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April 3, 2008

Mr. Steven Scharf, P.E.
Division on Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

Re: Final Engineering Report
Bethpage Community Park Interim Remedial Measure (IRM)
Order on Consent W1-0018-02-03

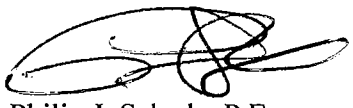
Dear Mr. Scharf:

Please find enclosed four copies of the Final Engineering Report for the Soil Remediation Interim Remedial Measure (IRM) at Bethpage Community Park in Bethpage, NY.

If you should have any questions or concerns, please contact me at (631) 756-8000 x1623.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.



Philip J. Schade, P.E.
Vice President

cc/encl:

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TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

FINAL ENGINEERING REPORT

MARCH 2008

CERTIFICATION

Pursuant to Section II(D)(2) of the Order on Consent (W1-0018-02-03) between the New York State Department of Environmental Conservation and the Town of Oyster Bay, in the Matter of the Development and Implementation of an Interim Remedial Measure Program, all requirements of the Remedial Action Plan for the Bethpage Community Park, including the Investigation Report and Remedial Action Plan, dated November 2005, Supplemental Investigation Report, dated December 2005, and the Addendum to the Remedial Action Plan, dated March 2006, have been complied with and all activities have been performed in full accordance with such plans.

Philip J. Schade, P.E.

Project Director

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

FINAL ENGINEERING REPORT

March 2008

Prepared For:

Town of Oyster Bay
Department of Public Works

H2M GROUP

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Engineers • Architects • Scientists • Planners • Surveyors

H2MGROUP

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

FINAL ENGINEERING REPORT

MARCH 2008

ABSTRACT

Site Name:	Bethpage Community Park
Location:	Bethpage, NY
Project Type:	Interim Remedial Measure, OU3 – Former Grumman Settling Ponds, Grumman Aerospace-Bethpage Facility New York State Inactive Hazardous Waste Site (ID# 130003A).
Regulatory Oversight:	New York State Department of Environmental Conservation
Property Owner:	Town of Oyster Bay
Project Engineer:	Holzmacher, McLendon & Murrell, P.C. (H2M), Melville, NY
Remedial Contractor:	BlueWater Environmental, Inc. (Posillico Group), Farmingdale, NY
Waste Source:	Historical operations utilizing the site for wastewater settling ponds and fire training.
Contaminants:	Organic Compounds – xylenes, polynuclear aromatic hydrocarbons PCBs Metals –Arsenic, Cadmium, Chromium, Mercury, Nickel
Cleanup Type:	Excavation and Off-site Disposal
Purpose of Cleanup:	IRM conducted to accelerate cleanup of historical contamination to permit construction of new public ice skating facility. Remediation designed to permanently remove contaminants in top ten feet of soil, source areas and historical fill areas up to 20 feet deep. Future site use to remain as public park.
Type/Quantity of Media Treated:	173,032.42 tons of contaminated soil and debris
Period of Operation:	Remedial excavation conducted between 11/15/2006 – 5/17/2007 (82 working days). Site work completion date: 6/12/2007 (94 total working days).

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TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

FINAL ENGINEERING REPORT

MARCH 2008

1.0 INTRODUCTION

This Interim Remedial Measure (IRM) Final Engineering Report (FER) summarizes the results of a remedial action program involving the excavation and off-site disposal of contaminated soil from a designated Construction Area at the Bethpage Community Park in Bethpage, New York (subject property/site). This report has been prepared by Holzmacher, McLendon & Murrell, P.C. (H2M) on behalf of the Town of Oyster Bay. Remedial excavation work was completed by BlueWater Environmental Inc. under contract with the Town of Oyster Bay. The IRM program was conducted in accordance with the terms of an Order on Consent (Index # W1-0018-02-03) between the Town of Oyster Bay and the New York State Department of Environmental Conservation (NYSDEC). A site location map is provided as Figure 1.

The IRM remedial action was conducted by the Town of Oyster Bay to expedite the clean-up of historical contamination in an approximately 7-acre portion of the Bethpage Community Park to permit redevelopment and construction of a new ice rink facility. A Remedial Investigation/Feasibility Study (RI/FS) is currently being implemented by Northrop Grumman Corporation (NGC), under a separate Order on Consent with the NYSDEC, for the entire Bethpage Community Park area totaling approximately 18-acres. For the RI/FS, Bethpage Community Park is identified as OU3 – Former Grumman Settling Ponds, since the property was once part of the Grumman Aerospace-Bethpage Facility (New York State Inactive Hazardous Waste Site #130003A).

The Bethpage Community Park property, which was formerly owned and operated by Grumman Aircraft Engineering Corporation (Grumman), a predecessor to NGC, was donated to the Town of Oyster Bay in 1962. Site contamination including metal, volatile organic compound (VOC), semi-volatile organic compound (SVOC) and polychlorinated biphenyl (PCB) contamination, addressed as part of this IRM remedial action, resulted from former Grumman site operations.

Site work for the IRM remedial action was completed between November 2006 and June 2007. The IRM remedial program resulted in the removal and off-site disposal of approximately 173,032.4 tons of contaminated soil and non-hazardous debris. The cleanup levels applied to this IRM remedial action were NYSDEC TAGM #4046 cleanup guidelines[1]. In accordance with the remedial action plan, the excavation depths varied from two to twenty feet below grade. All open excavations were backfilled with NYSDEC-approved clean fill from an off-site source to restore grade. Site restoration including replacement of all Park amenities affected by this IRM RAP will be completed along with the construction work associated with the new ice rink facility.

Completion of the IRM Remedial Action, as documented herein, fulfills the final requirements of the Order on Consent between the Town of Oyster Bay and the NYSDEC.

2.0 SITE BACKGROUND

2.1 Site Description

Bethpage Community Park occupies approximately 18-acres and is located in Bethpage, New York. The Park is bordered by Cherry Avenue Extension to the north, Stewart Avenue to the east, NGC Plant 24 Access Road to the south, and the former NGC Plant 24 building and other NGC property to the west. The former Plant 24 building and the former NGC Plant 30 building on the north side of Cherry Avenue Extension are currently occupied by the Robert Plan Company. Bethpage High School is located opposite the Park on the east side of Stewart Avenue. Residential properties are located to the south of the NGC Plant 24 Access Road.

2.2 Site History

The Bethpage Community Park property is currently owned by the Town of Oyster Bay but was formerly owned and utilized by Grumman, a predecessor to NGC. Ownership of the site was transferred to the Town of Oyster Bay in 1962, after which, the Town constructed the present-day Park. Park amenities initially included a pool, skating rink, baseball field, tennis courts, basketball courts, bocce ball courts, picnic area, children's playground and parking. Many of these features, however, were temporarily removed to facilitate the IRM remedial action. Restoration is currently underway.

In 2002, portions of Bethpage Community Park were closed by the Town of Oyster Bay for protection of public health following the identification of PCB and metal contamination by NGC in site soils above New York State guidelines[1]. Subsequent soil and groundwater sampling programs conducted by NGC in June 2002[2] and December 2003[3] identified additional PCB, VOC, SVOC and metal contamination. NGC reported[3] that historical property usage by Grumman included industrial wastewater treatment sludge disposal, spent paint booth rag disposal, possible used oil disposal, and fire training activity that included ignition of waste oil and jet fuel. NGC is currently completing an RI/FS.

Planned redevelopment at Bethpage Community Park by the Town of Oyster Bay to include the construction of a new indoor ice skating rink as well as improvement of surrounding parking areas and utilities necessitated further delineation of the extent of contamination identified within the Park boundaries by NGC in 2002 and 2003. Due to the documented contamination within the Park boundaries, the unknown extent of contamination and to expedite the overall redevelopment process, the Town of Oyster Bay entered into the Order on Consent with the NYSDEC to conduct an IRM to investigate and remediate the portion of the Park that was anticipated to be affected by the planned redevelopment and construction. This area was deemed the Construction Area or IRM Area. At the time of the Consent Order agreement between the Town of Oyster Bay and the NYSDEC, NGC had yet to finalize an agreement with the NYSDEC to further investigate contamination within the Bethpage Community Park. As previously stated, NGC is currently completing an RI/FS.

2.3 Interim Remedial Measure Boundary Description

A site plan depicting the Bethpage Community Park and the IRM Construction Area is provided as Figure 2. The metes and bounds description of the IRM boundary area, as identified in the Order on Consent, is provided below.

> All that certain plot, piece or parcel of land, with improvements erected thereon situate, lying and being at Bethpage, Town of Oyster Bay, County of Nassau and State of New York, being bounded and described as follows:

Beginning at a point on the new westerly line of Stewart Avenue the following four (4) courses and distances from the intersection of the northerly line of Sycamore Avenue (Mineola Avenue) and the old westerly line of Stewart Avenue:

1. North 13°43'24" West along the old westerly line of Stewart Avenue a distance of 97.20 feet
2. North 07°48'50" West along the old westerly line of Stewart Avenue a distance of 113.26 feet
3. North 71°00'40" West a distance of 13.44 to the new westerly line of Stewart Avenue
4. North 07°48'50" West along the new westerly line of Stewart Avenue a distance of 535.78 feet to the point and place of beginning:

Running thence South 81°52'10" West a distance of 276.95 feet to a point:

Running thence South 19°08'52" West a distance of 99.00 feet to a point;

Running thence North 71°00'40" West a distance of 20.13 feet to a point;

Running thence South19°23'52" West a distance of 135.24 feet to a point;

Running thence North 70°59'08" West a distance of 297.39 feet to a point;

Running thence North 18°58'40" East a distance of 200.35 feet to a point;

Running thence North 27°26'40" West a distance of 11.60 feet to a point;

Running thence North 70°21'17" West a distance of 138.04 feet to a point;

Running thence North 18°59'20" East a distance of 13.74 feet to a point;

Running thence South 71°00'40" East a distance of 12.80 feet to a point;

Running thence North 18°47'09" East a distance of 326.56 feet to a point;

Running thence South 71°00'40" East a distance of 6.66 feet to a point;

Running thence North 18°47'09" East a distance of 129.50 feet to a point;

Running thence South 71°00'40" East a distance of 296.99 feet to a point;

Running thence North 28°36'08" East a distance of 14.72 feet to a point;

Running thence North 71°00'40" West a distance of 13.10 feet to a point;

Running thence North 18°59'20" East a distance of 7.61 feet to a point;

Running thence South 71°00'40" East a distance of 102.35 feet to a point;

Running thence South 18°59'20" West a distance of 12.12 feet to a point;

Running thence South 71°00'40" East a distance of 138.71 feet to the new westerly line of Stewart Avenue;

Running thence along the new westerly line of Stewart Avenue South 07°48'50" East a distance of 369.22 feet to the point or place of BEGINNING.

3.0 IRM REMEDIAL INVESTIGATION

3.1 Site Investigation Summary

In accordance with a NYSDEC-approved May 2005 Work Plan, the Town of Oyster Bay conducted the IRM remedial investigation which consisted of a comprehensive soil investigation and also included groundwater and soil vapor testing. The IRM remedial investigation was completed as two field sampling programs. Most investigation activities were completed in May and June 2005 and documented in H2M's November 2005 Investigation Report and Remedial Action Plan (11/2005 IR/RAP)[4]. Additional investigation activities were completed in September 2005 and documented in H2M's December 2005 Supplemental Investigation Report (12/2005 SIR)[5].

Provided in the next section, Section 3.2 Nature and Extent of Contamination, is a summary of the IRM remedial investigation findings, which served as the basis for development of the IRM Remedial Action Plan. The IRM Remedial Action Plan, which was finalized in the March 2006 Addendum to the Remedial Action Plan (3/2006 ARAP)[6], is summarized in Section 3.3 Remedial Action Plan. Additional in-situ soil characterization data obtained during the IRM Remedial Action for the purposes of further characterizing the soil for disposal is provided in Section 4.3 Waste Characterization Sampling.

3.2 Nature and Extent of Contamination

3.2.1 Standards, Criteria and Guidance

The NYSDEC Division of Environmental Remediation (DER) uses New York State Standards, Criteria and Guidelines (SCGs) for evaluation of remedial alternatives at Inactive Hazardous Waste Sites (TAGM #4030, revised 05/15/90). The SCGs utilized for soil contaminant evaluations during the Bethpage Community Park IRM remedial investigation included contaminant specific guidelines listed in TAGM #4046[1]. For metals, TAGM #4046 Recommended Soil Cleanup Objectives (RSCOs) or the upper range of the Eastern USA Regional concentrations, where provided, were used as the cleanup objective. For PCBs, the RSCO is 1 mg/kg for surface soils and 10 mg/kg for subsurface soils. TAGM #4046 typically considers surface soils to be the top 24 inches of soil. However, the depth for surface soils can also be specifically set by the NYSDEC. For the IRM, surface soils were conservatively expanded to include the top 10-feet of soil to account for any planned or future redevelopment and/or maintenance activities at the Park. Continued use of the site as a community park would likely require intrusive activities over time as recreational facilities are periodically upgraded, renovated and maintained.

For assessment of groundwater sampling analytical data, the laboratory results were compared to the NYSDEC Class GA groundwater and effluent standards[7].

With regards to soil vapor sampling, the State of New York has not promulgated specific standards, criteria or guidance values for concentrations of compounds in subsurface vapors, as reported in the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, October 2006[8]. This document was issued as a draft (February 2005 Public Comment Draft) at the time of the IRM remedial investigation but has subsequently been finalized, dated October 2006. The NYSDOH guidance document offers decision making matrices to serve as risk management tools for

evaluating soil vapor entering buildings. The matrices were developed for trichloroethylene (TCE) and tetrachloroethylene (PCE) and were considered during evaluation of the soil vapor data collected during the IRM remedial investigation. As recommended within the NYSDOH guidance document, soil vapor sampling results were also evaluated individually, compared with background outdoor air levels and reviewed "as a whole" to identify trends and special variations in the data.

3.2.2 Soil Investigation Findings

During the IRM remedial investigation, a total of 160 soil borings were completed using a combination of direct-push and hollow-stem auger drilling methods. This included 119 shallow borings that were advanced to a minimum depth of 10 feet below grade and 41 deep borings that were advanced to a depth of 60 feet below grade. The soil boring locations were based on a grid format with a 50-foot on-center node spacing. Sampling node locations are shown on the site plan in Figure 2. Soil samples were generally retained at two-foot intervals from grade to 10 feet below grade and in two-foot cores at 10 foot intervals between 10 feet and 60 feet below grade, i.e., 18-20 feet, 28-30 feet, 38-40 feet, 48-50 feet and 58-60 feet. Soil sampling analysis included PCBs, VOCs, SVOCs, and metals (including hexavalent chromium and cyanide).

