradient and downgradient from the areas of the site where dissolved phase groundwater contamination was detected during the RI to evaluate the effectiveness of the soil excavation remedy.

11. A site cover consisting of driveways, parking/staging areas and buildings currently exists and will be maintained to allow for the current use of the site. If the site is redeveloped in the future, a site-wide cover system (i.e., areas beyond those addressed by item 7 above) will be established which will consist either of structures such as buildings, pavement, sidewalks comprising the site development, or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). In areas where such a soil cover is required, it will consist of a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

12. Imposition of an institutional control in the form of an environmental easement that will require (a) limiting the use and development of the property to restricted residential use, which will also permit industrial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH and/or the St. Lawrence County Department of Health; (d) prevention of current or future property owners from conducting activities that will potentially jeopardize the integrity of the cap; (e) periodic sampling of the water supply wells to monitor water quality, and continued supply of an alternative source of potable water to impacted parties; and (f) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

13. Development of a site management plan which will include the following institutional and engineering controls: (a) management of the cover system to restrict excavation below the cover's demarcation layer, pavement, or buildings; (b) excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (c) continued evaluation of the potential for vapor intrusion for any new buildings developed on the site, including provision for mitigation of any impacts identified; (d) periodic monitoring of groundwater, surface water, sediment and wetland vegetation and restoration efforts; (e) biennial biota monitoring that includes submitting biota samples for PCBs and lipids content; (f) identification of any use restrictions on the site; (g) fencing to control site access; and (g) provisions for the continued proper operation and maintenance of the components of the remedy.

14. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Exhibit A

Nature and Extent of Contamination

As described in the RI report, many soil, groundwater and sediment samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and inorganics (metals). For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for waste, soil, and sediment. Air samples are reported in micrograms per cubic meter ($\mu g/m^3$). The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil (0" – 2")

Two hundred and eight (208) surface soil samples were collected for PCB analysis between June 2001 and April of 2003. PCB concentrations ranged from non-detect to 406 ppm (SB-258). PCBs were detected in 158 surface soil samples exceeding the 0.1 ppm (the SCO for unrestricted use), in 131 samples at concentrations exceeding 1 ppm (the SCO for protection of ecological resources or restricted residential use) and at 10 locations at levels exceeding 50 ppm. PCB contamination in the surface soil is widespread.

Thirty six (36) surface soil samples were collected for inorganic (metals) analysis. The concentrations of most of constituents exceed their respective SCO at least once. Cadmium, mercury, lead, zinc and copper had the highest frequencies of exceeding their respective SCO. As with PCBs, metals contamination in the surface soils is widespread.

Twenty four (24) surface soil samples were analyzed for VOC contamination. Low levels of ethylbenzene (0.002 ppm), total xylenes (0.010 ppm) and toluene (from 0.002 ppm to 0.004 ppm) were detected in 3 of the 24 samples, but all were below the unrestricted SCOs for these constituents. The VOC contamination in the surface soils is very limited.

Thirty six (36) surface soil samples were analyzed for SVOC contamination. Benzo (a) pyrene exceeded the SCO for the protection of ecological recourses of 2.6 ppm 10 out of 36 times. Benzo (a) pyrene was detected in the surface soils at levels between 0.24 ppm and 19.0 ppm. Other SVOCs were detected in exceedance of the SCO for unrestricted use, as shown in Table 1 below. SVOC contamination in the surface soils is widespread.

Two (2) surface soil samples were collected in an area of the site along the east boundary where electrical transformers were stripped and the wire insulation was burned off to salvage the copper wire. The samples were analyzed for dioxins and dibenzofuran. Results for total dibenzofurans indicate a maximum concentration of approximately 12.3 ppb, which is below the unrestricted SCO.

Table 1 – Surface Soil						
Detected Constituents	Contaminant of Concern	Concentration Range Detected (ppm)	Ecological/ Restricted residential SCO[c] (ppm)	Frequency of Exceeding SCO Ecological or Restricted residential	Unrestricted SCO[b] (ppm)	Frequency of Exceeding SCO Unrestricted
SVOCs	Benzo(a)pyrene	0.041 J – 19 DJ	1	16 out of 28	1	16 out of 28
	Benzo(a)anthracene	ND – 0.50 D	1	180 out of 28	1	18 out of 28
	Benzo(b)fluoranthene	ND – 19 D J	1	22 out of 28	1	22 out of 28
	Benzo(k)fluoranthene	ND – 43	3.9	13 out of 28	0.8	18 out of 28
	Chrysene	ND – 180 J	3.9	14 out of 28	1	23 out of 28
	Dibenz(a,h)anthracene	ND – 6.7	0.33	19 out of 28	0.33	21 out of 28
	Indeno(1,2,3-cd)pyrene	ND- 19 DJ	0.5	18 out of 28	0.5	18 out of 28
Metals	Arsenic	0.87 – 31.6	13	3 out of 41	13	3 out of 41
	Barium	16.4 – 1,100	400	1 out of 41	350	1 out of 41
	Cadmium	0.12 – 13.2	4	10 out of 41	2.5	12 out of 41
	Copper	4.8 – 6870	50	23 out of 41	50	23 out of 41
	Lead	6.8 – 1,360	63	26 out of 41	63	26 out of 41
	Mercury	0.04 – 4.6	0.18	26 out of 41	0.18	26 out of 41
	Manganese	56.2 – 2,290	1,600	3 out of 41	1,600	3 out of 41
	Nickel	2.6 – 638	30	9 out of 41	30	9 out of 41
	Silver	0 - 2.2	2	1 out of 41	2	1 out of 41
	Zinc	26.8 – 2,970	109	28 out of 41	109	28 out of 41
Pesticides/ PCBs	Total PCBs	0.034 – 406	1	145 out of 208	0.1	158 out of 208

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCO: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCO: Part 375-6.8(b), Lower of either the Protection of Ecological Resources or Restricted residential Soil Cleanup Objectives

J – Estimated Quantity below Detection Limit
ND – Non Detect
D – Diluted Sample

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of soil. The site contaminants identified in surface soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are SVOCs, metals and PCBs.

Subsurface Soil

A total of 216 subsurface soil samples were analyzed for PCBs during the remedial investigation from 2001 through 2003 (See Figure 4). PCB concentrations ranged from non-detect to 4,400 ppm (sample location SB-253). PCBs were detected at concentrations exceeding the unrestricted SCO of 0.1 ppm at 101 locations. PCBs were detected at concentrations exceeding the protection of groundwater SCO of 3.2 ppm at 46 locations. PCBs exceeded the 50 ppm level at 10 locations. PCBs found at 50 ppm or higher are defined as hazardous waste and require off-site disposal at a hazardous waste disposal facility. At depths of one to three feet, PCBs ranged from 1.04 ppm to 4,400 ppm; at depths between 3 to 6 feet deep, PCBs ranged from 2.93 ppm to 61.4 ppm; and at depths between 8 and 10 feet, PCBs were detected in only one sample at 2.72 ppm.

In 2002, 15 additional soil borings (1 to 3 feet in depth) were collected from sampling transects that extended across the drainage swale that flows to the Northern Drainage Area. PCB concentrations in these samples ranged from non-detect to 36 ppm (at sample T-SED-216C).

Seventy one (71) subsurface soil samples were collected for inorganic constituents including lead, with 11 samples collected for cyanide analysis. As with the surface soil samples, the concentrations of the vast majority of constituents exceed the protection of groundwater SCO at least once. Zinc, lead, mercury and copper had the highest frequencies of exceeding the protection of groundwater SCOs. Table 2 summarizes the inorganic data. Metals contamination in the subsurface soils is widespread.

Sixty nine (69) subsurface soil samples were collected and analyzed for VOC contamination. Total xylenes, toluene and acetone were detected at concentrations exceeding the protection of groundwater SCOs and ranged in concentration from 0.002 ppm to 470 ppm; 0.0012 ppm to 140 ppm; and 0.004 ppm to 310 ppm, respectively. Out of 69 samples, only xylenes were detected at concentrations above the protection of groundwater SCO in more than one sample (4 exceedances). Toluene and acetone exceedances were found in only one sample each. As with the surface soil sampling result, VOC contamination in the subsurface soils is very limited.

Sixty nine (69) subsurface soils samples were analyzed for SVOC contamination. Benzo (b) fluoranthene and chrysene were most commonly detected. Other SVOCs were detected in exceedance of the protection of groundwater SCO and the SCO for unrestricted use as shown in Table 2. The highest level of SVOC contamination was found in the area of the site where old transformers were dismantled for copper wire recovery. SVOCs were also detected along the east side of the site near the metal shearing operations. SVOC contamination subsurface soils are sporadic and largely limited to these two areas.

One (1) subsurface soil sample was collected in the area of the site along the east boundary where copper wire recovery operations were historically performed. The sample was analyzed for dioxins and dibenzofurans. Results for total dioxins and dibenzofurans indicate a maximum concentration of less than 1 ppb, below the SCO of 7 ppm.

Table 2 - Subsurface Soil						
Detected Constituents	Contaminant of Concern	Concentration Range Detected (ppm)	SCO[b] (ppm) Unrestricted	Frequency of Exceeding SCO[b]	SCO[c] (ppm) Protection of GW	Frequency of Exceeding SCO[c]
VOCs	Acetone	.004 J – 310 J	0.5	1 out of 69	2.2	1 out of 69
	Toluene	.0012 J – 140 DJ	0.7	4 out of 69	36	1 out of 69
	Xylene	0.002 J – 470 DJ	0.26	4 out of 69	0.26	4 out of 69
SVOCs	Anthracene	ND – 140 JD	100		1000	
	Benzo (a) anthracene	0.27 J – 140 JD	1	6 out of 69	1	5 out of 69
	Benzo (a) pyrene	ND – 160 JD	1	5 out of 69	22	1 out of 69
	Benzo (b) fluoranthene	ND – 420 D	1	10 out of 69	1.7	9 out of 69
	Benzo (k) fluoranthene	ND – 110 JD	0.8	5 out of 69	1.7	4 out of 69
	Chrysene	ND – 480 D	1	10 out of 69	1	10 out of 69
	Dibenzo (a,h) anthracene	ND - 24	0.33	5 out of 69	1,000	0 out of 69
	Fluoranthene	ND – 860 D	100	1 out of 69	1,000	0 out of 69
	Indeno (1,2,3-cd) pyrene	ND - 72	0.5	4 out of 69	8.2	2 out of 69
	Phenanthrene	ND – 520 D	100	1 out of 69	1,000	0 out of 69
Metals	Arsenic	0.5 BJ – 30.1 J	13	2 out of 61	16	2 out of 61
	Barium	1.2 B J – 1,050	350	2 out of 61	820	0 out of 61
	Cadmium	0.16 B – 25.8 J	2.5	4 out of 61	7.5	1 out of 61
	Copper	1 B – 925	50	7 out of 61	1720	0 out of 61
	Lead	0.96 – 3,690	63	6 out of 71	450	3 out of 71

	Mercury	0.02 B – 1.7	0.18	9 out of 61	0.73	3 out of 61
	Nickel	1.1 B – 191	30	5 out of 61	130	2 out of 61
	Selenium	0.47 BJ – 4.1 J	3.9	1 out of 61	4	1 out of 61
	Zinc	5.8 – 7,680 J	109	15 out of 61	2,480	2 out of 61
Pesticides/PCBs	Total PCBs	0.02 – 4,400	0.1	101 out of 225	1	71 out of 225

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCO: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCO: Part 375-6.8(b), Protection of Groundwater Soil Cleanup Objectives.
J – Estimated Quantity below Detection Limit
B – Found in Blank
ND – Non Detect
D – Diluted Sample

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of subsurface soil. The site contaminants that are considered to be the primary contaminants of concern, which will drive the remediation of subsurface soil are: SVOCs, metals and PCBs. Subsurface soil contamination identified during the RI/FS will be addressed in the remedy selection process.

Groundwater

A total of nine (9) shallow overburden monitoring wells and three (3) deep overburden monitoring wells were installed during the RI (See Figure 5). The shallow wells were installed between 12 and 14 feet deep, and the deep overburden wells were bored to refusal to the top of the bedrock surface, approximately 25 to 41 feet deep. In addition, twelve (12) temporary well points were subsequently installed in the vicinity of MW-209 to investigate petroleum related contamination detected in this monitoring well.