Predominant metals detected above RSCOs were arsenic (As), cadmium (Cd), chromium (Cr), mercury (Hg) and zinc (Zn). Full tabular summaries of analytical results for metals were provided in the 11/2005 IR/RAP[4] and 12/2005 SIR[5]. A site plan summarizing the sampling locations with metal concentrations detected at or above their respective RSCOs is provided as Figure 3.

During the IRM remedial investigation, PCBs were detected at concentrations up to 550 mg/kg (i.e., boring location G7 at a depth of 8-10 feet below grade). The NYSDEC TAGM #4046 RSCO for PCBs is 1 mg/kg for surface soils and 10

mg/kg for subsurface soils. At depths between grade and 10 feet below grade, PCBs were identified in 55 of the 160 boring locations at concentrations greater than 1 mg/kg. PCB concentrations exceeded 1 mg/kg in surface soils in 31 of the 160 boring locations and exceeded 10 mg/kg in subsurface soils in 9 boring locations. All PCB soil analytical data were provided as Table 4.2.1 in the 11/2005 IR/RAP[4], and also as Table 4.2.1 in the 12/2005 SIR[5]. A site plan summarizing PCB soil concentrations above 1 mg/kg is provided as Figure 4.

The soil investigation identified cyanide in approximately 18 boring locations. The highest concentrations of cyanide were 84.0 mg/kg at G4 (8-10), 23.4 mg/kg at I10 (6-8) and 14.4 mg/kg at G3 (8-10). However, NYSDEC TAGM #4046 does not identify a RSCO for cyanide considering the stability of cyanide is dependent on the chemical form.

Volatile organic compounds (VOCs) were not detected in Site soils with the exception of two boring locations near the Southwestern boundary of the Construction Area. At boring location I1, total xylenes were detected at a concentration of 3.3 mg/kg, exceeding the RSCO of 1.2 mg/kg. At boring location J1, 1,2-dichloroethene was detected at a concentration of 0.76 mg/kg, exceeding the RSCO of 0.3 mg/kg, and trichloroethylene was detected at a concentration of 17.0 mg/kg, exceeding the RSCO of 0.7 mg/kg.

Semi-volatile organics were detected in 47 of the 160 boring locations above the RSCOs. The semi-volatile contaminants that exceeded their individual RSCOs were polycyclic aromatic hydrocarbons (PAHs) and included benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and dibenzo(a,h)anthracene. However, not all of these contaminants were detected at each location. The NYSDEC TAGM #4046 recommends a comparison of individual compounds with their respective RSCOs. In the proposed 4/95 TAGM, the NYSDEC identifies a total carcinogenic SVOC (i.e., PAHs) concentration of 10 and 50 mg/kg as a cleanup objective. There is a noted discrepancy in this

TAGM as both values are identified within the document. Total carcinogenic SVOC concentrations exceeded 10 mg/kg in 9 boring locations and exceeded 50 mg/kg in two boring locations. VOC and SVOC soil concentrations above RSCOs, based on the findings of the 11/2005 IR/RAP and 12/2005 SIR, are provided along with PCB results in Figure 4.

More specific details on the soil investigation program were provided in the 11/2005 IR/RAP[4], 12/2005 SIR[5] and 3/2006 ARAP[6].

3.2.2 Groundwater Investigation Findings

A total of five groundwater monitoring wells were installed in upgradient and downgradient locations within the IRM Construction Area during the remedial investigation. All wells were properly abandoned subsequent to the site investigation and prior to the commencement of the remedial action program. The monitoring wells were identified as CAMW-1, CAMW-2, CAMW-3, CAMW-4, and CAMW-5. Groundwater samples that were collected from each monitoring well were analyzed for PCBs, VOCs, SVOCs, metals (including hexavalent chromium (Cr^{6+})) and cyanide. Construction details for the monitoring wells were provided in the 11/2005 IR/RAP and 12/2005 SIR.

The groundwater investigation did not identify any PCBs in the groundwater. With regards to metals, only sodium was detected in on-site wells above NYSDEC Class GA Groundwater Quality Standards. However, sodium is not typically considered a significant environmental concern and was not deemed to warrant further investigation as part of the IRM. Volatile organic compound sampling identified the presence of 1,2-dichloroethene and trans-1,3 dichloropropene in four of the monitoring wells at concentrations greater than the groundwater standards. Chlorodifluoromethane (Freon-22) was identified as a Tentatively Identified Compound (TIC) at an estimated concentration of 200 µg/l in monitoring well CAMW-4. No source areas for the VOC contaminants of

concern were identified within the limits of the Construction Area during the comprehensive soil investigation. In addition, as discussed within the next section, the soil vapor investigation did not identify any on-site source areas for these compounds.

3.2.3 Soil Vapor Investigation Findings

The soil vapor sampling program was implemented as part of the IRM field investigation to determine whether soil and/or groundwater contamination was producing significant levels of VOCs in the vadose (unsaturated soil) zone, and to evaluate the potential for current and future human exposure. The soil vapor sampling was performed in 17 locations across the IRM Construction Area. All soil vapor samples were analyzed for Target Compound List VOCs via EPA Method TO-15.

Volatile organic compounds identified during the soil vapor investigation were predominantly 1,2-dichloroethene, trichloroethene, tetrachloroethene and dichlorodifluoromethane (Freon-12). The soil investigation did not identify any source areas for these volatile compounds. Considering these findings, the 12/2005 SIR[5] recommended that any new buildings contemplated as part of future site development in areas with significant soil vapor contamination include provision for vapor intrusion mitigation as a design consideration. This recommendation was approved by the NYSDEC and NYSDOH in a February 10, 2006 comment letter from NYSDEC to H2M, as provided in Appendix A of the 3/2006 ARAP[6]. The new ice rink facility currently being constructed at Bethpage Community Park will include a vapor intrusion mitigation system.

3.3 Remedial Action Plan

The IRM Remedial Action Plan was developed based on the findings of the IRM remedial investigation and the site specific Remedial Action Objective (RAO), which was to select a remedial alternative that was protective of human health and the environment, meets the

intended objectives of the IRM, and takes into consideration the intended and potential future use of the property. A total of five remedial alternatives (RAs) were initially developed for the Bethpage Community Park IRM. These five RAs were initially screened for effectiveness, implementability and cost, in accordance with 40 CFR 300.430(e)(7)[9]. Three of the RAs were advanced past the initial screening and were further evaluated in accordance with NYSDEC Draft DER-10[10] (DER-10). The specific DER-10 evaluation criteria included:

1) Overall Protection of Public Health and the Environment;
2) Compliance with Standards, Criteria, and Guidance (SCGs);
3) Long-term Effectiveness and Permanence;
4) Reduction of Toxicity, Mobility or Volume;
5) Short-term effectiveness;
6) Implementability;
7) Cost; and
8) Community Acceptance.

The DER-10 evaluation criteria are comparable to criteria set out in 40 CFR 300.4 and 6 NYCRR 375-1.10. DER-10, Section 4.1(b) also states that "the remedial goal for all remedial actions undertaken pursuant to this guidance, with the exception of the voluntary cleanup program, will be the restoration of a site to pre-disposal/pre-release conditions, to the extent feasible and authorized by law."

The full remedial alternative evaluation was provided in the 3/2006 ARAP[6]. The selected remedial alternative was Remedial Alternative RA IV - Remediation to 10-Feet plus Targeted Removal of Fill Areas. This was the recommended remedial alternative taking into account compliance with cleanup guidelines (ARARs/SCGs), protection of human health and the environment, short and long-term effectiveness, reduction of toxicity, implementability, cost, community acceptance, current, intended and reasonably anticipated future use of the site, removal of source areas of contamination, and containment of contamination. RA IV was approved by the NYSDEC for

implementation. A copy of the approval letter to H2M, dated May 4, 2006, is included in Appendix J. RA IV was deemed by the NYSDEC to be "protective of public health and the environment." Consequently, RA IV served as the basis for the IRM Remedial Action Plan.

The elements of the IRM Remedial Action Plan were as follows:

1. Remediate all impacted soils within the confines of the IRM boundary to NYSDEC recommended soil cleanup objective concentrations[1] to a depth of ten feet below grade. A depth of ten feet below grade was chosen because most typical construction/development and maintenance activity would not require deeper excavation.

2. Remediate historical fill areas to NYSDEC recommended soil cleanup objective concentrations for subsurface soils. For the purpose of this initiative, historical fill areas are defined as areas identified by aerial photography as being potential release areas and confirmed as fill areas (debris and non-native soils) through boring log information. In addition, areas identified through boring logs to include fill material even if not suspected though aerial photography will be subject to this initiative.

3. Remediate all source areas affecting groundwater quality or soil vapor to NYSDEC recommended soil cleanup objective concentrations for subsurface soils. For the purpose of this initiative, source areas are defined as impacted soils that are currently affecting groundwater or soil vapor quality, or that have the potential to negatively affect groundwater or soil vapor quality. This potential is a function of the nature of the contaminant, the contaminant concentration, the location of the impact, and any mitigating factors.

The first criteria of the proposed remedial strategy provided for remediation of all contaminated surface and near surface soils to a depth of ten feet. The extent of

remediation was based on the NYSDEC RSCOs although for PCBs, the RSCO cleanup objective of 1 mg/kg for surface soils was utilized as the cleanup guideline to a depth of 10 feet. For metals, the NYSDEC RSCOs identify a precise value or, in some cases, the Site Background concentration. For metals identified with Site Background as the RSCO, the upper range of the Eastern USA Regional concentration was used as the cleanup objective.

The second criteria of the remedial strategy provided for remediation of contaminated fill areas identified from historical records, such as aerial photographs or site records, and identified from soil classification information obtained during the IRM field investigation. These areas were remediated to meet NYSDEC recommended soil cleanup objective concentrations for subsurface soils.

The third criteria of the remedial strategy provided for remediation of all source areas (impacted soils) affecting or having the potential to affect groundwater or soil vapor quality to NYSDEC recommended soil cleanup objective concentrations for subsurface soils.

Any identified impacts that were subject to more than one of these strategic initiatives were remediated to meet the more conservative (i.e., more comprehensive cleanup) initiative.

Ultimately, RA IV resulted in the removal of the vast majority of soil contamination including 100 percent of the PCB impacts identified during the remedial investigation that exceeded the cleanup guidelines. Significantly contaminated historical fill areas were addressed through deeper excavation. RA IV provides a buffer of at least 10 feet between grade and any residual impacts left in place. Remediation of contaminated soils to the minimum depth of 10 feet now permits most future site renovation and maintenance operations such as installation of footings, support buildings, recreational equipment, fencing, lamp posts, curbs, new pavement, revised drain piping, new foundations, and

revised surface gradients, to proceed without exposure concerns and the need for associated health and safety requirements.

The selection and implementation of Remedial Alternative IV, completed as the IRM Remedial Action Plan by the Town of Oyster Bay, is anticipated to be the final remedy for soil contamination in the designated Construction Area. NYSDEC TAGM 4042 Interim Remedial Measures states that "an IRM may become the final remedy if it achieves the goal of restoration of the site to predisposal conditions (to the extent feasible and authorized by law) and minimally achieves the elimination or mitigation of all significant threats to the public health and/or the environment presented at the site."

3.4 Citizen Participation

Citizen participation requirements for NYSDEC inactive hazardous waste disposal site remedial programs are presented in 6 NYCRR Part 375-1.10 and 2.10. Additional guidance is set forth in the NYSDEC Division of Environmental Remediation (DER) "Citizen Participation in New York's Hazardous Waste Site Remediation Program – A Guidebook" dated June 1998.

Programs typically employed to encourage participation of the general public include the use of contact lists, fact sheets, document repositories, public availability sessions and public meetings. The NYSDEC has provided for public participation regarding certain site information made available for the Bethpage Community Park - Northrop Grumman Offsite (NYSDEC Site No. 1-30-003A), Operable Unit 3: Former Grumman Settling Ponds.

With regards to the Bethpage Community Park Interim Remedial Measure, the Town of Oyster Bay has provided for citizen participation through the issuance of fact sheets and public information sessions. The Town's Public Information Office prepared a Community Participation Plan, which was approved by the NYSDEC. The Plan was implemented by the Town and included several public meetings. The Town held a public

availability session on June 14, 2006 to provide details on the findings of the IRM remedial investigation and the proposed IRM remedial alternatives. A second public availability session and public meeting was held on November 16, 2006 to present and provide details on the planned IRM Remedial Action Plan as well as the planned new ice rink. In addition, the Town compiled project related documents in a publicly available document repository located at the Bethpage Public Library.

A representative of the Bethpage School District regularly attended biweekly Project Progress Meetings, which were held at the Park. The School District representative also served as a point-person for the local community. In addition, the Town held an information session with the Bethpage High School faculty to discuss and address concerns regarding dust generation at the Park.

4.0 IRM REMEDIAL ACTION

The contract for the remedial construction work to be performed as the IRM Remedial Action was awarded to BlueWater Environmental, Inc. (BWE), a member of the Posillico Group (Farmingdale, NY) by the Town of Oyster Bay through a competitive bid process. H2M served as the project engineer on behalf of the Town.

Prior to implementation of the IRM remedial action, project specific plans were prepared for quality assurance and safety purposes including a Site Operations and Excavation Plan, Community Health & Safety Plan (CHASP), Community Air Monitoring Plan (CAMP) and H2M Project Management Plan. These plans were reviewed and accepted by the NYSDEC. Site specific Health & Safety Plans for H2M and the remediation contractor (BWE) were also prepared and implemented.

The IRM Remedial Action site work initiated November 15, 2006 and was completed June 8, 2007. Remedial excavation ceased on May 17, 2007 although additional backfilling and site grading operations continued until June 8, 2007.

4.1 Remedial Soil Excavation

The IRM Remedial Action Plan included the excavation and off-site disposal of contaminated soil. This remedial strategy was deemed to be the most appropriate given the nature and extent of contamination identified during the IRM Site Investigation, which included VOC, SVOC, metal and PCB contamination at depths varying from 2 feet below grade to 20 feet below grade. Soil remediation through excavation with off-site disposal is not a contaminant specific remedial strategy. Subsequent to the development of the IRM Remedial Action Plan, the NYSDEC issued a Program Policy document, i.e., DER-15 Presumptive/Proven Remedial Technologies[11], that identifies excavation and off-site disposal as a presumptive/proven remedial method for each of the types of contamination identified with the IRM Construction Area boundary.

A copy of the IRM remedial excavation plan, included as part of the project contract documents and the Site Operations and Excavation Plan, is included as Figure 5. The extent of remedial excavation was based on the results of the field investigation and the remedial strategy criteria. The specified depth of excavation at any given point within the IRM Construction Area was based on the deepest contamination identified at any of the surrounding nodes. As shown on Figure 5, a stabilizing slope (i.e., 1:1 cutback) was utilized to transition between varying depths of excavation. The IRM remedial excavation planned an estimated 100,000 cubic yards of contaminated soil for removal. Details on the quantity and type of soils excavated during the IRM are provided in the next section, Section 4.2 Soil Characterization, Quantity and Disposal Summary.

The IRM remedial excavation work was preceded by site clearing and grubbing. All surface features within the boundaries of the IRM area including curbs, trees, fencing and lamp posts were removed. Tree stumps and root balls were unearthed, cleaned of all loose soil and disposed along with the construction and demolition (C&D) debris. The asphalt parking lot surface was milled. The former ice rink located in the northeastern portion of the IRM area was razed prior to the remedial work under a separate contract from the

Town of Oyster Bay. All below grade features associated with the ice rink including the building basement were removed as part of the IRM remedial work.

The remedial excavation initiated in the former rink area and across the northern portion of the IRM area. An excavation phasing plan, identified in the Site Operations and Excavation Plan and shown on Figure 5, was modified as the remedial activity progressed. The phasing plan was initially designed to permit remedial site work to be completed in the vicinity of the former ice rink then advance through the IRM area in a manner that would permit construction activity to commence on the new ice rink. Due to the rapid remedial excavation progress and the significant volume of on-site traffic and congestion associated with the remedial excavation work, the Town elected to permit the remedial excavation activity to continue to advance in the rapid manner and in an approach that would reduce coordination complications and enhance overall site safety.

From the northern portion of the IRM area, the remedial excavation continued southerly towards the approximately central portion of the IRM area. Additional excavation activity advanced from the south towards the central area. The central portion, with the deepest planned excavations was performed towards the end of the remedial excavation phase.

The soil excavation was advanced through the IRM area utilizing a combination of bulldozers (Caterpiller D-6 and D-8), front end loaders (Cat 980G and Komatsu WA450) and track mounted excavators (Caterpillar 345B and Komatsu 300LC). Soils were characterized for disposal purposes prior to excavation utilizing the IRM site investigation data supplemented with additional in-place sampling data, which was performed on an as-requested basis for the planned disposal facilities. Details on additional soil sampling and characterization data is provided in Section 4.2.1. Logistical planning and coordination with representatives from the intended waste disposal facilities was performed prior to the remedial excavation to ensure fluent site operations and minimize the duration of the remedial aspect of the IRM. The accelerated schedule was desired to minimize any impacts to the local community and permit more rapid redevelopment of the Park.

During remedial excavation, soils were either directly loaded into dump trucks or placed in temporary stockpiles. The temporary stockpiles were generated towards the end of daily loading operations to permit rapid loading of dump trucks the following morning. The stockpiles were typically utilized for the non-hazardous soil, which accounted for nearly 60% of all excavated soil. Use of the temporary stockpiles accelerated daily loading operations because the rate at which soil could be excavated was typically less than the required loading rate due to the large number of dump trucks employed for transportation of the non-hazardous soil. The daily trucking requirements for other waste soil classifications was generally less. All non-active stockpiles were covered with poly-sheeting.

Trucking operations typically included the loading of 10 to 40 trucks per day, which then made up to three roundtrips per day from the Park to the designated disposal facility. Multiple roundtrips were usually limited to non-hazardous soil due to the relative proximity of the disposal facility in Elizabeth, NJ. Daily operations started at approximately 6:00AM at which time the soil loading commenced. The early start time was employed to permit coordination with bus and other vehicular traffic requirements of the community and Bethpage High School, which was located opposite the Park on Stewart Avenue. Biweekly project progress meetings held in a construction trailer at the Park were attended by a representative of the Bethpage School District to facilitate coordination between site operations and the needs of the school district and the community. The progress meetings were attended by representatives of the Town, H2M and BWE, as well as the NYSDEC and consultants for Northrop Grumman. Other Town consultants also attended progress meetings to coordinate the ice rink construction.

Trucking access to the site was made from a temporary construction gate along Stewart Avenue. This entrance was located opposite one of the Bethpage High School parking entrances. Flagmen were utilized to assist with traffic flow. The Park construction entrance was moved back to the main gate following excavation and backfilling in the northern portion of the IRM area. A properly calibrated on-site truck scale (Fairbanks Titan Series) was installed at the site and utilized to establish tare weights for all trucking

and measure the contaminated soil loads for manifesting purposes. A truck wash was also available on-site for the duration of the IRM remedial program. Site operations were staged in a manner that ensured that at no time during the remedial excavation work did on-site trucking drive on exposed contaminated soil. All trucking was visually inspected prior to leaving the site and checked for proper tarping.

The total quantity of soil and debris excavated, loaded and disposed off-site as part of the IRM was 173,032.42 tons over a period of 82 days, which equated to an average excavation and disposal rate of 2,110 tons per day. The total trucking requirement was 5,901 loads. The trucking predominantly comprised 10-wheel trucks (with optional third rear axle) for contaminated soil and tractor-trailers for the debris.

Progressive topographic surveys of the IRM remedial excavation are shown in Figures 6 through 10. The excavation surveys are presented as the remedial activity progressed. An overall topographic survey depicting the final remedial excavation depths across the entire IRM area was not possible because the excavation work proceeded in stages. Backfilling operations commenced prior to the overall completion of the remedial excavation. Areas where the remedial excavation was complete were backfilled while remedial excavation continued in other areas of the Park.

In accordance with the IRM RAP, remedial investigation sample results were utilized as endpoint samples at those locations where the final depth was consistent with the RAP. Additional endpoint samples were to be collected at locations where the excavation depth deviated from the RAP. However, no deviations to the final excavation depth were made during the IRM remedial excavation except for the additional excavation conducted in the "B-43 Area," as discussed in Section 4.4.1. The NYSDEC-approved IRM RAP supplement for the additional excavation in the B-43 Area stated that no endpoint samples would be collected due to existing soil quality data for deeper depths.

Three deviations were made to the IRM remedial excavation plan. These included the additional excavation in the "B-43 Area" and additional excavation beyond the IRM

boundary area in Contract Area 8 and Contract Area 1. The IRM remedial plan deviations are further discussed in Section 4.4.

4.2 Waste Characterization, Quantity and Disposal Summary

Based on the findings and analytical sampling results of the IRM remedial investigation, the generation of four types of soil waste was anticipated during the IRM remedial excavation. These included 1) non-hazardous waste (PCBs < 5 milligram per kilogram (mg/kg or ppm)); 2) non-TSCA[12] regulated waste (PCBs >5, <50 mg/kg); 3) TSCA regulated waste (PCBs >50 mg/kg); and 4) RCRA hazardous waste.

All TSCA regulated waste was manifested, transported and disposed as a hazardous waste (New York State Hazardous Waste No. B007). In addition, the TSCA regulated waste disposal facilities could also accept RCRA hazardous waste pending compliance with USEPA Land Disposal Restrictions (LDR). The RCRA hazardous waste determination for waste soil generated during the IRM was based on the toxicity characteristic for cadmium (EPA Waste No. D006) and/or chromium (EPA Waste No. D007). A temporary EPA identification number was obtained for Bethpage Community Park for the regulated waste activity associated with the disposal of hazardous waste from the site during the IRM remedial program.

In addition to the identified soil waste streams, non-hazardous construction and demolition debris was generated from site clearing and grubbing activities. As the IRM remedial excavation progressed, a significant volume of below-grade anthropogenic debris was unearthed. This debris appeared to be associated with former manufacturing operations and included rubber, wood, metal, forming molds, fiberglass and crushed drums. After identifying the significant amount of below-grade debris, an additional non-hazardous waste stream was added for disposal of the debris.

The total quantity of soil and debris excavated and disposed off-site is summarized below and in more detail in Table 4.2.1.

Waste Type	Final Disposal Quantity	Disposal Facility(ies)
Non-hazardous soil	100,558.21	Clean Earth of North Jersey, Elizabeth, NJ
Non-TSCA regulated soil	34,360.96	Clean Earth of Philadephia, Philadelphia, NJ
TSCA regulated soil	17,638.50	Wayne Disposal, Inc., Belleville, MI Waste Control Specialists, LLC, Andrews, TX
RCRA hazardous soil	4,864.80	Stablex Canada Inc., Blainville, Quebec
Debris*	15,609.92	FR&S Inc. (d/b/a Pioneer Crossing Landfilll), Birdsboro, PA American Landfill, Inc., Waynesburg, OH

* Excludes C&D debris from site clearing and grubbing.

Non-hazardous soil was shipped and disposed at Clean Earth of North Jersey in Elizabeth, NJ for beneficial re-use. Non-TSCA regulated waste was disposed at the Clean Earth of Philadelphia facility in Philadelphia, NJ. TSCA-regulated waste was disposed at two facilities including Wayne Disposal, Inc. in Belleville, MI and Waste Control Specialists, LLC in Andrews, TX. RCRA hazardous waste was disposed at Stablex Canada, Inc. in Blainville, Quebec, Canada. The TSCA and RCRA wastes were transported from the Park in dump trucks to N. Bergen, NJ then transferred to railcars for transport to the disposal facilities. All other wastes were transported via trucking directly from the site to the designated disposal facility.

As shown in Table 4.2.1., on April 12, 2007, 906.91 tons of RCRA hazardous soil was excavated and transported, via nine railcars, to Stablex Canada, Inc. Quality Assurance testing of these soils at Stablex identified PCBs in some samples. Consequently, four of the nine railcars, totaling 429.27 tons, were rejected. Through proper coordination between Stablex, Canada's Ministry of the Environment and the US EPA, the rail cars were returned to the intermodal rail yard in N. Bergen and remanifested by H2M, on behalf of the Town, for disposal as TSCA regulated waste. Two of the railcars were ultimately disposed at Wayne Disposal, Inc. and two were disposed at Waste Control Specialists, LLC.

During the IRM remedial excavation, the debris was handled and disposed along with the contaminated soil or as a separate waste stream. The waste acceptance criteria for three of the four contaminated soil waste streams (i.e., non-TSCA regulated, TSCA-regulated and RCRA-hazardous) permitted the disposal of debris but generally limited the amount of debris by quantity, which was approximately 10 percent per load. The TSCA-regulated facilities did not limit the amount of debris. The majority of debris was disposed as non-hazardous at a RCRA Subtitle D landfill (Pioneer Crossing Landfill in Birdsboro, PA). Copies of all waste disposal manifests are provided on a CD-ROM in Appendix A.

As noted, significant amounts of debris were encountered during the remedial excavation. Fill areas with miscellaneous debris including wood, metal, and fibrous material were identified and documented during the remedial investigation. However, the findings of the remedial investigation did not fully define the significant extent of historical dumping and debris that was encountered during the remedial excavation. The debris unearthed during the remedial excavation was similar to the findings of the remedial investigation but also included rubber, fiberglass, crushed steel drums and forming molds. The rubber debris was found in miscellaneous shapes and sizes including small flat pieces, strips, hoses and a large pad similar in size to a small bed mattress. Fiberglass was found in thin sheets. Fiberglass cloth was also identified in the debris and was consistent with the fibrous material encountered in soil borings during the IRM remedial investigation. Wood debris included wood blocks, mill-cut framing members, fragments and, in one instance a tree stump, that appeared partially burned. As noted by the NYSDEC site manager, the wood blocks appeared to be consistent with flooring blocks used within the NGC and/or Navy facilities on Long Island.

Many debris artifacts appeared consistent with aircraft manufacturing. Distinct debris artifacts included a polymeric bladder similar to an aircraft fuel cell, a large rubber pad similar to pads used in rubber pad forming processes, which have been employed in the aircraft industry, and large masonite forms observed in shapes that would be consistent with aircraft wing or fuselage forming. A large fiberglass mold approximately 3-3.5 feet

tall was found suitable for a three-dimensional cone. In addition, numerous artifacts in proportionally-similar partial ellipses were found constructed from wood, metal and an orange polymeric material. The partial elliptical shapes were similar to aircraft wing ribs. A wood artifact shaped like a wing cross-section was also found in the vicinity of some of the partial elliptical shapes (i.e., area I6 to J7). A site plan with the approximate boundaries of the debris areas is provided as Figure 11. Photographs of the debris are included in Appendix B.

Other recurring debris items included steel drums and whitish blocks or other shaped forms suspected to be constructed from plaster. It is estimated that approximately 50 steel drums were excavated. All drums were crushed or partially crushed and all were structurally deficient. No sealed drums were excavated. The drums were generally either empty or were partially filled with soil that was consistent with the surrounding soil where the drums were uncovered. There were no liquids contained in any of the drums. One drum was identified with an orange polymeric-like material. This orange polymeric-like material was identified in many of the debris areas. As mentioned above, some of the artifacts shaped like wing ribs were formed from this orange polymeric material. As discussed within the next section, this material was sampled for characterization purposes. With regards to the drums, most drums were found within a few areas but individual drum remnants were uncovered and interspersed through the central and southern areas of the parking lot. Approximately 20 drums were uncovered in the G6 to H7 grid area. Ten drums were uncovered in proximity to grid location H9, and four drums were uncovered in grid area I1 to J2. Remaining drums were generally uncovered individually.

The plaster-like debris appeared to have been intentionally formed due to the presence of rebar in some of the shapes. One plaster shape was a partial cylinder (sliced axially). A characterization analysis of the plaster-like debris material is provided in the next section.

4.3 Waste Characterization Sampling

Additional soil and waste sampling was conducted during the IRM remedial action for disposal characterization purposes. Nearly all sampling was performed in coordination with the planned disposal facilities, as identified in Section 4.2., to obtain pre-approval for waste disposal, and was used to supplement the soil sampling data obtained during the IRM site investigation. Table 4.3.1 summarizes the additional soil and waste characterization sampling including the sample ID's, sample locations, sample depths and analyses performed. A total of 472 samples were collected by H2M. The analyses performed were dictated by the disposal facilities and included any combination of pesticides (Method SW8081), PCBs (Method SW 8082), TCLP volatiles (Method SW1311/8260), TCLP semi-volatiles (Method SW1311/8270), TCLP Metals (Method SW1311/6010, SW1311/7760 for silver, SW1311/7470 for mercury), total organic halogens (TOX, Method SW9023), ignitability (Method SW1010), reactive sulfide (Method SW7.3.4.2), reactive cyanide (Method 7.3.3.2), corrosivity (Method SW9045) and total sulfur (Method D1552). All sampling was performed as Category A (report only) data package. Copies of all analytical laboratory reports are included on a compact disc in Appendix C.

In addition to the sampling results discussed above, approximately 30 quart-size samples were collected by H2M from Contract Areas 1, 3 and 5 and shipped to Wayne Disposal Inc. in Belleville, MI for testing by the disposal facility. Analytical results for these analyses were retained by the disposal facility and are not included herein.