Total PCBs were detected at concentrations exceeding SCGs in unfiltered groundwater samples collected in three monitoring well locations located in the northern (MW-202), western (MW-204) and eastern portion of the site (MW-206). PCB levels ranged from 0.2 ppb to 1.2 ppb. Resampling of the MW-206 detected PCBs at concentration of 1.2 ppb, which is above SCGs in an unfiltered sample. A filtered sample was collected from this well and also detected total PCBs at 0.29 ppb. Unfiltered water samples were collected for PCB analysis from the two on-site water supply wells, which are not used for potable water. PCBs were not detected in either sample.

With the exception of typical mineral constituents, beryllium was the only metal detected in the overburden groundwater at a concentration exceeding SCGs. Beryllium was detected at a concentration of 3.5 ppb at MW-208.

VOCs were detected in groundwater samples from three (3) wells located in the northern (MW-203), southern (MW-204), and eastern (MW-209) portion of the site at concentrations exceeding SCGs. 1, 2-dicloroethane was detected at MW-203, and vinyl chloride was detected at MW-204, at estimated concentrations of 2.0 ppb and 8.0

ppb, respectively. Petroleum constituents related to gasoline (BTEX) including benzene, 75 ppb, toluene, 480 ppb, ethylbenzene, 180 ppb, and xylenes, 990 ppb were detected at levels exceeding SCGs at MW-209 which is located at a former underground storage tank (UST) area. Additional overburden groundwater sampling was performed downgradient of MW-209 to determine the extent of VOC contamination resulting from the former UST. No VOCs were detected in the downgradient well points. BTEX constituents were detected in TW-1 located near MW-209 in an upgradient location; benzene was detected at 4.6 ppb, toluene at 7.1 ppb, ethylbenzene at 14.0 ppb and xylenes at 9.6 ppb.

Semivolatile Organic Compounds (SVOCs) including naphthalene, bis (2-ethylhexyl) phthalate, and pentachlorophenol were detected in groundwater samples from three wells located in the eastern portion of the site at concentrations exceeding SCGs. Bis (2-ethylhexyl) phthalate was detected at MW-206 at a concentration of 89 ppb, pentachlorophenol was detected at MW-207 at 700 ppb, and naphthalene was detected at MW-209 at 39 ppb. A sample of light non-aqueous phase liquid was also obtained from MW-207 and was analyzed for Total Petroleum Hydrocarbons. This area is in the vicinity of the former tin press. Laboratory analysis indicated that the sample consisted of an unknown hydrocarbon that did not match the characteristics of fuel oil, gasoline, or lubricating oil.

Table 3 - Groundwater

	Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs	1,2-dichloroethane	2 J	0.6	1 out of 21
	Benzene	4.6 – 75 J	1	2 out of 21
	Ethylbenzene	3 J – 180 J	5	2 out of 21
	Isopropylbenzene	16 J	5	1 out of 9
	Toluene	1 J – 480 D	5	2 out of 21
	Vinyl Chloride	8 J	2	1 out of 21
	Xylene (total)	9.6 – 990 D	5	2 out of 21
SVOCs	Bis(2-ethylhexyl)phthalate	89 DJ	5	1 out of 9
	Naphthalene	39	10	1 out of 9
	Pentachlorophenol	18 J – 700	1	2 out of 10
Metals	Beryllium	3.5	0.3	1 out of 9
Pesticides/PCBs	Total PCBs	0.2 – 1.2	0.09	8 out of 17

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).
J – Estimated Quantity below Detection Limit
D – Diluted Sample

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern, which will drive

the remediation of groundwater, are: VOCs, SVOCs and PCBs. These compounds have caused exceedances of the groundwater SCGs. Groundwater contamination identified during the RI/FS will be addressed by the remedy selection process.

Surface Water

Three surface water samples were taken near the site including one upgradient sample (SW-1) and two down gradient samples taken from the drainage ditch that flows to the Northern Drainage Area (SW-2, SW-3) (See Figure 4). The near down gradient samples SW-2 and SW-3 detected PCB concentrations at levels above SCGs at 0.47 ppb, and 1.05 ppb respectively. No PCBs were detected in the upgradient sample SW-1. In addition, the Department collected two surface water samples for PCB analysis in the drainage ditch downstream of the NDA (See Figure 4). Total PCBs were detected in the sample collected from the upstream portion of the drainage ditch at a concentration of 0.117 ppb. Total PCBs were also detected in the sample collected from the downstream portion of the drainage at a concentration of 0.078 ppb.

Iron and manganese were detected in each of the three near site surface water samples at concentrations exceeding SCGs. Iron was detected at 4270 ppb, 6440 ppb, and 2980 ppb at SW-1, SW-2, and SW-3, respectively. Manganese was detected at 626 ppb, 920, and 876 ppb at SW-1, SW-2, and SW-3, respectively.

VOCs were also detected at sample SW-2 at concentrations exceeding SCGs. 1, 2, 4-trichlorobenzene was detected at 6 ppb, 1, 3-dichlorobenzene at 5 ppb, and 1, 4-dichlorobenzene at 6 ppb.

No SVOCs were detected at concentrations exceeding SCGs.

Table 4 - Surface Water

	Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs	1,2,4-trichlorobenzene	3 J – 6 J	5	1 out of 6
	1,3-dichlorobenzene	2 J – 5 J	3	1 out of 6
	1,4-dichlorobenzene	3 J – 6 J	3	2 out of 6
Metals	Iron	2,980 -6,440	300	3 out of 3
	Manganese	626 – 920	300	2 out of 3
Pesticides/PCBs	Total PCBs	0.47 – 1.05	0.00012	3 out of 3

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b - SCG: Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1) and 6NYCRR Part 703: Surface Water and Groundwater Quality Standards.
J – Estimated Quantity below Detection Limit

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of surface water. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of surface water to be addressed by the remedy selection process are VOCs, metals and PCBs. Surface water contamination identified during the RI/FS will be addressed in the remedy selection process in conjunction with planned remedial actions for sediment, soil and groundwater.

Sediments

Surface and subsurface sediment samples were collected at 209 locations from on-site and off-site areas during the remedial investigation and were analyzed for PCBs. PCBs were detected in 168 of the samples.

On-site sediment samples collected in the south drainage area (SDA), which is comprised of several onsite drainage swales, at SDA-1, SDA-2, and SDA-3 detected PCBs in concentrations ranging from 3.032 ppm to 47.8 ppm at 0-6" deep, and 0.334 ppm to 40.4 ppm at 6-18". PCBs were not detected in the sediment samples taken at 18"-26" deep. The results of the remedial investigation documented 59 sediment samples with total PCB concentrations ≥ 0.1 ppm; 45 samples ≥ 1.0 ppm; 11 samples ≥ 10 ppm; and 8 samples ≥ 25 ppm. No sediment samples collected in the on-site drainage areas detected PCB concentrations at 50 ppm or greater. The highest concentrations of PCBs in the on-site drainage areas were found at sample location SED-236 located in SDA-3 which had a PCB concentration of 47.8 ppm from a sample collected at 0-6" deep. With the exception of sample SED-223A located in SDA-1, which had a PCB concentration of 40.4 from a sample collected at 6-12"deep, generally the highest concentration of PCBs were detected in the surface samples from SDA-1 and SDA-3.

Off-site in the northern drainage area (NDA), PCB concentrations for 0-6" below the surface ranged from 0.025 ppm to 3,400 ppm; at 6-12" deep PCBs were detected from 0.186 ppm to 3,150 ppm; at 12-18" deep PCBs were detected from 0.043ppm to 99 ppm; and at 18-36" PCBs were detected from 0.02 ppm to 41 ppm. The remedial investigation documented 120 sediment samples with total PCB concentrations ≥ 0.1 ppm; 83 samples ≥ 1.0 ppm; 47 samples ≥ 25 ppm; 21 samples ≥ 50 ppm; 10 samples ≥ 100 ppm; and 2 samples ≥ 1,000 ppm. The highest concentrations of PCBs in sediments were found at sample location SED-221A, which is located in the drainage swale in a sediment deposition area approximately 90 feet downstream of the storm sewer outlet on the east side of the site. The sample collected at 0-6" deep at this location had a PCB concentration of 3,400 ppm, and a second sample at 6-8" deep had a PCB concentration of 3,150 ppm. Generally the highest concentrations of PCBs in sediment were detected in the drainage swale and in its outlet to the NDA.

Two off-site sediment samples were collected for PCB analysis from the drainage ditch downstream of the NDA. DDD-SED-01 was collected from the upstream portion of the ditch (Section 1) and contained an estimated concentration of 0.70 ppm, and DDD-SED-02 was collected from the downstream portion of the ditch (Section 2) and contained a total PCB concentration of 0.21 ppm.

Of the 209 sample points, sediment samples at 32 locations (on-site and off-site) and were analyzed for inorganics. Inorganic constituents were detected in 16 locations at concentrations exceeding the lowest effect levels established for metals in the NYSDEC "Technical Guidance for Screening Contaminated Sediments". Inorganic constituents were detected at 5 locations at concentrations exceeding the severe effect levels established in the NYSDEC guidance. The sediment samples that contained inorganic constituents at concentrations exceeding the severe effect levels were located in the drainage swale that flows to the northern drainage area (NDA), and in the western portion of the NDA near the outlet of the swale. Inorganic constituents were also detected at concentrations exceeding the severe effect guidance level in one sediment sample collected from the on-site drainage area SDA-1.

Of the 209 sample points, sediment samples from 19 on-site and off-site locations and were analyzed for VOCs. VOCs were not detected in any of the RI sediment samples at concentrations exceeding the NYSDEC sediment screening guidance levels.

Sediment samples from these 19 locations were also analyzed for SVOCs. Polyaromatic hydrocarbons (PAHs) were

detected at 13 sediment sampling locations at concentrations exceeding NYSDEC sediment screening criteria. PAHs were also detected at 8 sampling locations exceeding the benthic aquatic biota chronic toxicity screening levels, and at 7 sampling locations at concentrations exceeding the benthic aquatic biota acute toxicity screening levels. Similar to the results for inorganic constituents, sediment samples containing SVOCs at concentrations exceeding sediment screening criteria were located in the on-site drainage area SDA-1, in the drainage swale that flows to the NDA, and in the western portion of the NDA near the outfall of the swale.

Table 5 - Sediments

	Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
Metals	Copper	0.73 B – 2320	16 (LEL)	10 out of 32
			110 (SEL)	7 out of 32
	Lead	0.64 B – 1,160 J	31 (LEL)	10 out of 32
			110 (SEL)	8 out of 32
	Mercury	0.03 B – 7.5	0.15 (LEL)	12 out of 32
			1.3 (SEL)	5 out of 32
Pesticides/PCBs	Total PCBs	0.025 – 3,400	0.1	153 out of 209

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department's "Technical Guidance for Screening Contaminated Sediments."
LEL – Lowest Effect Level
SEL – Severe Effect Level
J – Estimated Quantity below Detection Limit
B – Found in Blank

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of sediment. Contamination above the 1 ppm level for PCBs was found in 115 out of 209 sediment samples. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment are metals and PCBs. Sediment contamination identified during the RI/FS will be addressed in the remedy selection process.

Soil Vapor/Sub-Slab Vapor/Air

The majority of contaminants at this site consist of PCBs and metals that have very low vapor pressures and are therefore not expected to be present in soil vapor. As noted previously, VOCs are the primary contaminants of concern in one small area of the site near a former underground storage tank (in the vicinity of MW-209). The area impacted by VOCs is small and there are no inhabited buildings on top of the groundwater plume. Because of the existing nature of the contaminants at the site, the existing work practices, the open air nature of the scrap yard business, and the limited number of inhabited buildings, soil vapor sampling has not been conducted. . Remedial alternatives need to be evaluated for this medium.

Exhibit B

SUMMARY OF THE REMEDIATION OBJECTIVES

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives (RAOs) for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Surface Water

RAOs for Public Health Protection

- Prevent ingestion of water impacted by contaminants.
- Prevent contact with contaminants from impacted water bodies.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Restore surface water to ambient water quality criteria for the contaminant of concern.

- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the marine or aquatic food chain.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of (ambient water quality criteria).
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

Exhibit C

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Exhibit B) to address the contaminated media identified at the site as described in Exhibit A:

The following potential remedies were considered to address the contaminated soils, sediments, surface water, and groundwater at the site.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

SOILS ALTERNATIVES

Alternative S2: No Action with Institutional and Engineering Controls

Present Worth: $390,000
Capital Cost: $230,000
Annual Costs:.....$13,200

This alternative would use an environmental easement and physical constraints (e.g., fencing) to limit the potential for direct contact with impacted soils by site workers, future site workers, and trespassers. Under this alternative, impacted surface and subsurface soil would remain in place and would not be subject to remedial activities. An environmental easement would be established for on-site areas to limit the potential future uses of the site and restrict current and future property owners from performing intrusive activities (e.g., excavation activities that would expose site workers to surface and subsurface soils.) The potential responsible parties (PRPs) do not currently own the adjacent property, and would obtain title to the property or negotiate with and obtain approval from the current property owners to establish institutional controls for off-site areas. In addition, the PRPs or future property owners would conduct a soil vapor intrusion investigation to evaluate potential soil vapor intrusion into any new buildings that may be constructed at the site or if the future use of the site changes.

This alternative would also include the preparation of a Site Management Plan (SMP) to:

- Provide health and safety requirements for future site activities;
- Identify known locations of site soils impacted with PCBs, SVOCs and inorganic constituents; and
- Establish inspection and maintenance and reporting requirements.

Alternative S3: Covering of Soil Containing Constituents of Concern (COCs) Greater than Either the 6NYCRR Part 375.6 Ecological Resource or Restricted residential SCOs with Removal of Soil beyond Property Boundary for Off-site Disposal or On-site Consolidation

Present Worth: $2,900,000
Capital Cost: $2,700,000
Annual Costs:.....$18,000

Under this alternative a soil cover would be installed over all on-site soils containing constituents of concern (COCs) at concentrations greater than the 6NYCRR Part 375.6 ecological or restricted residential soil cleanup objectives (SCOs) whichever is lower, with the exception of VOC and SVOC contaminated soil in the vicinity of MW209. This will include soils with PCB concentrations greater than 50 ppm. The soil cover would be constructed directly on existing grade. The primary function of the soil cover would be to prevent direct exposure to impacted soils that would remain on-site.

The final design and construction materials for the soil cover would be determined during the remedial design phase. A cover will be constructed over the soil and sediment that is consolidated on-site and over any remaining soil that contains contamination above either the ecological or restricted residential SCOs, whichever is lower. The cover will be a minimum of 18 inches thick and will consist of clean soil underlain by a demarcation layer. The top six inches of soil will be of sufficient quality to support vegetation. Clean soil will constitute soil that meets the 6 NYCRR Part 375-6.8(d) criteria for backfill. Soil and sediment placed in the consolidation area must be placed at least 5 feet above the seasonally high groundwater table. Working areas, including roadways and parking lots, where soil contamination exceeds either the ecological or restricted residential SCOs, whichever is lower will be covered by either pavement or concrete that is a minimum of 6 inches thick.

The alternative would also consist of excavating off-site soils and soils within the vicinity of MW-209 that contain COCs at concentrations above either the ecological or restricted residential SCOs, whichever is lower. After confirming that soil removal objectives have been met, the excavations would be backfilled with imported soils that meets the lower of the ecological or restricted residential SCOs. Following removal, excavated soil would be segregated, and soil containing PCBs ≥ 50 ppm (approximately 100 CY) would be transported as hazardous waste off-site for proper disposal.

Soil excavated from the vicinity of MW-209, below 50 ppm total PCB levels, would be transported for off-site management as a non-hazardous waste. Following construction of the soil cover, a site management plan (SMP) would be implemented to monitor the soil cover for erosion, and to perform any needed repairs to maintain its integrity. Similar to alternative S2, an environmental easement would be placed on on-site property including contingencies for performing a SVI and implementation of a SMP for on-site and off-site areas.

Alternative S4: Excavation of Soil Containing PCBs ≥ 50 ppm with Off-site Management, Removal of Soil beyond Property Boundary, On-site Consolidation and Covering of Soil that Exceeds Either the Ecological Resource or Restricted residential SCOs

Present Worth: $4,600,000
Capital Cost: $4,400,000
Annual Costs:.....$18,000

This alternative includes the excavation of on-site and off-site soil containing PCBs ≥ 50 ppm (i.e. material

considered a TSCA-regulated/New York State hazardous waste) with off-site disposal. This remedy also includes excavation of on-site and off-site soils impacted by VOC, SVOCs, metals and PCB above either the ecological resource or restricted residential SCO's, whichever is lower, followed by on-site consolidation and soil covering. Excavation activities would include removal of saturated and unsaturated soils to a depth of approximately 6 feet below ground surface. The approximate limits of soil containing PCBs at concentrations ≥50 ppm are shown on Figure 6 and include approximately 5,400 CY of PCB contaminated soil (including approximately 100 CY of soil located off-site).

This alternative would also consist of excavating approximately 5,000 CY of soil located off-site and in the vicinity of MW-209 that contain COCs at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower. Soil excavated from off-site would be managed as described under alternative S3.

After confirming that soil cleanup objectives have been met, off-site excavation areas would be backfilled with imported soil that meets the lower of either the ecological resource or restricted residential SCOs. A soil cover would be installed on-site over remaining soils and consolidated material containing COCs at concentrations above either the ecological resource or restricted residential SCOs, whichever is lower. The soil cover would be constructed similar to alternative S3. Following construction of the soil cover, a site management plan would be implemented to monitor the soil cover for erosion, and to perform any needed repairs to maintain its integrity. Similar to alternative S2, an environmental easement would be placed on on-site property including contingencies for performing an SVI evaluation, and implementation of an SMP.

Alternative S5: Excavation of Soil Containing PCBs ≥25 ppm with Off-site Management, Removal of Soil beyond Property Boundary, On-site Consolidation and Covering of Soil that Exceeds Either the Ecological Resource or Restricted residential SCOs

Present Worth: $4,900,000
Capital Cost: $4,600,000
Annual Costs:.....$18,000

This alternative would consist of removing PCB contaminated soils from on-site and off-site, consolidating that material and constructing a soil cover on-site. Both on-site and off-site soils containing PCBs at concentrations ≥ 25 ppm (i.e., 6NYCRR Part 375.6 restricted use soil cleanup objectives for industrial site use) would be excavated, staged, and transported for off-site management. The approximate limits of soil containing PCBs at concentrations ≥ 50 ppm include approximately 6,700 CY of PCB contaminated soil (including approximately 5,400 CY of soil containing PCBs at concentrations ≥ 50 ppm).

Excavation of impacted soils would be completed as described in alternatives S3 and S4. Excavated soil containing PCB concentrations greater than 25, but less than 50 ppm and soil excavated from the vicinity of MW-209 would be transported for off-site management as a non-hazardous waste. This alternative would also consist of excavating approximately 5,000 CY of soil located off-site and in the vicinity of MW-209 that contain COCs at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower. Soil excavated from off-site would be managed as described under alternatives S3 and S4.

Soil excavated off-site that contain PCBs at concentrations less than 25 ppm and SVOC and inorganic constituents at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower, would be consolidated on-site. Excavated areas off-site would be backfilled with imported soils that meet the lower of either the ecological resource or restricted residential SCOs. A soil cover would be installed over the remaining

soils and consolidated materials that contain COCs at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower. Soil cover construction would be similar to alternatives S3 and S4. Similar to alternative S2, following construction of the soil cover, an environmental easement would be placed on on-site property including contingencies for performing an SVI evaluation, implementing an OM&M plan, and implementation of an SMP.

Alternative S6: Excavation of Soil Containing PCBs ≥10 ppm with Off-site Management, Removal of Soil beyond Property Boundary, On-site Consolidation and Covering of Soil that Exceeds Either the Ecological Resource or Restricted residential SCOs

Present Worth: $6,200,000
Capital Cost: $6,000,000
Annual Costs:.....$18,000

This remedial alternative would consist of removing PCB-impacted soils and constructing a soil cover. Under this alternative, soils containing PCBs at concentrations greater than 10 ppm would be excavated, staged, and transported for off-site management. The approximate limits of soil containing PCBs at concentrations greater than 10 ppm include approximately 14,200 CY of PCB-impacted soils (including 5,400 CY of soil containing PCBs at concentrations greater than or equal to 50 ppm). Excavation of impacted soil would be completed as described under the other soil alternatives.

Excavated soil containing PCB concentrations greater than 10 ppm, but less than 50 ppm and soil excavated from the vicinity of MW-209 would be transported for off-site management as a non-hazardous waste. On-site areas may be backfilled with off-site soils containing less than 10 ppm PCBs and SVOCs and inorganic constituents at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower. Off-site excavation areas would be backfilled with imported soil that would meet the lower of either the ecological resource or restricted residential SCOs. A soil cover would be installed over the remaining soils and consolidated materials that contain COCs at concentrations greater than either the ecological resource or restricted residential SCOs, whichever is lower. Soil cover construction would be similar to the other soil alternatives. Following construction of the soil cover, an environmental easement would be placed on on-site property including contingencies for performing an SVI evaluation, implementing an OM&M plan, and implementation of a SMP.

Alternative S7: Excavation of Soil Containing COCs > 6NYCRR Part 375.6 Ecological Resource or Restricted residential SCOs, Whichever is Lower with Off-site Management

Present Worth: $18,400,000
Capital Cost: $18,400,000
Annual Costs:.....$0

This remedial alternative would consist of excavating soils containing COCs at concentrations exceeding the 6NYCRR Part 375.6 ecological resource or restricted residential SCOs, whichever is lower. The approximate limit of soil containing COCs at concentrations exceeding the unrestricted use SCOs include approximately 90,800 CY of impacted soil (including 5,400 CY of soil containing PCBs at concentrations equal to or greater than 50 ppm). Excavated soil would be staged and transported for off-site management. After confirming that the soil removal objectives have been met, the excavations would be backfilled with clean imported general fill material, meeting unrestricted SCOs, to pre-existing grade. Excavation of impacted soils would be completed as described for the other soil alternatives.

Unlike the other alternatives, construction of a soil cover and implementation of long-term soil cover maintenance and monitoring plan would not be needed. However, an on-site environmental easement may be necessary to implement an SVI evaluation if groundwater contamination remains.

GROUNDWATER ALTERNATIVES

Alternative GW-1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative GW2: Institutional Controls

Present Worth: $135,000
Capital Cost: $60,000
Annual Costs:.....$6,000

Under this alternative, institutional controls would consist of an environmental easement that would require: appropriate signs and warning labels to deter site workers or visitors from using site water for potable purposes, continued supply of bottled water for drinking, and restrictions to mitigate ingestion of and/or direct contact by site workers with groundwater containing VOCs at concentrations greater than NYSDEC Class GA standards and guidance values.

Neither groundwater nor surface water is used for potable purposes at the site. However, two on-site water wells currently provide sanitary water and water for hand washing (i.e., non-potable water). The site groundwater would be allowed to remain in its current condition, and no active effort would be made to change the current conditions. Sampling of the water supply wells to monitor water quality would continue until the NYSDEC determines monitoring is no longer needed. Under the environmental easement, periodic inspections of institutional controls and submittal of notifications would be required to verify that the institutional controls are being maintained and remain effective.

Alternative GW3: Long Term Monitoring

Present Worth: $530,000
Capital Cost: $180,000
Annual Costs:.....$28,600

This remedial alternative would consist of conducting groundwater monitoring and establishing institutional controls (as described under alternative GW2) and is conditioned on the implementation of a chosen soil alternative. This alternative would require that existing groundwater monitoring wells be abandoned/decommissioned prior to any soil excavation activities and a new monitoring well network would be installed at locations both upgradient and downgradient from areas at the site where dissolved-phase COCs were detected during the RI.