During the course of the remedial excavation, select visually distinct materials and wastes were sampled and analyzed for characterization purposes. A description of these materials and the sampling results are provided below. Copies of the analytical laboratory sampling reports are provided in Appendix D.

Sample ID: 001 (Black): Dark discolored soils were encountered in bands ranging from 6-inches to 2-feet thick mainly in the central and southern portions of the parking lot. The

discolored soil banding was typically encountered approximately 3 feet below grade. These soils were analyzed for PCBs, pesticides, metals, volatiles and semi-volatiles, and predominantly identified with polynuclear aromatic hydrocarbon (PAH) contamination. Low concentrations of select pesticides were also detected.

Sample ID: 002 (White): As discussed in Section 4.2., whitish blocks, forms and miscellaneous shapes and debris were identified that appeared to be constructed from plaster. Some blocks were large and appeared to have been formed due to the presence of reinforcing bar within the form. The larger blocks are estimated to have weighed hundreds of pounds and could only be manipulated with the mechanical excavation equipment. Laboratory analysis of the white solid material included PCBs, pesticides, metals, volatiles and semi-volatiles. Calcium was identified at a concentration of 203,000 mg/kg (or 20.3 weight percent) supporting the supposition that the material was similar to plaster. Low concentrations of select pesticides were also identified.

Sample ID: Orange Form Solid: Debris artifacts uncovered during the remedial excavation included broken pieces and formed shapes comprised of a distinctly orange colored solid material. As discussed in Section 4.2, this orange material was suspected to be a polymeric material due to some of the shapes and forms in which it was found. Some shapes resembled aircraft wing ribs. A cylindrical block of the orange polymeric material, similar in size and shape to a 30-gallon drum, was also encountered. A sample of the orange material was analyzed for metals (priority pollutant list) and semi-volatile organic compounds. No significant metal concentrations were detected and only a few semi-volatiles were detected at low concentrations.

Sample ID: Yellow Cake: A distinctly yellow colored material was encountered in a few locations during the remedial excavation in the central and southern portions of the parking lot. The yellow material was suspected to have been solidified paint, and appeared in small clumps and was randomly interspersed. The total quantity of the yellow material encountered throughout the IRM Area is estimated to be less than one pound. One sample of the yellow material was collected from a suspected paint rag and analyzed

for PCBs, metals, volatiles, reactivity and ignitability. The yellow material was found to contain 117,000 mg/kg chromium and 246,000 mg/kg zinc. Low concentrations of PCBs were also identified in this sample.

Sample ID: Blue Silt: A band of gray-blue-green tinted silt/clay approximately one-inch to two-feet thick was identified at a depth of approximately 13 feet below grade towards the boundary of the IRM Area in Contract Area 1 between the ball field and recharge basin. All soils situated above this banded horizon were darkly discolored. Beneath the silt/clay band, the soils were sandy colored. Photographs of the excavation in this area are provided in Appendix B. The silt/clay was suspected to be residual sediment or sludge cake from the former Grumman settling ponds that were located in this area. This silt/clay material was not encountered anywhere else within the Park IRM area. A sample of the silt/clay was analyzed for PCBs, metals, volatiles, reactivity and ignitability. PCBs were detected at a concentration of approximately 11 mg/kg. Chromium was detected at a concentration of 96,100 mg/kg.

Sample ID: Lt. Blue Solid: A solid light-blue colored material was identified in a few areas where debris was uncovered. As with the yellow-solid, this material resembled solidified paint and was not found in significant quantities. The total quantity of the light-blue solid material encountered throughout the IRM Area is estimated to be less than a few pounds. The material was randomly interspersed through the debris and soil. A sample of this material was analyzed for PCBs, metals, volatiles, reactivity and ignitability. No significant contaminants were identified. Chromium was detected at a concentration of 47.1 mg/kg.

4.4 Remedial Action Plan Deviations

The excavation limits and boundaries of the NYSDEC-approved IRM Remedial Action Plan are shown on Figure 5. After commencement of the IRM remedial field work, three deviations were made to the IRM Remedial Action Plan. These included deeper excavation in the "B-43 Area," additional excavation outside the IRM boundary within

Contract Area 8 in the southeast corner of the parking lot, and additional excavation outside the IRM boundary within Contract Area 1 by the western boundary of the IRM area and the ball field and recharge basin. Details on these IRM RAP deviations are provided in sections 4.4.1, 4.4.2 and 4.4.3.

In addition to the three deviations identified above, an excavation was performed outside the IRM boundary area in the vicinity of the temporary IRM construction entrance, which was located between the Park pool area and former ice rink. Although depicted as a 2-foot excavation on the NYSDEC-approved remedial excavation plan shown as Figure 5, this area was outside the IRM boundary. The excavation in this area was completed as shown on Figure 5 and at the start of the IRM remedial program to permit the placement of a temporary truck scale. This action is not considered a deviation to the Remedial Action Plan and is not addressed further herein.

4.4.1 B-43 Area

The B-43 Area is a reference designation utilized by NGC to the area around G-7, as it was identified during the IRM program. During the IRM site investigation, PCBs were identified at a concentration of 550 mg/kg at the G-7 location at a depth of 8-10 feet below grade. This was the highest PCB concentration detected within the IRM Area during the IRM site investigation. Based on these findings, the IRM RAP included a remedial excavation to a total depth of 12 feet below grade for the square grid area formed by the endpoint locations F6, F8, H6 and H8 (i.e., Contract Area 5). However, subsequent to the IRM site investigation completed by the Town, the NYSDEC authorized additional soil sampling within the IRM area near G-7 to be conducted by Dvirka and Bartilucci (D&B) on behalf of NGC to further delineate PCB contamination and potentially identify a source of VOC contamination. The D&B findings, which were presented in a letter to NGC dated November 9, 2006, did not identify a VOC contamination source although additional PCB contamination was identified at depths greater than the excavation planned in the IRM RAP.

Based on a review of the D&B findings and in response to a request by the NYSDEC to increase the scope of the IRM RAP to address the additional PCB contamination, H2M proposed a revision to the IRM RAP on behalf of the Town in a letter dated February 18, 2007. The revised IRM RAP included the excavation of an additional estimated 900 cubic yards of contaminated soil within the B-43 Area. The revised excavation plan advanced the depth of excavation from 12 feet to 14 feet in one area and 20 feet in an adjoining area immediately surrounding the G-7/B-43 boring location. The revised IRM RAP was approved by the NYSDEC in a letter dated April 10, 2007. Copies of the proposed IRM RAP B-43 Area revision and the NYSDEC approval letter are provided in Appendix E. The revised IRM B-43 Area remedial plan was completed during the remedial site work.

4.4.2 IRM Boundary Limit - Contract Area 8 Debris Excavation

As discussed in Section 4.2., significant amounts of anthropogenic debris were uncovered during the IRM remedial excavation. In Contract Area 8, as shown on Figure 5, located in the southeast corner of the parking lot, debris was encountered up to the southern IRM boundary. The planned excavation depth in this area was 12 feet. In consideration of the excavation methodology, which utilized a cut back (i.e., 1:1) to transition between areas with different final excavation depths, the Town requested that the NYSDEC allow the remedial excavation to extend beyond the IRM boundary to permit removal of the visually identified debris up to the IRM boundary line and to the full depth of excavation, as specified in the IRM RAP.

H2M proposed the boundary limit revision to the IRM RAP in a letter to the NYSDEC dated March 26, 2007. The revision was approved in a NYSDEC letter to H2M dated April 26, 2007. Copies of these letters are provided in Appendix E. Following NYSDEC approval, the excavation outside the IRM boundary in this

area was completed. A plastic demarcation barrier was placed upon completion to delineate the extent of excavation.

4.4.3 IRM Boundary Limit - Contract Area 1 Contaminated Soil Excavation

The IRM site investigation identified significant PCB and metal contamination in the soils in the western portion of the IRM area near the ball field and recharge basin. Identified as Contract Area 1 in the remedial excavation plan, shown on Figure 5, the planned depth of excavation in this area was 20 feet. Visually impacted soils and a notable odor were identified in these soils during the IRM remedial excavation up to the IRM boundary. Consequently, as with the debris in Contract Area 8, the Town requested permission from the NYSDEC to extend the remedial excavation beyond the IRM boundary in Contract Area 1 to the extent required to excavate the visually impacted soils up to the IRM boundary line.

NYSDEC approval for the boundary limit revision near the ball fields was included in the NYSDEC letter to H2M dated April 26, 2007, as referenced in Section 4.4.2. Following NYSDEC approval, the additional remedial excavation was completed in this area. A slightly steeper slope was employed as the soils were relatively stable and backfilling was planned to start immediately following the remedial excavation. A plastic demarcation barrier was placed upon completion to delineate the extent of excavation.

4.5 Site Restoration

Site restoration following the IRM remedial excavation was limited to backfilling all areas with clean fill. No surface features, which were removed during site clearing activities, were restored under the IRM remedial contract by the Town. Final restoration grade was established as 9-inches below the pre-remedial excavation grade. No backfilling was performed in the area of the planned ice rink facility except for the northern portion of the rink area near the main Park entrance. This area was backfilled to permit the temporary

relocation of the truck scale towards the end of the remedial excavation activity. The backfilling activity was completed in conformance with the contract specification regarding placement, compaction and compaction testing.

Restoration of all Park features and backfilling in the remaining areas of the planned ice rink are components of separate Town contracts and will be completed along with the new ice rink construction.

4.5.1 Backfilling: Sources and Quality

Backfilling operations were initiated on January 29, 2007 and completed June 12, 2007. On-site backfilling operations were conducted concurrently with the remedial excavation activity until May 17, 2007 at which time the remedial excavation work was completed. A total of 156,640.09 tons of backfill were brought to the site, placed graded and compacted. Fill was transported to the site with tractor-trailer dump trucks requiring a total of 3,910 loads.

Clean backfill was sourced from three locations identified as the Jericho Hamlet Estates Residential Development, Pinelawn Cemetery and 110 Sand Company. These fill sources were approved by the NYSDEC following the submittal and implementation of a sampling work plan to evaluate the environmental quality of these fill sources, and the NYSDEC review of the subsequent analytical sampling results. The NYSDEC TAGM#4046 cleanup guidelines were utilized as the criteria to evaluate the environmental quality of the fill sources. Copies of the fill source sampling reports and NYSDEC backfill use approvals are provided in Appendix F. Additional details regarding the backfill sources are included in these reports.

During backfilling operations, fill was placed in continuous layers not exceeding 6-inches and compacted to a minimum 95 percent maximum dry density. A Caterpillar 563C vibratory roller was utilized to achieve the compaction

requirement. Compaction testing was conducted by Independent Testing Laboratories, Inc. (College Point, NY). Field quality control was confirmed through compaction testing at 2,500 square foot intervals at 12-inch vertical lifts of backfill placement. A summary of the backfilling operations and quantities is provided in Table 4.5.1.1.

4.5.2 Final Topographical Survey

The final topographic survey conducted between June 14 and 21, 2007 is provided as Figure 12.

4.6 Community Air Monitoring Program

An air monitoring program was implemented for the duration of site work associated with the IRM remedial action plan. The objective of the Community Air Monitoring Program was to provide a measure of protection for the community from potential airborne contaminant releases as a result of remedial work activities. The environmental air monitoring, which included testing for VOCs and particulates (particulate matter less than 10 microns in size, PM-10), was performed in accordance with a NYSDEC-approved Community Air Monitoring Plan (CAMP). A copy of the CAMP is provided in Appendix G.

Air monitoring was performed at three locations during operational hours. One monitoring station was fixed and adjusted only on a monthly basis in accordance with a wind rose analysis described in the CAMP. The remaining two monitoring stations were moveable and adjusted on a daily basis depending on wind conditions and planned daily site operations, so as to maintain a downwind monitoring position. Measurements of VOCs and particulates at each monitoring station were continuously transmitted to an on-site computer located in the construction trailer, saved electronically and viewed graphically real-time on a monitor. Visual and audible alarms were programmed into the datalogging software to provide an alert when minimum thresholds for VOCs or

particulate concentrations were encountered. Daily weather conditions were also logged from a weather station including temperature, humidity, wind direction and wind speed.

The electronic telemetry data including one- and 15-minute averages for VOCs and particulates, for the three monitoring stations, collected throughout the IRM remedial program, is provided on a compact disc in Appendix H. Daily air monitoring logs, completed for each day during the administration of the CAMP, that document equipment calibration, weather and air monitoring station locations are also included on the compact disc in Appendix H.

Response thresholds for VOCs and particulates, based on 15-minutes averages, were established and detailed in the CAMP. In summary, the response thresholds for VOCs were 5 parts per million (ppm) and 25 ppm. Exceedence of the lower threshold required a temporary stoppage of work activities with continued monitoring. Work was permitted to resume pending the VOC concentration was less than 5 ppm. If VOC concentrations persisted above 5 ppm but less than 25 ppm, corrective action was required to abate the emissions, but work was permitted to continue after the VOC concentration dropped below the 5 ppm threshold. Exceedence of the 25 ppm threshold required a shut down of all site activities. No VOC response levels were reached at any time during the IRM remedial site activity. A summary of the air monitoring measurements for VOCs is provided as Figure 13.

The response levels for particulates were 100 and 150 $\mu g/m^3$ based on 15-minute concentration averages. At the 100 $\mu g/m^3$ response level or when visible dust was migrating from the work area, dust suppression techniques were employed. Work was permitted to continue provided that the particulate levels remained below 150 $\mu g/m^3$ and visible dust was addressed. At particulate levels greater than 150 $\mu g/m^3$, work activities were stopped and evaluated. Work activities resumed when the particulate concentration was reduced below the 150 $\mu g/m^3$ threshold. During the IRM remedial site work, the 150 $\mu g/m^3$ threshold was reached a total of 20 times over a period of 8 different days. In accordance with the CAMP, site operations were halted each time the 150 $\mu g/m^3$ threshold

was reached until the dust levels were reduced below the threshold. Nearly all threshold exceedences were attributable to backfilling operations. The remaining threshold exceedences occurred during the first week of site operations. At this time, site work involved non-hazardous soil excavation in the vicinity of the former ice rink and removal of the concrete building and rink foundations. The air monitoring stations were positioned in close proximity to this work due to the location of the former rink relative to the IRM and property boundaries where the air monitoring stations were positioned. A summary of the air monitoring measurements for particulates is provided as Figure 14.

As reported above, the response levels implemented as part of the CAMP for VOCs and particulates were based on 15-minute concentration averages. However, monitoring data collected from the three air monitoring stations included real-time updates of both one- and 15-minute averages. Continually tracking the one-minute averages in addition to the 15-minutes averages allowed the Bethpage Park IRM CAMP to be responsive to current site conditions. Real-time measurement of air quality conditions permitted faster evaluation of site operations and more rapid implementation of threshold response actions, when needed.

As part of the CAMP, quality assurance air testing was performed for particulates on a weekly basis, provided there were ongoing site activities. PM-10 particulate samples were collected utilizing a gravimetric technique for confirmation testing purposes. Gravimetric samples were collected on 37-mm filters using a personal environmental monitor (PEM sampler) and analyzed in general conformance with NIOSH Modified Method 0500. The PM-10 PEM samples were collected at fixed locations in close proximity to one of the real-time air monitoring stations. Analytical services for the gravimetric particulate samples were provided by Galson Laboratories (East Syracuse, NY). Table 4.6.1 summarizes the particulate air sampling results obtained through gravimetric sampling along with the comparable average particulate concentrations measured at the fixed real-time air monitoring station for the same time period.

As shown in Table 4.6.1, a total of 13 gravimetric samples were collected during the remedial site work. The particulate concentrations were reported as non-detectable on nine of the sample dates. The analytical laboratory detection limit for the gravimetric samples was 50 mg (0.05 μg). The gravimetric-based PM-10 concentration is derived as the mass of aerosol/dust impinged on the filter divided by the air volume drawn through the sampler. On all dates sampled the gravimetric-based PM-10 concentration was less than the CAMP lower dust concentration response threshold of 100 $\mu g/m^3$ except for March 16, 2007. On this date, the gravimetric PM-10 daily average concentration was 200 $\mu g/m^3$, which exceeds both dust response thresholds of 100 and 150 $\mu g/m^3$. However, this reported concentration is considered an anomaly. No visible dust conditions were noted on March 16, 2007 and no significant dust concentrations were recorded at any of the three real-time monitoring stations. Copies of all particulate air sampling reports are included in Appendix I

Although not required as part of the CAMP, quantitative VOC samples were collected for quality assurance purposes and as an evaluation of ambient air quality. Samples were collected in Summa canisters and analyzed for the Target Compound List of VOCs by EPA Sampling Method TO-15. The sampling location was adjacent to the fixed air monitoring station (i.e, Monitoring Station 1). A total of 13 VOC samples were collected during the implementation of the IRM RAP. All VOC sampling results are summarized in Table 4.6.2. No significant VOC concentrations were detected in any of the samples. Copies of all VOC air sampling reports are also included in Appendix I.

5.0 OPERATION, MAINTENANCE AND MONITORING REQUIREMENTS

The IRM Remedial Action Plan completed by the Town of Oyster Bay is anticipated to be the final remedy for soil contamination in the designated Construction Area (i.e., IRM Area). The comprehensive nature of the RAP to remediate all soil contamination within the IRM Area to a minimum depth of 10-feet met the RAP objectives including protection of human health and provision for short and long term effectiveness given the intended and potential future use of the property.

In consideration of the selected remedial alternative, there are no OM&M requirements since no engineering or administrative controls are necessary to ensure the future performance and effectiveness of the remedy.

The IRM Site Investigation identified soil vapor contamination predominantly comprising 1,2-dichloroethene, trichloroethene, tetrachloroethene and dichlorodifluoromethane (Freon-12). However, the soil investigation did not identify any source areas for these volatile compounds. The IRM remedy did not include remediation of soil vapor impacts as a remedial action objective. It is our understanding that NGC is currently implementing a soil vapor remedial action for the Park as an IRM under their Order on Consent with the NYSDEC, and that Northrop Grumman will ultimately be responsible for remediating soil vapor impacts at the Park. However, due to the current presence of soil vapor contamination, the December 2005 Site Investigation Report[5] recommended that any new buildings contemplated as part of future site development in areas with significant soil vapor contamination include provision for vapor intrusion mitigation as a design consideration. This recommendation was approved by the NYSDEC and NYSDOH in a February 10, 2006 comment letter from NYSDEC to H2M, as provided in Appendix A of the 3/2006 ARAP[6]. The new ice rink facility currently being constructed at Bethpage Community Park includes a vapor intrusion mitigation system. Soil vapor mitigation systems should be contemplated as design elements in all planned building structures at the Park until soil vapor impacts are addressed under the NGC RI/FS and Park-wide Remedial Action Program.

6.0 REFERENCES

1. NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046, Determination of Soil Cleanup Objectives and Cleanup Levels, as amended.

2. Town of Oyster Bay, Bethpage Community Park Soil Sampling Program, Report of Findings, Dvirka and Bartilucci, June 2002.

3. Town of Oyster Bay, Bethpage Community Park Investigation Sampling Program, Dvirka and Bartilucci, December 2003.

4. Town of Oyster Bay, Bethpage Community Park, Interim Remedial Measure – Construction Area, Investigation Report & Remedial Action Plan, H2M, November 2005.

5. Town of Oyster Bay, Bethpage Community Park, Interim Remedial Measure – Construction Area, Supplemental Investigation Report, H2M, December 2005.

6. Town of Oyster Bay, Bethpage Community Park, Interim Remedial Measure – Construction Area, Addendum to the Remedial Action Plan, H2M, March 2006.

7. 6 NYCRR Part 703; Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations, amended August 1999.

8. NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, October 2006.

9. 40 CFR 400.430 (e)(7) National Oil & Hazardous Substances Pollution Contingency Plan, Remedial Investigation/Feasibility Study and Selection of Remedy.

10. NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.

11. NYSDEC DER-15: Presumptive/Proven Remedial Technologies, February 27, 2007.

12. Toxic Substance Control Act (TSCA), Title 15 U.S.C. Section 2601 et seq., 1976.

H2MGROUP

FIGURE 1

SITE LOCATION MAP

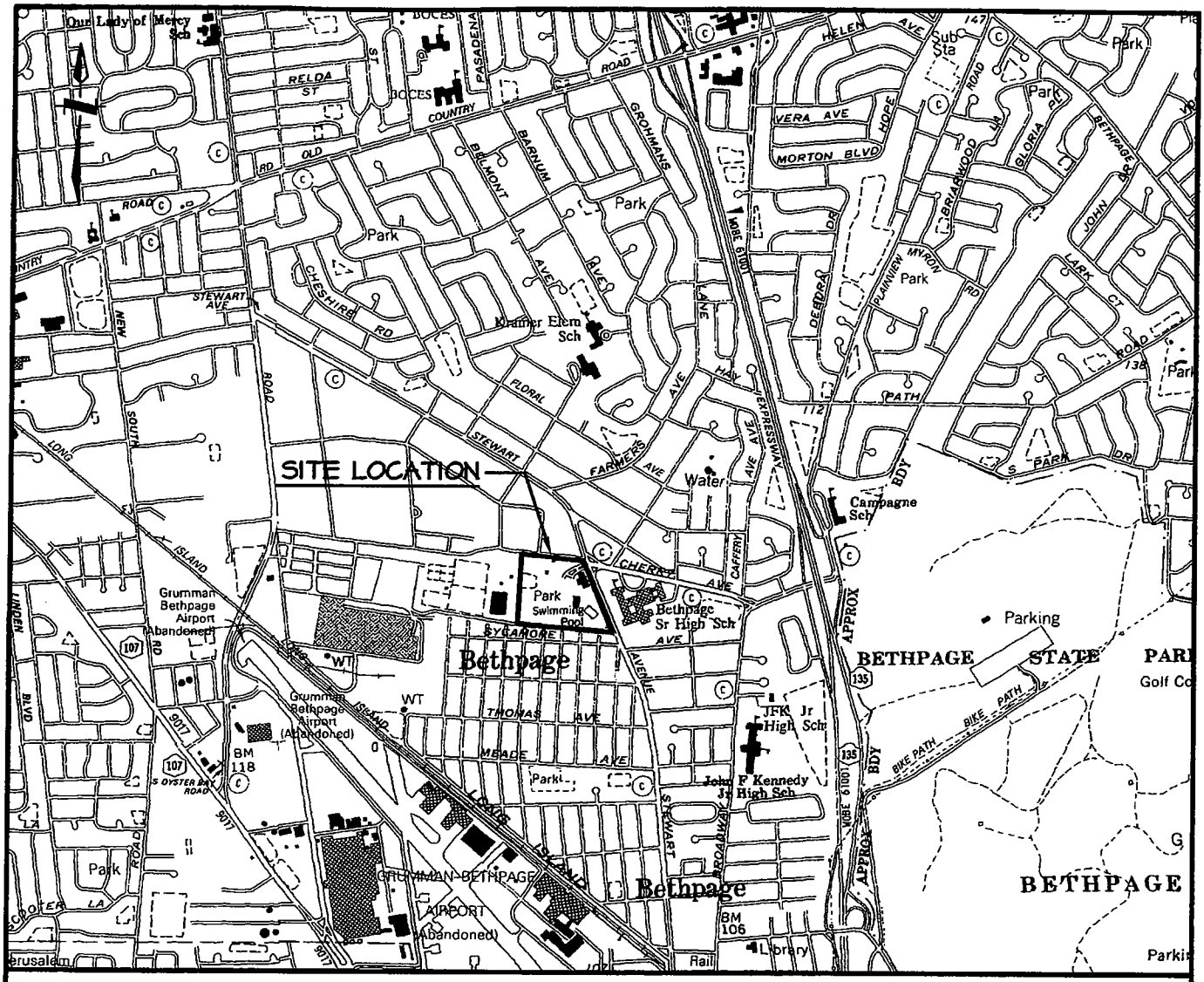


FIGURE 1. SITE LOCATION

SCALE: 1" = 2000'

H2MGROUP

FIGURE 2

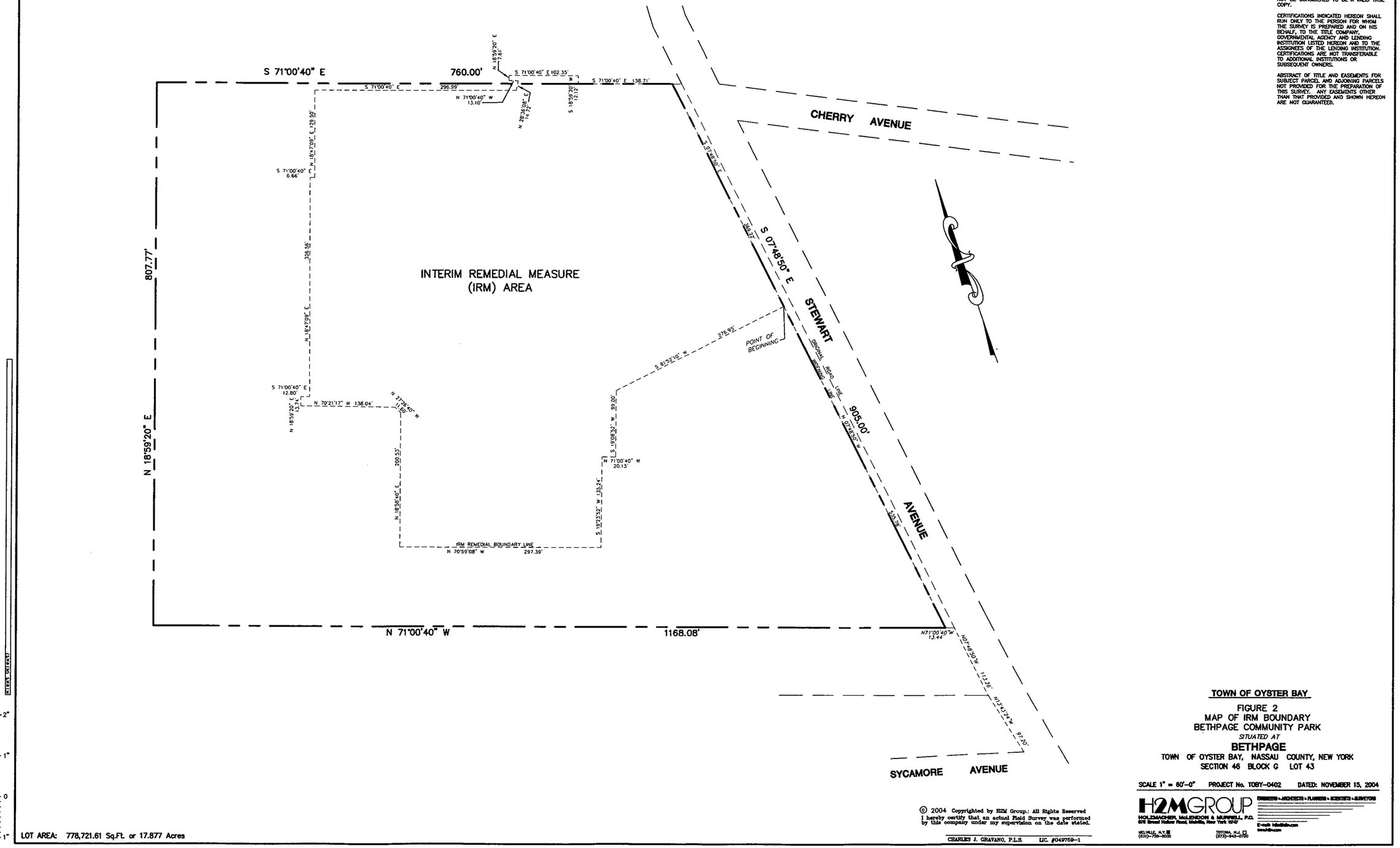
IRM CONSTRUCTION AREA SITE PLAN AND BOUNDARY

REVISIONS		
DATE	DESCRIPTION	DRAWN BY
3/3/05	REVISED REMEDIAL INVESTIGATION AREA	C.J.G.

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID TRUE COPY.

CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED AND ON HIS BEHALF, TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

ABSTRACT OF TITLE AND EASEMENTS FOR SUBJECT PARCEL AND ADJOINING PARCELS NOT PROVIDED FOR THE PREPARATION OF THIS SURVEY. ANY EASEMENTS OTHER THAN THAT PROVIDED AND SHOWN HEREON ARE NOT GUARANTEED.



2" 1" 0 1"

LOT AREA: 778,721.61 Sq.Ft. or 17.877 Acres

I hereby certify that an actual Field Survey was performed by this company under my supervision on the date stated.