The results of the monitoring activities would be summarized and presented in an annual report to document the potential reduction in COC concentrations as a result of natural attenuation (e.g., biodegradation, dispersion,

sorption, volatilization, etc.) occurring at the site.

Neither groundwater nor surface water is used for potable purposes at the site. However, two on-site water wells currently provide sanitary water and water for hand washing (i.e., non-potable water). Continued sampling of the water supply wells to monitor water quality would be required until the NYSDEC determines monitoring is no longer needed. Currently, there is not an alternative water supply available to the site (e.g. municipal supply). Bottled water is supplied for potable purposes. If an alternative water supply becomes available, the on-site water supply wells would be abandoned.

Alternative GW4: Chemical Oxidation of Dissolved Phase VOCs

Present Worth: $720,000
Capital Cost: $363,000
Annual Costs:.....$28,600

This alternative would consist of the in-situ chemical oxidation of dissolved-phase VOCs in the overburden groundwater northwest of the main office building (near monitoring well MW-209), and establishing institutional controls similar to alternatives GW2 and GW3.

Neither groundwater nor surface water is used for potable purposes at the site. However, two on-site water wells currently provide sanitary water and water for hand washing (i.e., non-potable water). Continued sampling of the water supply wells to monitor water quality would be required until the NYSDEC determines monitoring is no longer needed. Currently, there is not an alternative water supply available to the site (e.g., municipal supply). Bottled water is supplied for potable purposes. If an alternative water supply becomes available, the on-site water supply wells would be abandoned.

In-situ chemical oxidation is a remedial technology that involves the introduction of oxidizing agents (e.g., persulfate, zero-valent iron, oxygen releasing compounds, etc.) into the subsurface to degrade BTEX compounds and PAHs to less-toxic byproducts. Under this alternative, the oxidizing agent would be delivered in one-time or pulsed applications (via air/gas mixtures or water suspensions) to the impacted groundwater in the immediate vicinity of monitoring well MW-209. Security fencing would be installed in the vicinity of the application area to prevent access by unauthorized personnel.

Similar to alternative GW3, this alternative would require that existing monitoring wells be abandoned/decommissioned prior to any soil excavation activities conducted pursuant to the selected remedy for soil and sediment and a new monitoring well network would be installed at locations both upgradient and down gradient from areas at the site where dissolved-phase COCs were detected during the RI. Following oxidant application, groundwater monitoring would be conducted on a quarterly basis for the first year and then periodically until the NYSDEC determines monitoring is no longer needed. The results of the monitoring activities would be summarized and presented in a periodic report to document the potential reduction in COC concentrations as a result of the in-situ chemical oxidation groundwater treatment.

SEDIMENT ALTERNATIVES

Alternative SD2: Engineering Controls

Present Worth: $135,000

Capital Cost: $60,000
Annual Costs:.....$6,000

Under alternative SD2, no active remediation would be implemented to remove, treat, or contain impacted sediment in the southern drainage areas, the drainage swale that conveys surface water or storm water runoff to the northern drainage area (NDA), and sediment within the NDA itself. This alternative would require an environmental easement (with approval from the current NDA property owner) to mitigate direct contact with impacted sediment by site workers, visitors and trespassers. Under this alternative, an environmental easement would be established to restrict current and future property owners from performing intrusive activities that may result in exposure to PCB-impacted sediments.

The NDA and portions of the drainage swale are not currently owned by the remedial party. Approval from the currently property owners would be required to place and environmental easement on the off-site portion of this remedial alternative.

Additionally, fencing would be installed around the perimeter of the NDA to limit site access by unauthorized personnel and surrounding wildlife. This alternative would also include preparation of a Site Management Plan (SMP) that would:

- Provide health and safety requirements for future site activities;
- Identify known locations of site sediments impacted with PCBs, SVOCs and inorganic constituents;
- Establish inspection, maintenance and reporting requirements.

Site fencing maintenance activities would be completed in accordance with the SMP. Additionally, periodic reports would be submitted to document that institutional controls and site fencing are maintained and remain effective.

Alternative SD3: Average Based Sediment Removal to Achieve PCB Concentrations <1ppm with On-site Consolidation and Off-site Management and Long Term Biota Monitoring

Present Worth: $5,700,000
Capital Cost: $5,300,000
Annual Costs (First 5 yrs.):.....$66,000
Annual Costs (Remaining 25 yrs.):.....$48,000

This alternative would consist of excavating sediment to achieve an average PCB concentration in sediment of less than a 1 ppm site-specific sediment cleanup objective. All of the sediments in southern drainage areas (SDA) 1 and 2, and the off-site drainage swale would be excavated to achieve PCB concentrations in the sediments of less than 1 ppm. In SDA-3 and the NDA, a portion of PCB contaminated sediments would be excavated to achieve an average PCB concentration in each individual area of less than 1 ppm. This alternative would leave areas in SDA-3 and the NDA with sediments containing PCB concentrations above 1 ppm in place. The range of PCB concentrations remaining in SDA-3 is estimated to be 0.01 to 8.8 ppm, and the range in the NDA is estimated to be 0.01 to 9.3 ppm.

Sediment excavation activities would be completed using conventional construction equipment. Temporary earthen berms, diversion ditches, and/or temporary bypass pumping would be used to facilitate dewatering of the wetland

areas.

Stabilized/dewatered sediment containing PCB concentrations greater than or equal to 50 ppm (approximately 4,900 CY) would be segregated and transported for off-site management as a TSCA-regulated New York State hazardous waste at a RCRA subtitle C landfill. Stabilized/dewatered sediment containing PCB concentrations less than 50 ppm would be transported for off-site management as a non-hazardous waste and consolidated prior to soil covering as part of the selected soil remedial alternative. Sediment stabilization would consist of the addition of an appropriate stabilizing agent (e.g., woodchips, Portland cement, dry soil, etc.) so that no free liquids are present.

Sediment that does not contain COCs at concentrations greater than the soil cleanup objectives would be consolidated on-site with soil excavated from off-site and used as backfill for the on-site excavation areas. If the volume of consolidated sediment and soil is greater than the volume of soil excavated from on-site, the remainder of the material would be evenly distributed on-site within the limits of the area to be covered. Following on-site consolidation, the materials would be covered as described in alternative S3 through S6.

Following excavation activities, wetlands would be restored. The topography of the existing NDA would be restored via the importation and placement of appropriate fill material (to be determined during remedial design) and a surface layer of 6 inches of topsoil. Fill material and wetland topsoil would consist of materials that would closely match the physical characteristics of the existing wetland materials to maintain the hydraulic interaction of the water table and the wetlands. Existing wetland habitats would be restored with wetland seed mixtures, shrubs, and trees that best match post-excavation hydraulic conditions.

Southern drainage area wetlands would be backfilled with materials (i.e., riprap stone, instead of general fill, topsoil, and vegetation not suitable for vegetation re-establishment or wildlife habitat) to discourage wildlife habitation. The portion of existing drainage culvert running east-west through the site is acting as a groundwater drain, and will be replaced with a covered perforated drain pipe to minimize potential changes to site hydrogeology.

A wetland vegetation restoration plan, including existing soil characterization, would be developed prior to the implementation of the remedial activities. Additionally, a wetland and biota monitoring plan would be prepared and implemented following the completion of the remedial activities. Biota monitoring would include collecting samples (e.g., fish, frogs, etc.) for laboratory analysis for PCBs and lipids content. Lab results would be utilized to access the effectiveness of the remedial action. This alternative would also include preparation of a Site Management Plan (SMP) that would:

- Provide health and safety requirements for future site activities; and
- Establish inspection, maintenance and reporting requirements.

Alternative SD4: Area-Based Sediment Removal (PCBs >1 ppm) with On-site Consolidation and Off-site Management and Long Term Biota Monitoring

Present Worth: $7,000,000
Capital Cost: $6,400,000
Annual Costs (First 5 yrs.):.....$66,000
Annual Costs (Remaining 25 yrs.):.....$48,000

This remedial alternative would consist of excavating sediment containing PCBs at concentrations greater than 1 ppm. This includes sediment located within the southern drainage areas (SDA), the drainage swale that flows to the northern drainage area (NDA), and the NDA itself. The approximate limits of sediment containing PCBs at concentrations greater than 1 ppm (approximately 21,300 CY) are shown on Figure 7.

Sediment excavation, handling, stabilization/dewatering, and waste characterization activities would be completed as described in alternative SD3. Water generated during excavation and dewatering activities would be treated (i.e., solids removal followed by activated carbon filtration) via an on-site temporary treatment system and subsequently discharged back into the NDA. Stabilized/dewatered sediment containing PCBs at concentrations greater than or equal to 50 ppm (approximately 4,900 CY) would be segregated for transportation and off-site management as a TSCA-regulated/New York State hazardous waste as a RCRA Subtitle C landfill. Stabilized/dewatered sediment containing PCBs at concentrations less than 50 ppm would be transported off-site as a non-hazardous waste or be consolidated on-site prior to soil covering as part of the selected soil remedial alternative. Similar to alternative SD3, the excavated sediment may be consolidated with soil excavated from off-site. If the volume of consolidated sediment and soil is greater than the volume of soil excavated from on-site, the remainder of the material would be evenly distributed across the site within the limits to be covered.

Following excavation activities, site wetlands would be restored as described in alternative SD3.

A wetland vegetation restoration plan, including existing soil characterization, would be developed prior to the implementation of the remedial activities. Additionally, a wetland and biota monitoring plan would be prepared and implemented following the completion of the remedial activities. Biota monitoring would include collecting samples (e.g., fish, frogs, etc.) for laboratory analysis for PCBs and lipids content. Lab results would be utilized to access the effectiveness of the remedial action. A detailed biota monitoring plan would be developed as part of the remedial design. This alternative would also include preparation of a Site Management Plan (SMP) that would:

- Provide health and safety requirements for future site activities; and
- Establish inspection, maintenance and reporting requirements.

Alternative SD5: Area-Based Sediment Removal (PCBs >0.1 ppm) with Off-site Management and Long Term Biota Monitoring

Present Worth: $11,800,000
Capital Cost: $11,400,000
Annual Costs (First 5 yrs.):.....$66,000
Annual Costs (Remaining 25 yrs.):.....$48,000

This remedial alternative would consist of excavating sediment containing PCB at concentrations greater than 0.1 ppm site-specific sediment cleanup objective. This includes sediment located within the southern drainage areas, the drainage swale, and the NDA. The approximate volume of sediment containing PCBs at concentrations greater than 0.1 ppm is approximately 37,800 CY.

Sediment excavation, handling, stabilization/dewatering, and waste characterization activities would be completed as described in the previous sediment alternatives. Stabilized/dewatered sediment containing PCB concentrations equal to or greater than 50 ppm (approximately 4,900 CY) would be segregated for transportation and off-site management as a TSCA-regulated/New York State hazardous waste at a RCRA Subtitle C landfill.

Stabilized/dewatered sediment containing PCBs at a concentration less than 50 ppm would be transported for off-site management as a non-hazardous waste.

Following excavation activities, site wetlands would be restored as described in other sediment alternatives.

A wetland vegetation restoration plan, including existing soil characterization, would be developed prior to the implementation of the remedial activities. Additionally, a wetland and biota monitoring plan would be prepared and implemented following the completion of the remedial activities. Biota monitoring would include collecting samples (e.g. fish, frogs, etc.) for laboratory analysis for PCBs and lipids content. Lab results would be utilized to access the effectiveness of the remedial action. A detailed biota monitoring plan would be developed as part of the remedial design. This alternative would also include preparation of a Site Management Plan (SMP) that would:

- Provide health and safety requirements for future site activities; and
- Establish inspection, maintenance and reporting requirements.

Alternative SD6: Excavation of Sediment (PCBs ≥ 50 ppm) with Off-site Management; Soil covering In-Place; Wetland Replacement; and Long Term Biota Monitoring

Present Worth: $3,900,000
Capital Cost: $3,500,000
Annual Costs (First 5 yrs.):.....$66,000
Annual Costs (Remaining 25 yrs.):.....$48,000

This remedial alternative would consist of excavating sediment containing PCBs at concentrations greater than or equal to 50 ppm including sediment located within the southern drainage areas (SDA), the drainage swale that flows to the northern drainage area (NDA), and the NDA itself. The volume of sediment containing PCBs at concentrations greater than 50 ppm is approximately 4,900 cubic yards.