CHARLES J. GRAVANO, P.L.S. LIC. #049759-1

TOWN OF OYSTER BAY

FIGURE 2
MAP OF IRM BOUNDARY
BETHPAGE COMMUNITY PARK
SITUATED AT
BETHPAGE
TOWN OF OYSTER BAY, NASSAU COUNTY, NEW YORK
SECTION 46 BLOCK G LOT 43

SCALE 1" = 80'-0" PROJECT No. TOBY-0402 DATED: NOVEMBER 15, 2004

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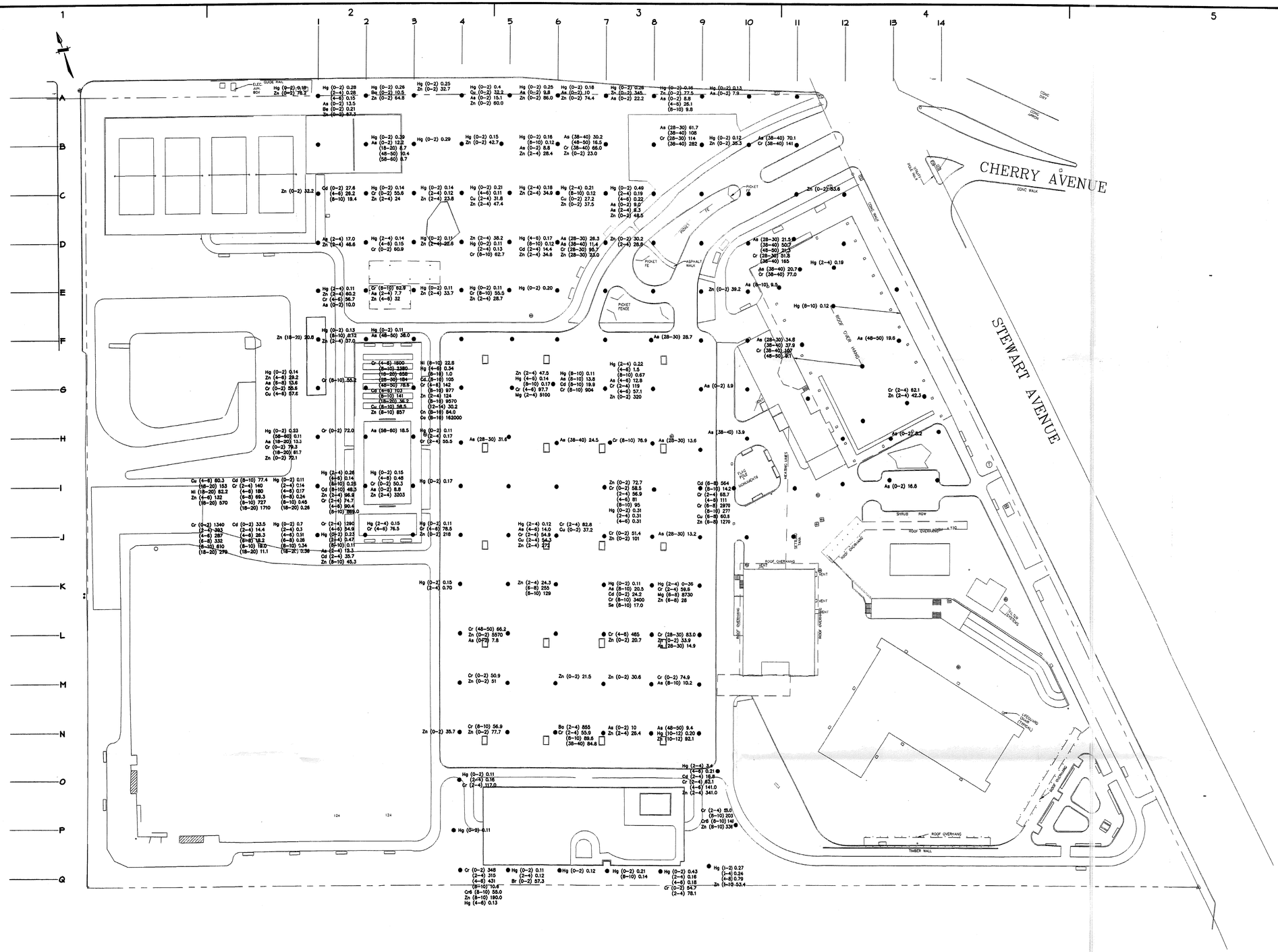

LEGEND

Cr (0-2) 348 • SOIL SAMPLING POINT - (DEPTH IN FEET) CONTAMINANT AND CONCENTRATION IN mg/kg AT OR ABOVE NYSDEC TAGM 4046

NOTES:

1. BASEMAP SOURCE: SIDNEY B. BOWNE & SON, LLP, PROJ. NO. 10408862, SEPT. 2004
2. CONCENTRATIONS SHOWN IN MG/KG (PPM) FOR ALL METALS DETECTED ABOVE NYSDEC TAGM 4046 RECOMMENDED SOIL CLEAN UP OBJECTIVES.

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MARK	DATE	DESCRIPTION

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PROJECT NO:	TOBY 0402
DATE:	MAY, 2006
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SCALE:	AS SHOWN
FILE LOCATION:	M:\CADD\TOBY
DESIGNED BY:	PRL
DRAWN BY:	DP
CHECKED BY:	PRL
REVIEWED BY:	PJS

TOWN OF OYSTER BAY

INTERIM REMEDIAL MEASURE FINAL ENGINEERING REPORT

CONTRACT

SHEET TITLE

PRE-REMEDIATION SOIL SAMPLING RESULTS FOR METALS

SHEET NUMBER

FIGURE 3

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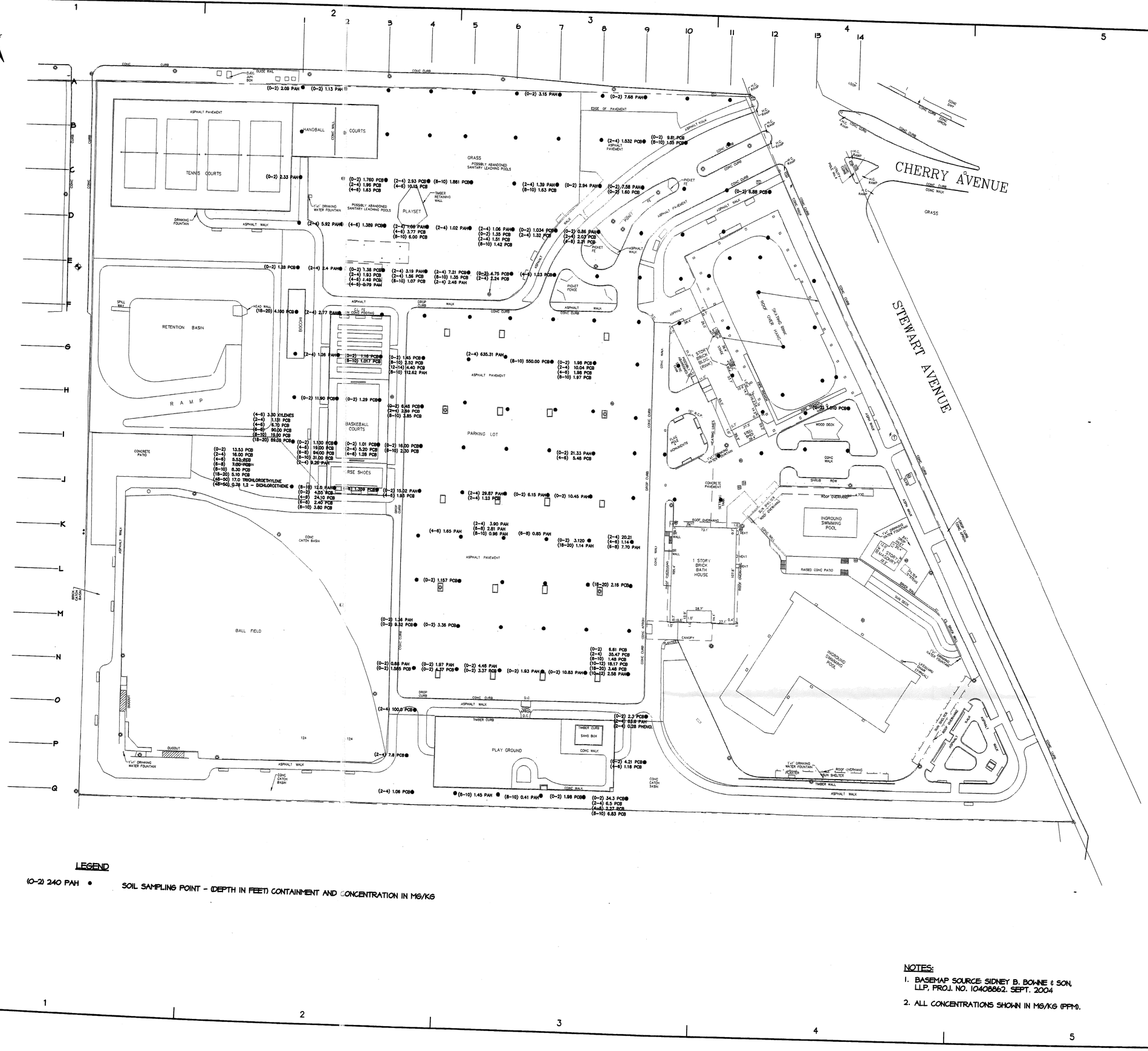

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PROJECT NO:	TOBY 0402
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SCALE:	AS SHOWN
FILE LOCATION:	M:\CADD\TOBY
DESIGNED BY:	PRL
DRAWN BY:	DP
CHECKED BY:	PRL
REVIEWED BY:	PJS

TOWN OF OYSTER BAY

INTERIM REMEDIAL MEASURE FINAL ENGINEERING REPORT

CONTRACT

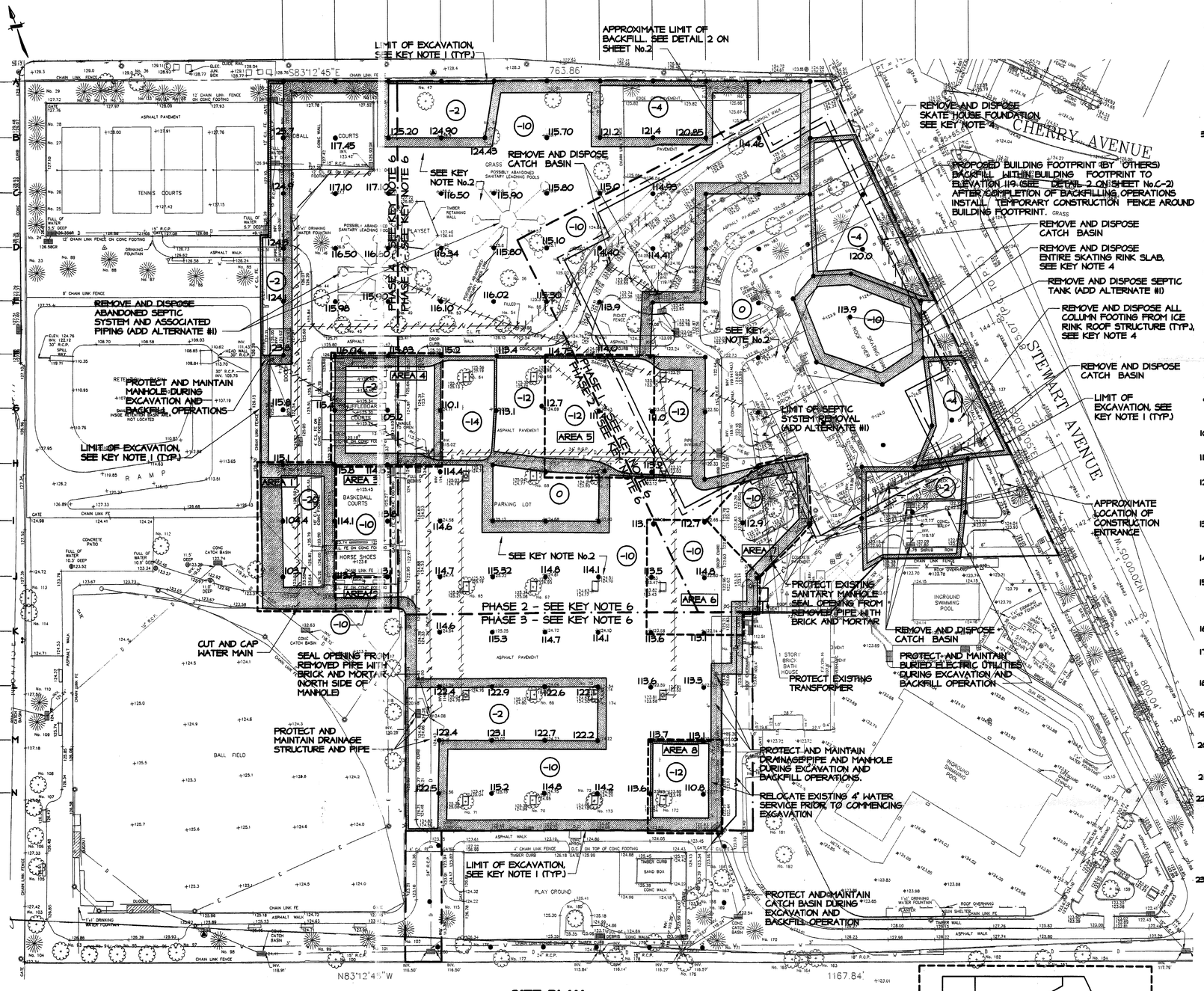
SHEET TITLE

PRE-REMEDIATION SOIL SAMPLING RESULTS FOR PCBS, VOCS AND SVOCS

SHEET NUMBER

FIGURE 4

M:\cadd\TOBY\0402\FINAL REPORT\C-4.dwg Last Modified: Nov 12, 2007 - 2:44pm Plotted on: Nov 12, 2007 - 4:25pm By: oam



SITE PLAN
SCALE 1"=50'-0"

SITE PLAN NOTES

1. CONTRACTOR SHALL INSPECT PROJECT SITE PRIOR TO SUBMISSION OF BIDS AND SHALL MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
2. THE CONTRACTOR SHALL NOTIFY THE OWNER AND H2M (TELEPHONE (631) 756-8000) AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF THE WORK. THE SAME NOTICE SHALL BE REQUIRED WHEN RESUMING WORK AFTER ANY STOPPAGE OR DELAY.
3. LOCATION OF ALL UNDERGROUND UTILITIES, ELECTRIC AND TELEPHONE CONDUITS, STORM DRAINS AND UNDERGROUND PIPING SHALL BE MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF UNDERGROUND UTILITIES, GAS MAINS, ELECTRIC AND TELEPHONE CONDUITS. NO EXCAVATION SHALL COMMENCE UNTIL COMPLETE MARK-OUT HAS BEEN PERFORMED.

3A. LOCATION OF ALL UNDERGROUND UTILITIES BOTH PUBLIC AND CUSTOMER OWNED, WERE OBTAINED FROM EITHER OLD MAPS, SURVEYS, DRAWINGS AND RECORDS SUPPLIED BY OTHERS. THE OWNER AND ENGINEER DO NOT GUARANTEE OR ACCEPT RESPONSIBILITY FOR ANY DAMAGE TO SUCH FACILITIES DUE TO DISCREPANCIES IN LOCATION AND SIZE SHOWN ON THE PLANS OR THOSE UTILITIES NOT SHOWN NOR WILL ANY COMPENSATION BE MADE TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED HIM BY ENCOUNTERING THE AFOREMENTIONED UTILITIES OR FOR THOSE UTILITIES WHICH ARE NOT SHOWN, OR ARE INCORRECTLY SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES.

4. CONTRACTOR SHALL HAND DIG TO LOCATE AND EXPOSE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES MUST BE REPAIRED IMMEDIATELY BY CONTRACTOR AT NO COST TO OWNER.
5. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL SURVEY, LAYOUT, LINES, GRADES, AS REQ'D. TO PROPERLY COMPLETE THE WORK. NEITHER H2M OR THE OWNER SHALL PERFORM ANY LAYOUT.
6. THE CONTRACTOR SHALL PERFORM DAILY CLEANUP OPERATIONS WHICH INCLUDE REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL AND DRIVEWAY/ STREET CLEANING TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.
7. DURING ALL NON-WORKING HOURS, THE CONTRACTOR WILL BE REQUIRED TO STORE ALL EQUIPMENT AND MATERIALS WITHIN THE AREA DESIGNATED BY THE ENGINEER AT THE PROJECT SITE.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO REVISION.
9. WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODE REQUIREMENTS, THE CONTRACT AND SUBJECT TO THE APPROVAL OF THE ENGINEER.
10. CONTRACTOR SHALL SECURE PROJECT SITE IN ACCORDANCE WITH APPLICABLE SAFETY STANDARDS.
11. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH OWNER/ENGINEER SO AS TO MINIMIZE INTERRUPTION TO THE OWNERS OPERATIONS.
12. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF SURROUNDING AREAS DAMAGED DURING COMPLETION OF THIS PROJECT. ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO PRE-EXISTING OR SPECIFIED NEW CONDITIONS.
13. REPLACE ANY CURBS, DRIVEWAY, ETC., SCHEDULED TO REMAIN WHICH ARE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO COST TO OWNER.
14. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND ENTIRE WORK AREA. FENCE IS TO REMAIN AT COMPLETION OF WORK.
15. SURVEY FINAL EXCAVATED DEPTHS AND FINAL BACKFILLED ELEVATIONS. SUBMIT SIX (6) SIGNED AND SEALED COPIES OF BOTH SURVEYS TO THE ENGINEER. SURVEYOR IS TO BE LICENSED IN NEW YORK STATE. THESE SURVEYS WILL BE SUBMITTED TO NYSDEC AS A RECORD OF REMEDIATION.
16. DO NOT STOCK PILE ANY MATERIAL ON PAVED SURFACES TO PREVENT CONTAMINATION OF EXISTING DRAINAGE SYSTEMS.
17. PROVIDE TRUCK SCALE TO WEIGH LOADED TRUCKS DEPARTING SITE. WEIGHT OF LOAD ON TRUCK MEASURED WITH THIS SCALE WILL BE UTILIZED AS A BASIS OF PAYMENT.
18. CONTRACTOR SHALL PROVIDE A DECONTAMINATION STATION FOR DECONTAMINATION OF TRUCKS LEAVING THE SITE IN ACCORDANCE WITH SPECIFICATION SECTION 01915.
19. THE CONTRACTOR IS TO MAKE EVERY EFFORT SO AS NOT TO INTERFERE WITH LOCAL SCHOOL BUS TRAFFIC AND SCHOOL OPERATIONS.
20. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT LOCATION DESIGNATED BY OWNER, SEE DETAIL 4 ON SHEET No. C-2. RESTRICT ALL VEHICULAR ACCESS TO THIS ENTRANCE.
21. BASE MAP SOURCE SIDNEY B. BOWNE & SON, LLP, PROJ. NO. 10408862, SEPT. 2004
22. THE TOWN OF OYSTER BAY POSSESSES APPROXIMATELY 60,000 CUBIC YARDS OF POTENTIAL BACKFILL MATERIAL AT THEIR PUBLIC WORKS FACILITY AT 150 MILLER PLACE SYOSSET. ADD - ALTERNATE #2 FOR THIS PROJECT WILL INCLUDE LOADING AND TRANSPORTING THIS MATERIAL TO THE PROJECT SITE, BLENDING IT WITH ACCEPTABLE FILL MATERIAL ON SITE AND PLACING THE MATERIAL AS BACKFILL. THIS STOCKPILED MATERIAL IS CURRENTLY BEING TESTED BY THE TOWN FOR SUITABILITY AS BACKFILL ON PROJECT. THE RESULTS OF THIS TESTING AND FURTHER DIRECTION WILL BE PROVIDED VIA AN ADDENDUM.
23. HORIZONTAL AND VERTICAL SURVEY CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR UPON AWARD OF THE CONTRACT. ALL CONTROL POINTS WILL BE LOCATED ON THE SITE.

KEY NOTES:

1. EXCAVATE AND DISPOSE SOIL WITHIN LIMITS SHOWN. BACKFILL TO 9 INCHES BELOW ORIGINAL ELEVATIONS WITH FILL MATERIAL SPECIFIED IN SECTION 02316.
2. REMOVE AND DISPOSE ALL SURFACE FEATURES WITHIN LIMIT OF EXCAVATION AND NEW BUILDING FOOTPRINT. THIS INCLUDES BUT IS NOT LIMITED TO PAVING, CURBS, TREES, LIGHT POLES, FENCING, WALLS, BENCHES, PLAYGROUND EQUIPMENT.
3. ALL SLOPE TRANSITION AREAS ARE TO BE SLOPED AT 1H.
4. DEMOLITION AND REMOVAL OF ICE RINK ROOF STRUCTURE AND SKATE HOUSE WILL BE PERFORMED BY OTHERS. REMOVAL OF THE FOUNDATIONS AND ALL OTHER BELOW GRADE STRUCTURES WITHIN THE LIMIT OF EXCAVATION ARE TO BE INCLUDED IN THIS CONTRACT. THIS INCLUDES, BUT IS NOT LIMITED TO ON-GRADE ICE RINK SLABS, COLUMN FOOTINGS, SKATE HOUSE FOUNDATION, FOUNDATIONS, PIPE HEADER TRENCH ENCLOSURES, SLABS, UTILITIES, ETC.
5. IN AREAS DELINEATED BY THIS BORDER ALL SOIL WITHIN THE DEPTHS INDICATED IN TABLE I ARE TO BE STOCKPILED SEPARATELY FROM ALL OTHER EXCAVATED SOIL AND FROM EACH OTHER. EACH STOCKPILE IS TO BE TESTED INDIVIDUALLY PRIOR TO DISPOSAL.
6. COMPLETE WORK IN PHASES AS DESIGNATED. COMPLETE EACH PHASE IN ITS ENTIRETY BEFORE COMMENCING THE NEXT PHASE.

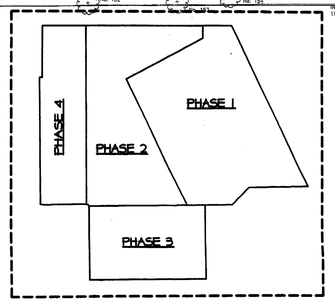
LEGEND

- SLOPE TRANSITION AREA (SEE KEY NOTE 3 AND DETAIL ON SHEET C2)
- REMOVE AND DISPOSE UTILITY
- EXISTING SOIL BORING LOCATION
- (-10) APPROXIMATE EXCAVATION DEPTH
- 114.1 ELEVATION OF BOTTOM OF EXCAVATION AT BORING LOCATION
- AREA 1 SEE KEY NOTE 5

TABLE I

AREA	DEPTH OF SOIL TO BE SEGREGATED	WASTE CLASSIFICATION
1	-5 TO -20	TSCA REGULATED (PCB > 50 mg/kg)
2	-1 TO -5	RCRA HAZARDOUS*
3	-5 TO -7	TSCA REGULATED (PCB > 50 mg/kg)
4	-7 TO -11	RCRA HAZARDOUS*
5	-7 TO -11	TSCA REGULATED (PCB > 50 mg/kg)
6	-7 TO -10	RCRA HAZARDOUS*
7	-5 TO -9	RCRA HAZARDOUS*
8	-0 TO -12	NON-TSCA REGULATED (5 mg/kg < PCB < 50 mg/kg)*

* ANTICIPATED CLASSIFICATION



PHASING PLAN
NO SCALE

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MARK	DATE	DESCRIPTION

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DATE:	MAY, 2006
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SCALE:	AS SHOWN
FILE LOCATION:	M:\CADD\TOBY
DESIGNED BY:	MRM
DRAWN BY:	DP/PB/IK
CHECKED BY:	C
REVIEWED BY:	Q

TOWN OF OYSTER BAY

INTERIM REMEDIAL MEASURE FINAL ENGINEERING REPORT

CONTRACT

SHEET TITLE

IRM SOIL REMEDIATION EXCAVATION PLAN

SHEET NUMBER

FIGURE 5

CHAIN LINK FENCE
CHAIN LINK FENCE
CONCRETE
CHAIN LINK FENCE
ASPH. WALK
CHAIN LINK FENCE
CHAIN LINK FENCE
ASPHALT
ASPHALT
CHAIN LINK FENCE
BASEBALL FIELD
SKINNED
AREA
DUGOUT
ASPHALT
BAT STOP
DUGOUT
CHAIN LINK FENCE
ASPHALT
ASPHALT
STEWART AVENUE
ASPH. WALK
SUN DECK
SWIMMING POOL
SUN SHELTER
CHAIN LINK FENCE
CONC. CURB
TIMBER CURB
CONC. CURB
RAMP
ASPHALT WALK
RAMP

PAGE 1 OF 6
TOPOGRAPHICAL SURVEY OF SITE
NOTE: CONTOUR INTERVAL = 6"

30 24 18 12 6 0 30 60 90 120

EXISTING CONDITIONS
TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM
SOIL REMEDIATION
BETHPAGE COMMUNITY PARK
TOWN OF OYSTER BAY
BETHPAGE NEW YORK
SURVEY DECEMBER 21, 2006

CONCRETE

FENCE

ASPH. WALK

CHAIN LINK FENCE

DOTTED LINE REPRESENTS
DATED TOPO TAKEN JAN. 17, 2007

DASHED LINE REPRESENTS
TOPO TAKEN JAN. 11, 2007
(TOE OF SLOPE)

EL.114.93'

EL.116.07'

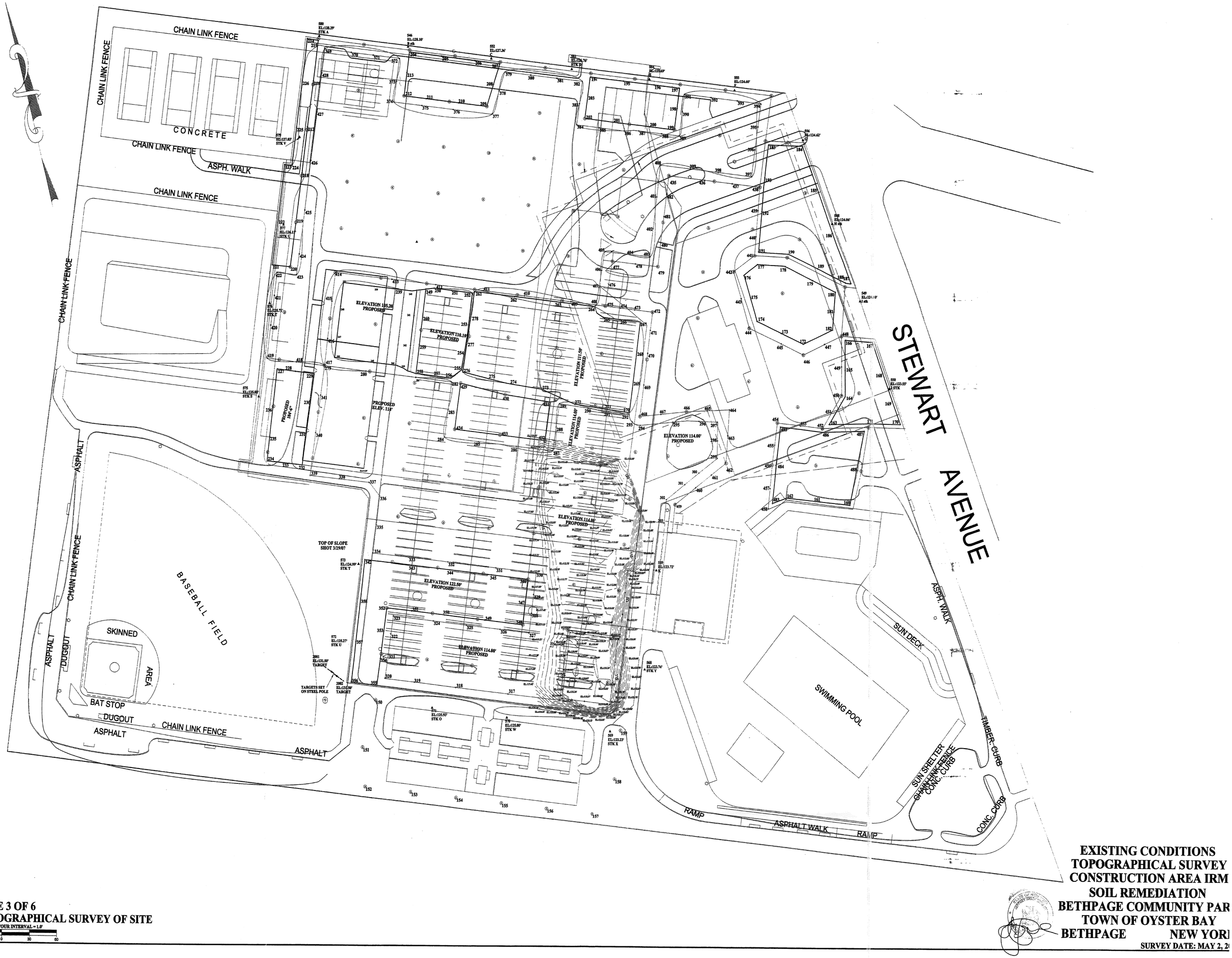
STEWART AVENUE

PAGE 2 OF 6
TOPOGRAPHICAL SURVEY OF SITE
NOTE: CONTOUR INTERVAL = 6"

20 16 12 8 4 0 20 40 60 80

EXISTING CONDITIONS
TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM
SOIL REMEDIATION
BETHPAGE COMMUNITY PARK
TOWN OF OYSTER BAY
BETHPAGE NEW YORK