Sediment excavation, handling, stabilization/dewatering, and waste characterization activities would be completed as described in the previous sediment alternatives. Stabilized/dewatered sediment containing PCB concentrations equal to or greater than 50 ppm would be transported for off-site management as a TSCA-regulated/New York State hazardous waste at a RCRA Subtitle C landfill. Remaining sediment in the SDA, drainage swale and NDA would be covered in place.

The soil cover would be constructed directly on existing grade. Approximately 4.4 acres of impacted sediments in the NDA would be covered. The approximate extent of the proposed soil cover is shown on Figure 6. The primary function of the cover would be to prevent direct exposure to impacted sediments that would remain on-site. A cover will be constructed over the soil and sediment that is consolidated on-site and over any remaining soil that contains contamination above the either the ecological resource or restricted residential SCOs, whichever is lower. The cover will be a minimum of 18 inches thick and will consist of clean soil underlain by a demarcation layer. The top six inches of soil will be of sufficient quality to support vegetation. Clean soil will constitute soil that meets the 6 NYCRR Part 375-6.8(d) criteria for backfill. Soil and sediment placed in the consolidation area must be placed at least 5 feet above the seasonally high groundwater table. Working areas, including roadways and parking lots, where soil contamination exceeds either the ecological resource or restricted residential SCOs, will be covered by either pavement or concrete that is a minimum of 6 inches thick.

Following excavation activities a new drainage swale would be constructed to route surface water runoff around the covered sediments in the NDA. In addition, approximately 3.0 acres of additional wetland would be created to compensate for the wetlands lost in the NDA due topsoil covering.

A wetland vegetation restoration plan, including existing soil characterization, would be developed prior to the implementation of the remedial activities. Additionally, a wetland and biota monitoring plan would be prepared and implemented following the completion of the remedial activities. Biota monitoring would include collecting samples (e.g., fish, frogs, etc.) for laboratory analysis for PCBs and lipids content. Lab results would be utilized to access the effectiveness of the remedial action. A detailed biota monitoring plan would be developed as part of the remedial design. This alternative would also include preparation of a Site Management Plan (SMP) that would:

- Provide health and safety requirements for future site activities; and
- Establish inspection, maintenance and reporting requirements.

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
S-1 No Action	0	0	0
S-2 No Action with Institutional Controls	230,000	13,200	390,000
S-3 Soil covering of Soil Containing Constituents of Concern (COCs) Greater Than 6NYCRR Part 375.6 Ecological Resource or Restricted residential SCOs with Removal of Soil Beyond Property Boundary	2,700,000	18,000	2,900,000
S-4 Excavation of Soil Containing PCBs ≥50 ppm with Off-site management, Removal of Soil Beyond Property Boundary, On-site Consolidation and Soil Covering	4,400,000	18,000	4,600,000
S-5 Excavation of Soil Containing PCBs ≥25 ppm with Off-site management, Removal of Soil Beyond Property Boundary, On-site Consolidation and Soil Covering	4,600,000	18,000	4,900,000
S-6 Excavation of Soil Containing PCBs ≥10 ppm with Off-site Management, Removal of Soil Beyond Property Boundary, On-site Consolidation and Soil Covering	6,000,000	18,000	6,200,000
S-7 Excavation of Soil Containing COCs > 6NYCRR Part	18,400,000	0	18,400,000

375.6 Ecological Resource or Restricted residential SCOs, with Off-site Management			
GW-1 No Action	0	0	0
GW-2 Institutional Controls	60,000	6,000	135,000
GW-3 Long Term Monitoring	180,000	28,600	530,000
GW-4 Chemical Oxidation of Dissolved Phase VOCs	363,000	28,600	720,000
SD-1 No Action	0	0	0
SD-2 Institutional Controls	60,000	6,000	135,000
SD-3 On-site vs. Off-site Disposal Average Based Sediment Removal to Achieve PCB Concentrations <1ppm with On-site Consolidation and Off-site Management and Long Term Biota Monitoring	5,300,000 to 6,000,000	66,000 –Yr 1-5 48,000 - Yr 5-30	5,700,000 to 6,400,000
SD-4 On-site vs Off-site Disposal Area-Based Sediment Removal (PCBs >1 ppm) with On-site Consolidation and Off-site Management and Long Term Biota Monitoring	6,400,000 to 7,200,000	66,000 –Yr 1-5 48,000 - Yr 5-30	7,000,000 to 7,600,000
SD-5 Area-Based Sediment Removal (PCBs >0.1 ppm) with Off-site Management and Long Term Biota Monitoring	11,400,000	66,000 –Yr 1-5 48,000 - Yr 5-30	11,800,000
SD-6 Excavation of Sediment (PCBs ≥ 50 ppm) with Off-site Management; Soil Covering In-Place; Wetland Replacement; and Long Term Biota Monitoring	3,500,000	66,000 –Yr 1-5 48,000 - Yr 5-30	3,900,000

Exhibit E

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternatives, S4 (Excavation of Soil Containing PCBs ≥50 ppm with Off-site management, Removal of Soil beyond Property Boundary, On-site Consolidation and Soil Covering), GW3 (Long Term Monitoring**)** and SD4 (Area-Based Sediment Removal (PCBs >1 ppm) with On-site Consolidation and Off-site Management and Long Term Biota Monitoring) as the remedy for this site.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives.

Alternatives S4 (Excavation of Soil Containing PCBs ≥50 ppm with Off-site management, Removal of Soil Beyond Property Boundary, On-site Consolidation and Soil Covering), GW3 (Long Term Monitoring**)** and SD4 (Area-Based Sediment Removal (PCBs >1 ppm) with On-site Consolidation and Off-site Management and Long Term Biota Monitoring) are being proposed because, as described below, they satisfy the threshold criteria and provide the best balance of the primary balancing criteria described in Section 7.2. The following is a discussion, segregated by media, of how each alternative would achieve the remediation goals for the site.

Soils Alternatives

While S3, S4 (Excavation of Soil Containing PCBs ≥50 ppm with off-site management, Removal of Soil Beyond Property Boundary, On-site Consolidation and Soil Covering), S5, S6 and S7 would all meet the threshold criteria of protection to human health and the environment, S2 would not because the ecological resources and restricted residential SCOs would not be obtained. S2 would only implement institution controls and would not eliminate direct long-term exposure of site workers to impacted soils, or migration of impacted soils to the wetlands in the northern drainage area due to surface water runoff, and therefore was not considered further.

Remedial alternative S7 would create the most short term impacts due to the larger volume of impacted soil that would be excavated for off-site disposal. Alternative S3 would create the fewest short term impacts of the excavation alternatives, however, would leave impacted soils on-site creating the potential of long-term impacts to the groundwater. While alternatives S4, S5, and S6, would remove impacted soils to various degrees, thus reducing impacts to the groundwater, alternative S4 would create the least short term impacts of these three alternatives.

Long-term Effectiveness and Permanence would be best met by alternative S7 since this alternative requires a removal of all impacted soils for off-site disposal. Alternative S3 would provide the least long-term effectiveness since impacted soils with PCB concentrations above that considered as hazardous waste would be left on-site. Of the alternatives S6, S5, and S4, alternative S6 would be more effective in the long term because more contaminant mass would be removed for off-site disposal. S5 and S4 are also effective in removing contaminant mass but to a lesser degree, with S4 being the most implementable. The level of environmental risk using S4 would be mitigated by the proposed soil cover, and institutional controls. Based on groundwater sampling results during the RI, impacts to the groundwater have been minimal in isolated, on-site locations. Alternative S4 would remove impacted soils containing the highest concentrations of contamination, providing a level of mitigation for the impacted groundwater, and leaving residual contamination at levels acceptable for the proposed use of the site. Exposure to on-site workers and public health from impacted soils left on-site would be mitigated by engineering controls and by using institutional controls to restrict the use of the site to a restricted residential (which would also allow for

commercial or industrial use, based on zoning requirements).

Under alternatives S4, S5 and S6 soils would be removed off-site at varying levels for proper disposal. These alternatives would reduce the toxicity of the contaminants found on-site. Alternative S7 would provide for the most reduction of volume by removing the most volume of impacted soils. S3 would remove off-site impacted soils but leave on-site impacted soils in place under a soil cover, and therefore is only slightly effective in meeting this remedial action objective. Alternatives S4, S5 and S6 would provide for a reduction in the volume of impacted soils to varying degrees, with S6 being the most effective. However the difference between the three alternatives is less significant when considering the institutional and engineering controls that would be required for each alternative and the site use restrictions that would be implemented.

While alternative S3 would be considered the most implementable due to the least amount of impacted soils being excavated, S4, S5, and S6 are also considered implementable based on the current excavation and soil covering techniques. Alternative S7 would be the most difficult to implement due to the large quantity of impacted soils and sediments required to be excavated and transported for off-site disposal.

Capital costs between alternatives increase as more impacted soils are excavated. While S3 is the least expensive, it provides the least effectiveness, and the least reduction in the volume of impacted soils. S7 is the most expensive alternative but is not readily implementable. The difference in cost between S4 and S5 is insignificant and both alternatives have the same O&M costs. S6 has a higher capital cost than S4 and S5 but has the same O&M cost. Of the three alternatives S4, S5 and S6, S4 is more easily implemented.

Based on the above discussion, the proposed alternative to address contaminated soil on-site and off-site is Alternative S4. This alternative provides the best balance of the criteria and includes the excavation of on-site and off-site soil containing PCBs $\geq$50 ppm with off-site management and removal of on-site and off-site soils impacted by VOC, SVOCs, metals and PCB above either the ecological resource or restricted residential SCO's, whichever is lower, followed by on-site consolidation and soil covering.

Groundwater Alternatives

GW3 (Long Term Monitoring**)**, and GW4 would meet the threshold criteria of protection to human health and the environment, however, GW2 would not. GW2 would implement institutional controls only and not provide the monitoring needed to determine if the remedial action objectives were being met. Therefore GW-2 was not considered further as a viable alternative.

Both GW3 and GW4 would have minimal short term impacts; however GW3 has fewer impacts due to the fact that no on-site work would be needed at MW-209 for implementation of chemical oxidation mitigation system.

GW4 would provide long-term effectiveness by mitigating the impacted groundwater at MW-209 using an in-situ chemical oxidation treatment system. However, with contaminated soil source removal in the vicinity of MW-209 as proposed under the remedial alternatives for soil, an in-situ treatment for soil contamination would not be needed, as contaminant concentrations at MW-209 should start to attenuate within a year. GW3 would provide long-term monitoring to document the mitigation of the groundwater.

By implementing an in-situ chemical oxidation treatment system, GW4 would reduce the toxicity, and mobility of the contaminants in the soils at MW-209. GW3 does not provide for treatment, however, in combination with soil alternative S4, the contaminated soils would be removed, and a corresponding reduction in groundwater

contamination would be realized. GW3 would provide long-term monitoring to document the mitigation of the groundwater.

Of alternatives GW3 and GW4, GW3 would be the most implementable since the time and effort to implement an in-situ chemical oxidation treatment system would not be needed.

The capital cost for GW3 is approximately half as expensive as GW4, and O&M costs are roughly the same.

Based on the above discussion, the proposed alternative to address contaminated groundwater is Alternative GW3. Alternative GW3 best satisfies the selection criteria and is proposed based on the proposed removal of contaminated source material that is impacting on-site and off-site groundwater. Alternative GW3 includes the development of groundwater monitoring well program to evaluate the effectiveness of the removal program and the long-term soil covering and control system for on-site consolidated soils.

Sediment Alternatives

SD4 (Area-Based Sediment Removal (PCBs >1 ppm), and SD5 meet the threshold criteria of protection to human health and the environment, however, SD2, and SD3 would not. SD2 would only implement institution controls and would not eliminate direct long-term exposure of wetlands biota to impacted sediment, therefore it is not considered protective of the environment, would not meet SCGs, and was not considered further. SD3 would use an averaging method to determine the PCB concentrations remaining after excavation, and therefore would leave PCB concentrations in the wetlands that exceed the Department's SCGs and would not eliminate long-term exposure of wetlands biota to impacted sediment. Because of this, SD3 was also not considered further.

SD4, SD5, and SD6 would all create short term impacts to varying degrees due to the volume of sediment removal needed, and remediation impacts to the wetlands in the northern drainage area. Of the three alternatives, SD6 would create the most short term impacts due to the combination of excavation of contaminated sediments, and disturbance due to recreating a new wetland area. SD5 would remove the most sediment, and would require a longer time frame for excavation of the impacted sediments. However, SD5 would not require any on-site disposal. SD4 would require on-site disposal thus creating more short term impacts on-site than SD5. However SD4 would create fewer impacts to the wetlands area due to the smaller excavation volume and smaller area of wetlands impacted by the excavation.

SD6 would provide the least long-term effectiveness and permanence by leaving the largest volume of contaminated sediments with PCB concentrations above SGCs underneath a soil cover. SD5 would provide an incremental increase in long-term effectiveness and permanence when compared to SD4 by removing more contaminant mass, however it would also create more disturbance and impact to the wetlands.

Of the three alternatives being considered, SD6 would provide the least reduction in volume of contaminant mass removed. SD5 would provide the largest reduction in volume by removing the most contaminated sediment for off-site disposal. However SD4 would also remove a significant volume of PCB contaminated sediment, and would be considered protective while limiting the remedial impacts to the wetlands. SD4 would also provide for a reduction in the mobility of the contaminants by soil covering sediments with PCB concentrations less than 50 ppm in an on-site containment cell.

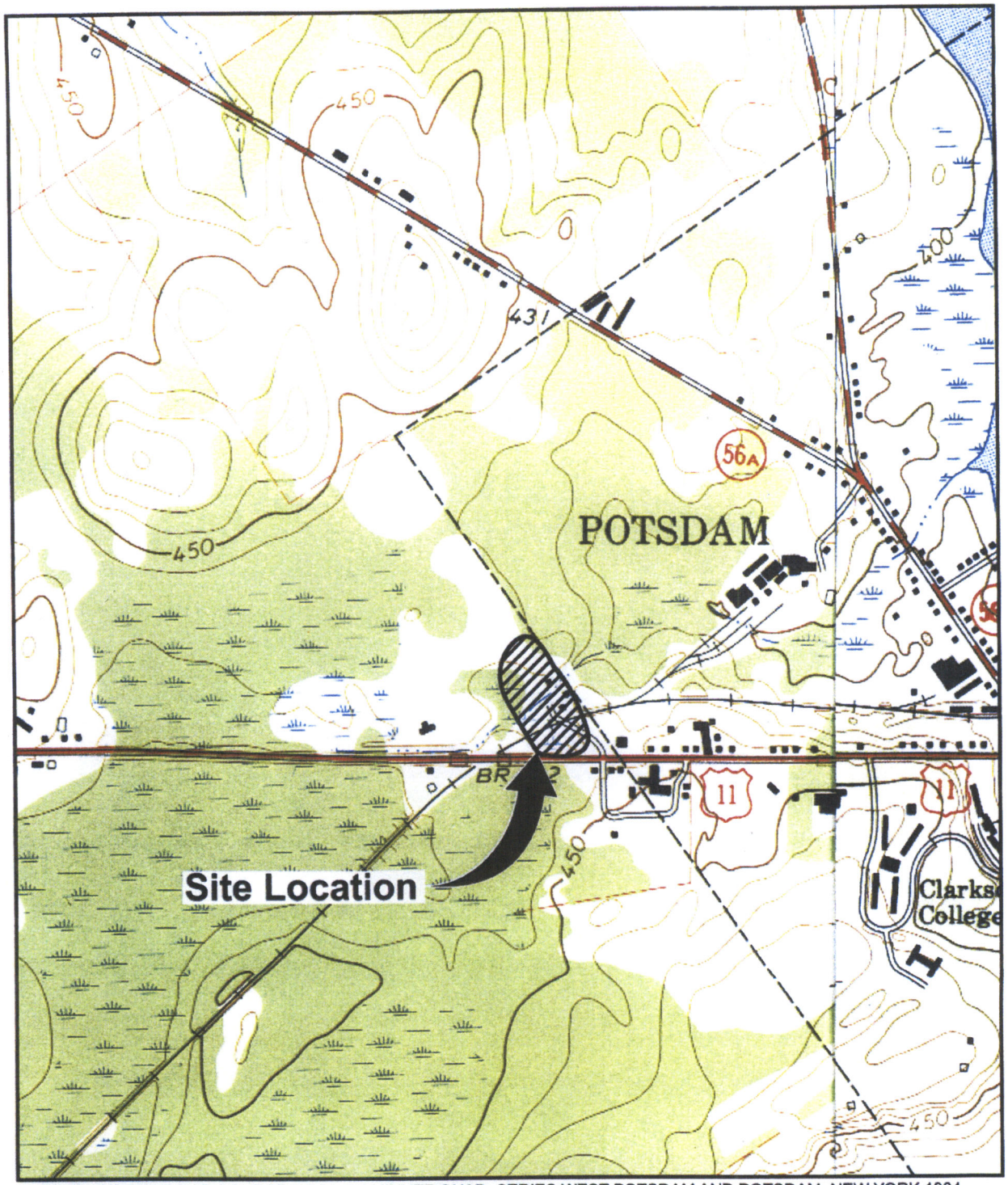
Given the physical nature of the wetland materials, alternative SD6 would be difficult to implement due to the sporadic areas of excavation. In addition, by not removing the entire mass of contamination, cross contamination

from area to area is likely to occur. The re-creation of replacement wetlands in upland areas is considered the least desirable in this case since the removal of the contaminated sediments is not technically infeasible. SD5 is considered to be more difficult to implement that SD4 due to the larger quantity of contaminated sediments that would be required for removal due to the lower sediment cleanup objective of 0.1 ppm. SD4's cleanup objective of 1.0 ppm is more readily achievable and would provide protectiveness to human health and the environment.

Of the three alternatives the capital cost for SD6 is estimated to be the lowest. However, due to uncertainties in the cost estimate including the amount of replacement wetlands required, equipment decontamination, contaminated sediment grading, and volume of material removal for the replacement wetlands, the capital cost is expected to be significantly higher. The capital cost for SD4 is approximately half of SD5, and the long-term operations and maintenance costs for wetlands restoration and monitoring are the same.

Based on the above discussion, the proposed alternative to address on-site and off-site contaminated sediment is Alternative SD4. Alternative SD4 provides the best balance of the selection criteria and is proposed based on the proposed removal of contaminated sediments on-site and off-site which will achieve the SCOs for ecological resources and restricted residential use. The removal of the PCB contaminated sediments will also remove the SVOC and metal contamination found in the sediments.

The estimated present worth cost to implement the remedy (Alternative S4, Alternative SD4 and Alternative GW3) is $12,130,000. The cost to construct the remedy is estimated to be $11,180,000 and the estimated average annual costs for the first 5 years is $112,600, and for the next 25 years is $94,600.



REFERENCE: BASE MAP SOURCE USGS 7.5 MINUTE QUAD. SERIES WEST POTSDAM AND POTSDAM, NEW YORK 1964.

1000' 0 1000'

Approximate Scale: 1" = 1000'

AREA LOCATION

WASTE-STREAM INC.
POTSDAM, NEW YORK

FOCUSED REMEDIAL INVESTIGATION

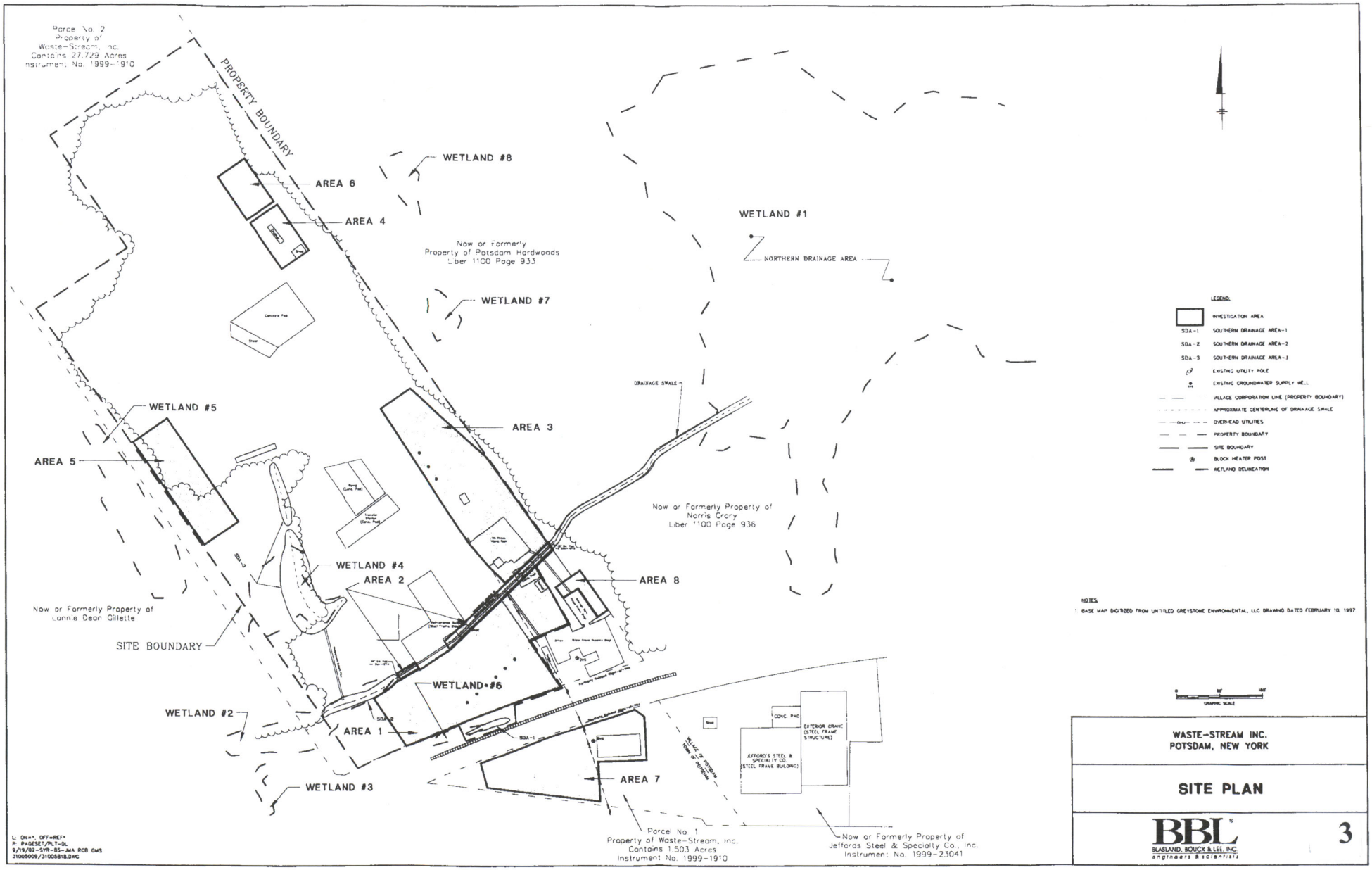
SITE LOCATION MAP

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 1

04/09/02 SYR-54-MRC, DJH
31005009/31005n05.CDR

Figure 2
Waste Stream Inc.
Site Vicinity

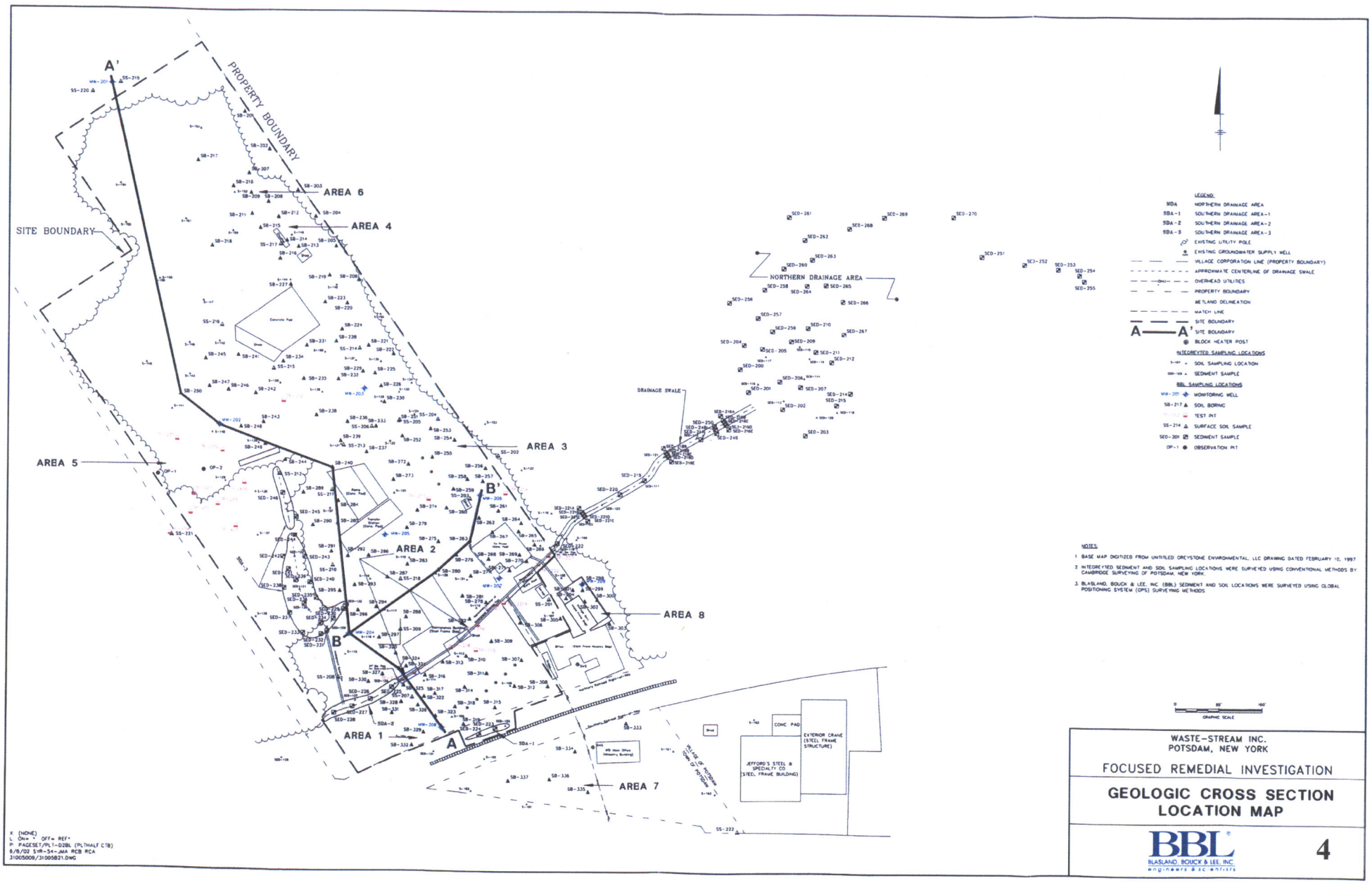


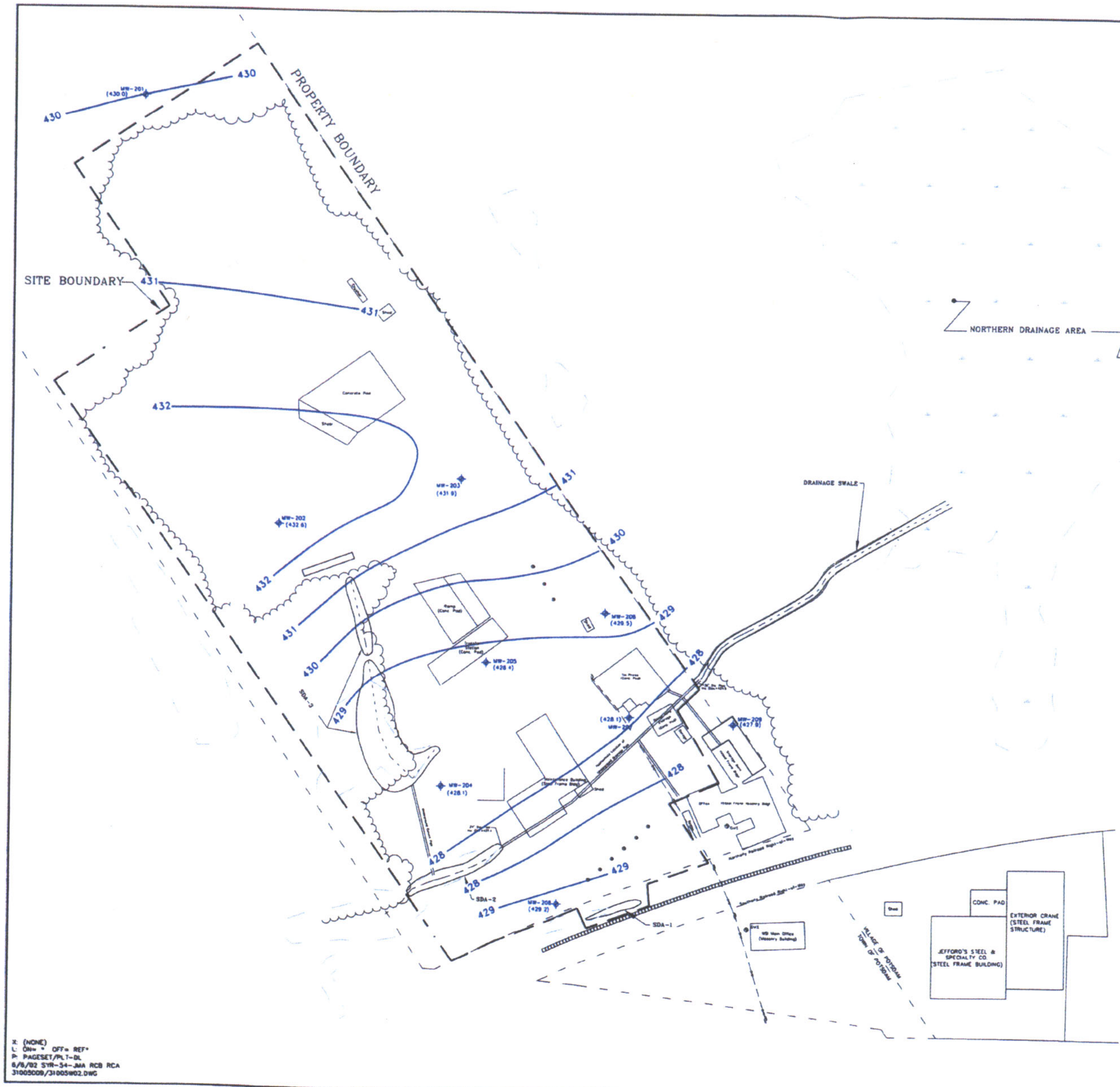
WASTE-STREAM INC.
POTSDAM, NEW YORK

SITE PLAN

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

3


A'
PROPERTY BOUNDARY
AREA 6
SITE BOUNDARY
AREA 4
AREA 5
AREA 3
B'
AREA 2
AREA 8
B
A
AREA 1
AREA 7
DRAINAGE SWALE
NORTHERN DRAINAGE AREA
CONC. PAD
EXTERIOR CRANE (STEEL FRAME STRUCTURE)
JEFFORD'S STEEL & SPECIALTY CO. (STEEL FRAME BUILDING)
VILLAGE OF POTSDAM
TOWN OF POTSDAM
LEGEND:
NDA NORTHERN DRAINAGE AREA
SDA-1 SOUTHERN DRAINAGE AREA-1
SDA-2 SOUTHERN DRAINAGE AREA-2
SDA-3 SOUTHERN DRAINAGE AREA-3
EXISTING UTILITY POLE
EXISTING GROUNDWATER SUPPLY WELL
VILLAGE CORPORATION LINE (PROPERTY BOUNDARY)
APPROXIMATE CENTERLINE OF DRAINAGE SWALE
OVERHEAD UTILITIES
PROPERTY BOUNDARY
WETLAND DELINEATION
MATCH LINE
SITE BOUNDARY
A A' SITE BOUNDARY
BLOCK HEATER POST
INTEGREYTED SAMPLING LOCATIONS
SOIL SAMPLING LOCATION
SEDIMENT SAMPLE
BBL SAMPLING LOCATIONS
MONITORING WELL
SOIL BORING
TEST PIT
SURFACE SOIL SAMPLE
SEDIMENT SAMPLE
OBSERVATION PIT
NOTES:
1. BASE MAP DIGITIZED FROM UNTITLED GREYSTONE ENVIRONMENTAL, LLC DRAWING DATED FEBRUARY 10, 1997.
2. INTEGREYTED SEDIMENT AND SOIL SAMPLING LOCATIONS WERE SURVEYED USING CONVENTIONAL METHODS BY CAMBRIDGE SURVEYING OF POTSDAM, NEW YORK.
3. BLASLAND, BOUCK & LEE, INC. (BBL) SEDIMENT AND SOIL LOCATIONS WERE SURVEYED USING GLOBAL POSITIONING SYSTEM (GPS) SURVEYING METHODS.
GRAPHIC SCALE
WASTE-STREAM INC.
POTSDAM, NEW YORK
FOCUSED REMEDIAL INVESTIGATION
GEOLOGIC CROSS SECTION LOCATION MAP
BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists
4
K (NONE)
L On= * Off= REF*
P- PAGESET/PLT-02BL (PLTHALF CTB)
8/8/02 SYR-54-JMA RCB RCA
31005009/31005B21.DWG



LEGEND:

NDA	NORTHERN DRAINAGE AREA
SDA-1	SOUTHERN DRAINAGE AREA-1
SDA-2	SOUTHERN DRAINAGE AREA-2
SDA-3	SOUTHERN DRAINAGE AREA-3
	EXISTING UTILITY POLE
	EXISTING GROUNDWATER SUPPLY WELL
	VILLAGE CORPORATION LINE (PROPERTY BOUNDARY)
	APPROXIMATE CENTERLINE OF DRAINAGE SWALE
—OHU—	OVERHEAD UTILITIES
	PROPERTY BOUNDARY
	WETLAND DELINEATION
	MATCH LINE
	SITE BOUNDARY
	BLOCK HEATER POST
	SOIL SAMPLING LOCATION
	SEDIMENT SAMPLE
MW-201	MONITORING WELL
(429.2)	WATER TABLE ELEVATION IN FEET (AMSL)
430	INFERRED WATER TABLE ELEVATION CONTOUR

NOTES:

1. BASE MAP DIGITIZED FROM UNTITLED GREYSTONE ENVIRONMENTAL, LLC DRAWING DATED FEBRUARY 10, 1997.
2. INTEGREYTED SEDIMENT AND SOIL SAMPLING LOCATIONS WERE SURVEYED USING CONVENTIONAL METHODS BY CAMBRIDGE SURVEYING OF POTSDAM, NEW YORK.
3. BLASLAND, BOUCK & LEE, INC. (BBL) SEDIMENT AND SOIL LOCATIONS WERE SURVEYED USING GLOBAL POSITIONING SYSTEM (GPS) SURVEYING METHODS.
4. HORIZONTAL DATUM: NAD83, FEET.
5. VERTICAL DATUM: NGVD 88, FEET ABOVE MEAN SEA LEVEL.
6. COORDINATE SYSTEM: NEW YORK STATE PLANAR EAST, FEET.

0 80' 160'
GRAPHIC SCALE

X: (NONE)
L: ON=* OFF=REF*
P: PAGESET/PLT-DL
6/8/02 SYR-54-JMA RCB RCA
31005009/31005W02.DWG

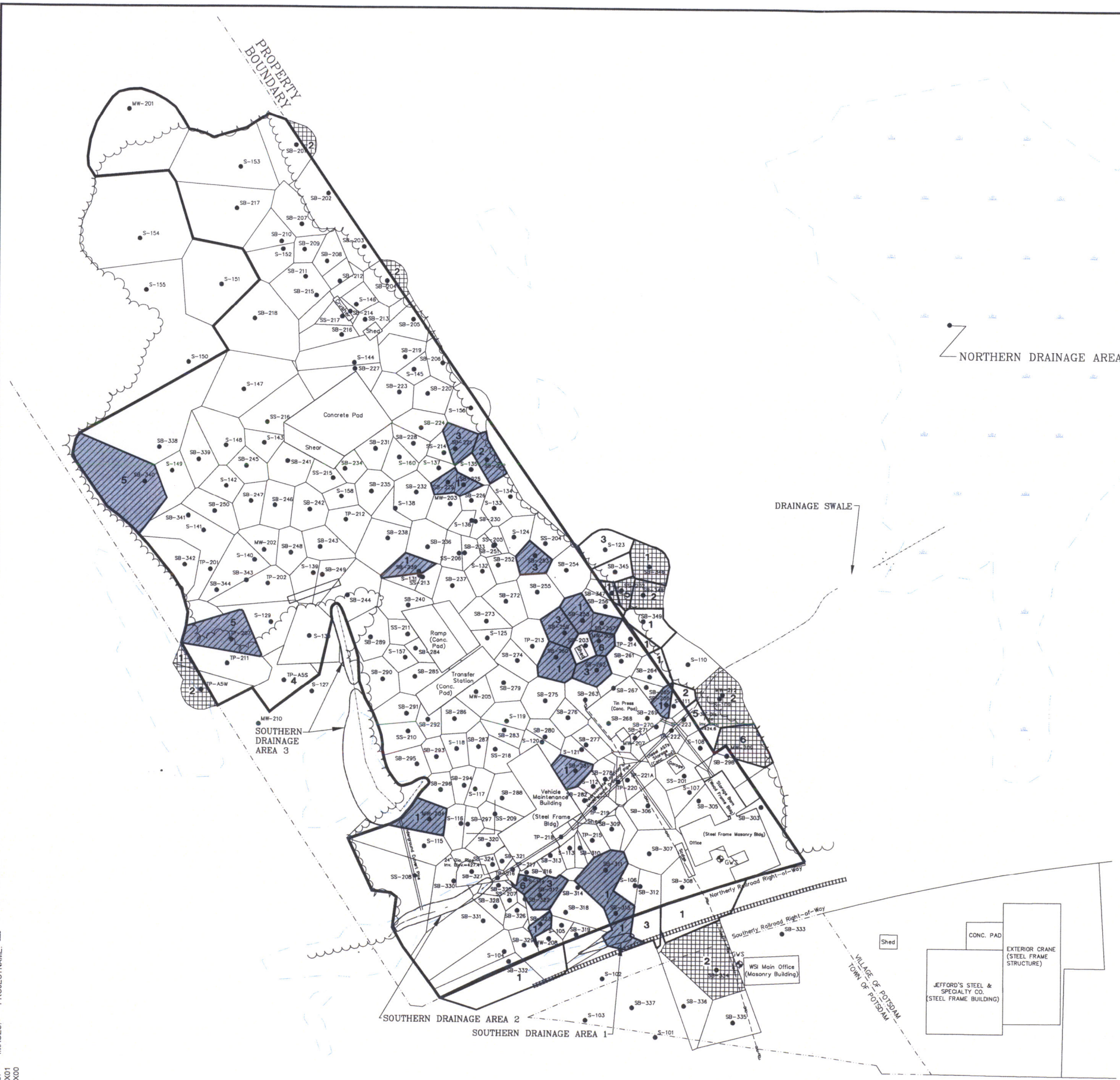
WASTE-STREAM INC.
POTSDAM, NEW YORK

FOCUSED REMEDIAL INVESTIGATION

WATER TABLE ELEVATION CONTOURS (JUNE 19, 2001)

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

5



LEGEND:

- PCBs >50 PPM
- PCBs >1 AND <50 PPM OUTSIDE OF CAP LIMITS
- SVOCs/INORGANICS > 6 NYCRR PART 375 RESTRICTED USE SOIL CLEANUP OBJECTIVES FOR PROTECTION OF ECOLOGICAL RESOURCES OUTSIDE CAP LIMITS
- 3 EXCAVATION DEPTH (FEET BELOW EXISTING GROUND SURFACE)
- WETLAND DELINEATION
- APPROXIMATE CENTERLINE OF DRAINAGE SWALE
- PROPERTY BOUNDARY
- OHU OVERHEAD UTILITIES
- VILLAGE CORPORATION LINE (PROPERTY BOUNDARY)
- EXISTING UTILITY POLE
- GWS FORMER GROUNDWATER SUPPLY WELL
- S-110 SOIL SAMPLE LOCATION

NOTES:

1. BASE MAP DIGITIZED FROM UNTITLED GREYSTONE ENVIRONMENTAL, LLC DRAWING DATED FEBRUARY 10, 1997.

0 80' 160'
GRAPHIC SCALE

WASTE-STREAM INC.
POTSDAM, NEW YORK
FEASIBILITY STUDY REPORT

ALTERNATIVE S4 - SOIL REMOVAL (PCBs > 50 PPM)

ARCADIS

CITY: SYRACUSE GROUP: ENV-141 DB: DMW PGL PM: J BRIEN TR: A.FALZARANO LYR:ON=*;OFF=*REF, (FRZ)
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XREFS: IMAGES: PROJECTNAME: ---
31006X01
31006X00

NOTE: BASE MAP DIGITIZED FROM UNTITLED GREYSTONE ENVIRONMENTAL, LLC DRAWING DATED FEBRUARY 10, 1997.

0 80' 160'
GRAPHIC SCALE

WASTE-STREAM INC.
POTSDAM, NEW YORK
FEASIBILITY STUDY REPORT

ALTERNATIVES SD4 - SEDIMENT REMOVAL (PCBs >1 PPM)

ARCADIS | 7

CITY: SYRACUSE GROUP: ENV-141 DB: DMW PGL AMS PM: J BRIEN TR: A. FALZARANO LYR: ON=*;OFF=*REF*;(FRZ)
G:\ENVCAD\SYRACUSE\ACTIB\03100\600000001\DWG\ALT2\31006G07.DWG LAYOUT: 5-7SAVED: 12/23/2008 1:05 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 12/23/2008 1:21 PM BY: DEGLERCQ, BRIAN
XREFS:
31006X02
31006X00
IMAGES:
PROJECTNAME: ---

EXHIBIT C

UNITED STATES BANKRUPTCY COURT FOR THE SOUTHERN DISTRICT OF NEW YORK

PROOF OF CLAIM

Name of Debtor (Check Only One) | Case No

- ☑ Motors Liquidation Company (f/k/a General Motors Corporation) — 09-50026 (REG)
- ☐ MLCS, LLC (f/k/a Saturn, LLC) — 09-50027 (REG)
- ☐ MLCS Distribution Corporation (f/k/a Saturn Distribution Corporation) — 09-50028 (REG)
- ☐ MLC of Harlem, Inc (f/k/a Chevrolet Saturn of Harlem, Inc) — 09-13558 (REG)

NOTE *This form should not be used to make a claim for an administrative expense arising after the commencement of the case but may be used for purposes of asserting a claim under 11 U S C § 503(b)(9) (see Item # 5) All other requests for payment of an administrative expense should be filed pursuant to 11 U S C § 503*

Name of Creditor (the person or other entity to whom the debtor owes money or property) NYS Department of Environmental Conservation

☐ Check this box to indicate that this claim amends a previously filed claim

Name and address where notices should be sent
Maureen F Leary, Esq
Assistant Attorney General
Environmental Protection Bureau
Office of the Attorney General
The Capitol
Albany NY 12224
Telephone number (518) 474-7154
Email Address Maureen.Leary@oag.state.ny.us

Court Claim Number _____
(*If known*)

Filed on _____

Name and address where payment should be sent (if different from above)

FILED - 50831
MOTORS LIQUIDATION COMPANY
F/K/A GENERAL MOTORS CORP
SDNY # 09-50026 (REG)

Telephone number

☐ Check this box if you are aware that anyone else has filed a proof of claim relating to your claim Attach copy of statement giving particulars

☐ Check this box if you are the debtor or trustee in this case

Your Claim is Scheduled As Follows.

THE GARDEN CITY GROUP, INC. NOV 25 2009

If an amount is identified above, you have a claim scheduled by one of the Debtors as shown (This scheduled amount of your claim may be an amendment to a previously scheduled amount) If you agree with the amount and priority of your claim as scheduled by the Debtor and you have no other claim against the Debtor you do not need to file this proof of claim form, EXCEPT AS FOLLOWS If the amount shown is listed as DISPUTED UNLIQUIDATED or CONTINGENT, a proof of claim MUST be filed in order to receive any distribution in respect of your claim If you have already filed a proof of claim in accordance with the attached instructions you need not file again

1 Amount of Claim as of Date Case Filed, June 1, 2009 $ 4,279,489.53

If all or part of your claim is secured, complete item 4 below, however if all of your claim is unsecured do not complete item 4 If all or part of your claim is entitled to priority complete item 5 If all or part of your claim is asserted pursuant to 11 U S C § 503(b)(9), complete item 5

☐ Check this box if claim includes interest or other charges in addition to the principal amount of claim Attach itemized statement of interest or charges

2 Basis for Claim Environmental Compliance Costs
(See instruction #2 on reverse side)

3 Last four digits of any number by which creditor identifies debtor _____

3a Debtor may have scheduled account as _____
(See instruction #3a on reverse side)

4 Secured Claim (See instruction #4 on reverse side)
Check the appropriate box if your claim is secured by a lien on property or a right of setoff and provide the requested information

Nature of property or right of setoff ☐ Real Estate ☐ Motor Vehicle ☐ Equipment ☐ Other
Describe

Value of Property $_____ **Annual Interest Rate** ___%

Amount of arrearage and other charges as of time case filed included in secured claim, if any $_____

Basis for perfection _____

Amount of Secured Claim $_____ **Amount Unsecured** $_____

5 Amount of Claim Entitled to Priority under 11 U S C § 507(a) If any portion of your claim falls in one of the following categories, check the box and state the amount

Specify the priority of the claim

- ☐ Domestic support obligations under 11 U S C § 507(a)(1)(A) or (a)(1)(B)
- ☐ Wages, salaries, or commissions (up to $10,950*) earned within 180 days before filing of the bankruptcy petition or cessation of the debtor's business whichever is earlier – 11 U S C § 507(a)(4)
- ☐ Contributions to an employee benefit plan – 11 U S C § 507(a)(5)
- ☐ Up to $2,425* of deposits toward purchase, lease, or rental of property or services for personal, family, or household use – 11 U S C § 507(a)(7)
- ☐ Taxes or penalties owed to governmental units – 11 U S C § 507(a)(8)
- ☐ Value of goods received by the Debtor within 20 days before the date of commencement of the case 11 U S C § 503(b)(9) (§ 507(a)(2))
- ☐ Other – Specify applicable paragraph of 11 U S C § 507(a)(__)

Amount entitled to priority

$_____

**Amounts are subject to adjustment on 4/1/10 and every 3 years thereafter with respect to cases commenced on or after the date of adjustment*

6 Credits The amount of all payments on this claim has been credited for the purpose of making this proof of claim

7 Documents Attach redacted copies of any documents that support the claim such as promissory notes, purchase orders, invoices, itemized statements of running accounts, contracts, judgments, mortgages, and security agreements You may also attach a summary Attach redacted copies of documents providing evidence of perfection of a security interest You may also attach a summary (*See instruction 7 and definition of "redacted" on reverse side*)

DO NOT SEND ORIGINAL DOCUMENTS ATTACHED DOCUMENTS MAY BE DESTROYED AFTER SCANNING

If the documents are not available, please explain in an attachment

Date 11/24/2009

Signature The person filing this claim must sign it Sign and print name and title, if any, of the creditor or other person authorized to file this claim and state address and telephone number if different from the notice address above Attach copy of power of attorney, if any

Maureen F Leary

FOR COURT USE ONLY

Penalty for presenting fraudulent claim Fine of up to $500,000 or imprisonment for up to 5 years, or both 18 U S C §§ 152 and 3571

Modified B10 (GCG) (12/08)

Waste Stream