SURVEY JANUARY 11, 2007
UPDATE JANUARY 17, 2007



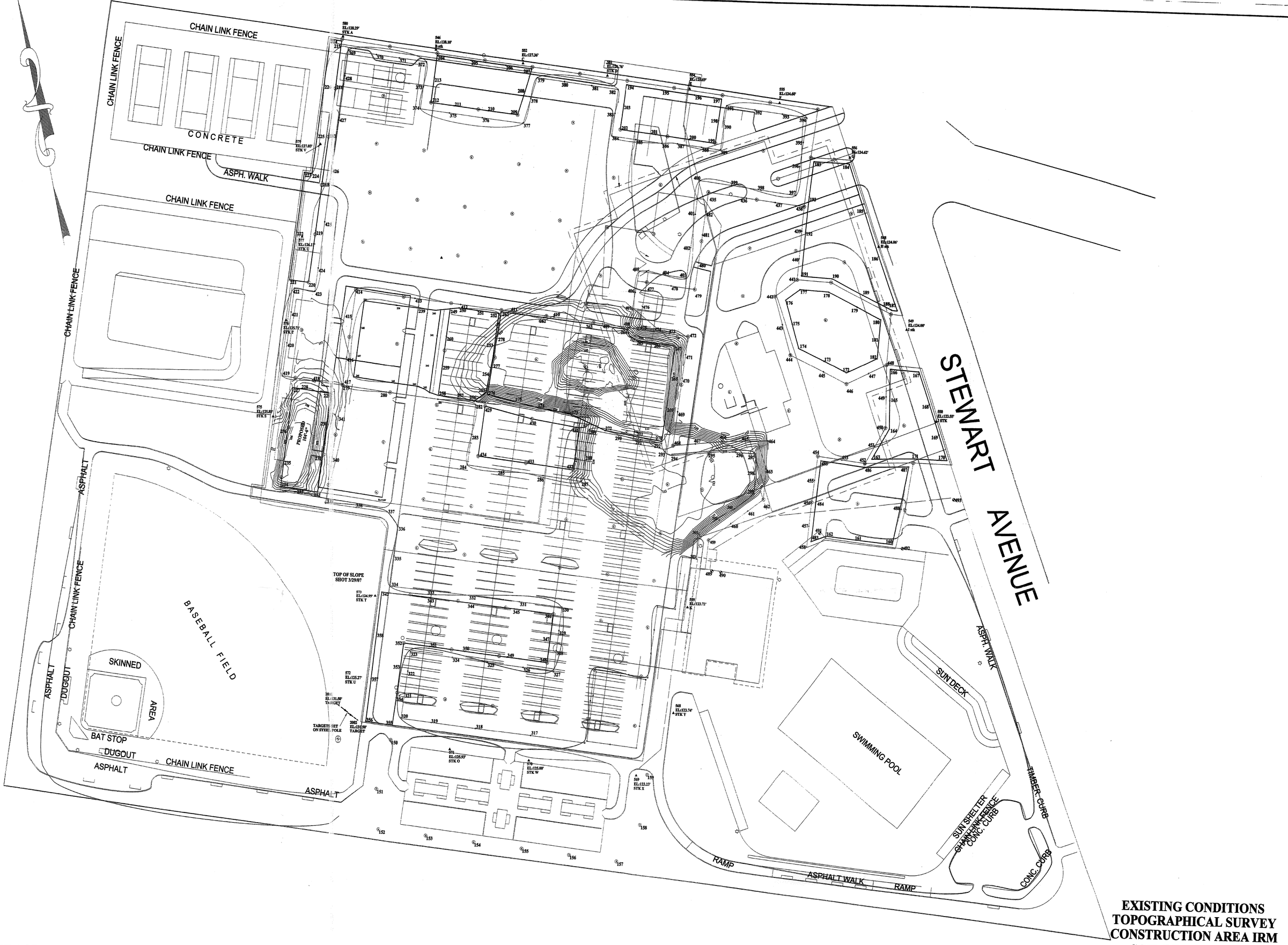
PAGE 3 OF 6

TOPOGRAPHICAL SURVEY OF SITE

NOTE: CONTOUR INTERVAL = 1.0'

30 24 18 12 6 0 30 60

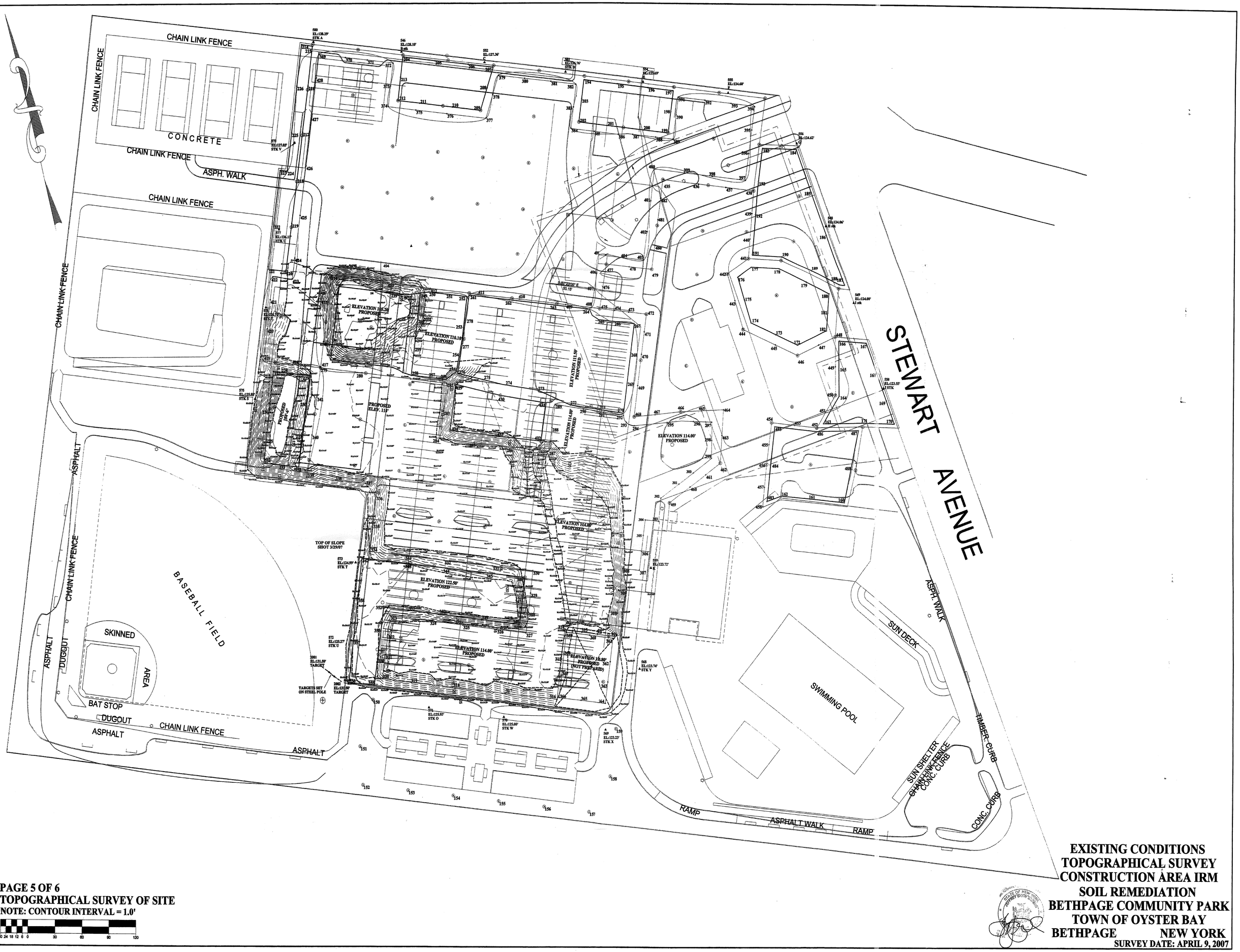
EXISTING CONDITIONS
TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM
SOIL REMEDIATION
BETHPAGE COMMUNITY PAR
TOWN OF OYSTER BAY
BETHPAGE NEW YOR
SURVEY DATE: MAY 2, 2



PAGE 4 OF 6
TOPOGRAPHICAL SURVEY OF SITE

NOTE: CONTOUR INTERVAL 6"
30 24 18 12 6 0 30 60

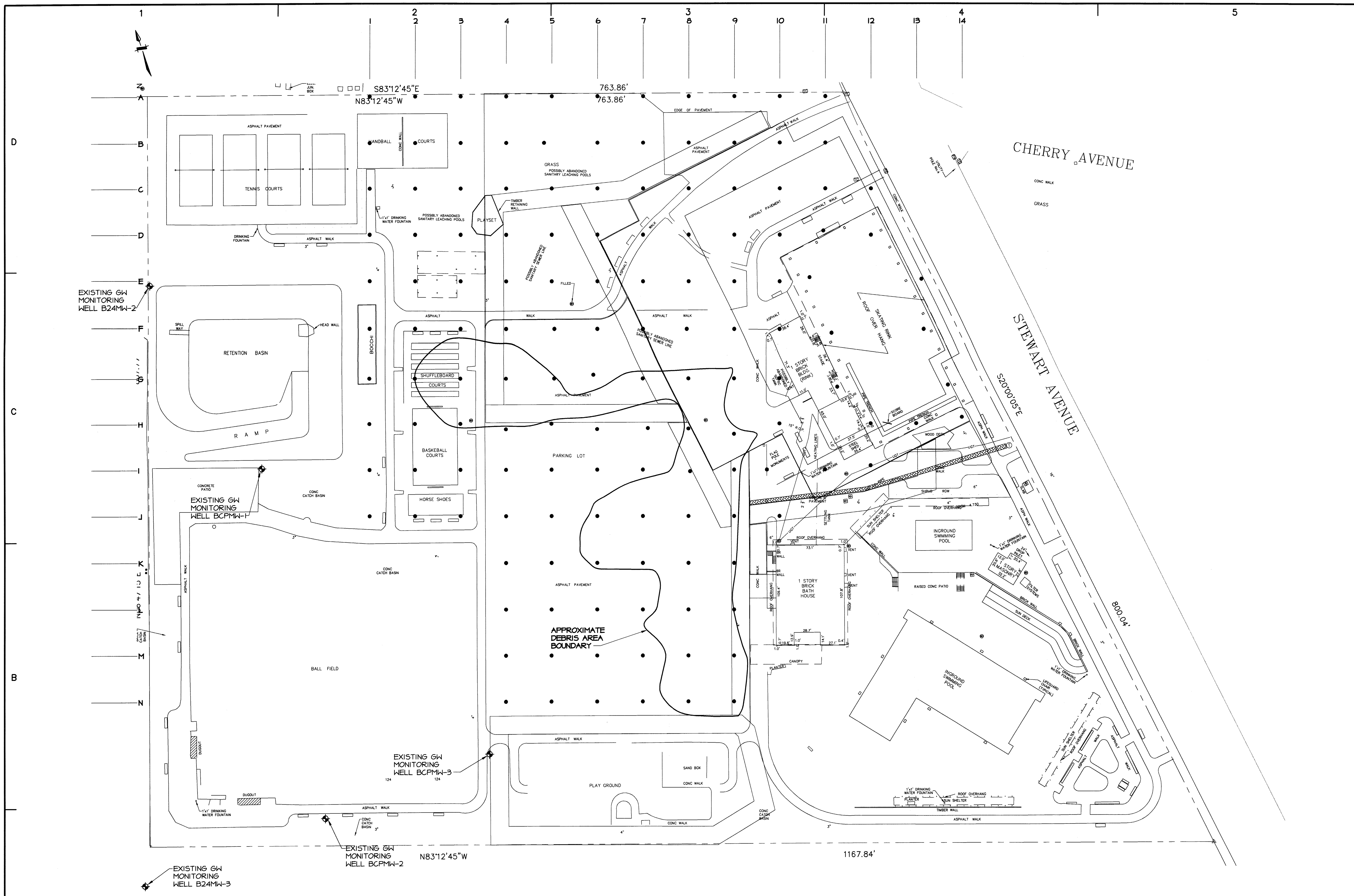
EXISTING CONDITIONS
TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM
SOIL REMEDIATION
BETHPAGE COMMUNITY PARK
TOWN OF OYSTER BAY
BETHPAGE NEW YORK
SURVEY DATE: MAY 18, 2007



PAGE 5 OF 6
TOPOGRAPHICAL SURVEY OF SITE
NOTE: CONTOUR INTERVAL = 1.0'

30 24 18 12 6 0 30 60 90 120

EXISTING CONDITIONS
TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM
SOIL REMEDIATION
BETHPAGE COMMUNITY PARK
TOWN OF OYSTER BAY
BETHPAGE NEW YORK
SURVEY DATE: APRIL 9, 2007



LEGEND

- • SOIL SAMPLING POINT
- ◈ GROUND WATER MONITORING WELL

NOTES:

1. BASEMAP SOURCE: SIDNEY B. BOWNE & SON, LLP, PROJ. NO. 10408802, SEPT. 2004

H2M GROUP
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TOTOWA, N.J. (973)-942-0700

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MARK	DATE	DESCRIPTION

ISSUE:	
PROJECT NO:	TOBY 0402
DATE:	MAY, 2006
CAD DWG FILE:	FIGURE 11.DWG
XREF DWG FILE:	—
SCALE:	AS SHOWN
FILE LOCATION:	M:\CADD\TOBY
DESIGNED BY:	MRM
DRAWN BY:	RM/PB/IK
CHECKED BY:	
REVIEWED BY:	

TOWN OF OYSTER BAY

INTERIM REMEDIAL MEASURE FINAL ENGINEERING REPORT

CONTRACT

SHEET TITLE

SITE PLAN DEPICTING APPROX. DEBRIS AREAS

SHEET NUMBER

FIGURE 11

CHAIN LINK FENCE
CHAIN LINK FENCE
CONCRETE
CHAIN LINK FENCE
ASPH. WALK
CHAIN LINK FENCE
CHAIN LINK FENCE
ACTUAL GROUND SHOTS TAKEN 6/14/07 - 6/21/07
FILLED IN EXCAVATION
FILLED IN EXCAVATION
EL. 114.25 (-10')
EL. 120.00 (-4')
ACTUAL GROUND SHOTS TAKEN 6/14/07 - 6/21/07
FILLED IN EXCAVATION
EXCAVATIONS REMAIN UNDISTURBED
EL. 113.90 (-10')
EL. 120.0 (-4')
ARROWS INDICATE SLOPE UPWARD TO PROPOSED FINISHED GROUND SURFACE
ACTUAL GROUNDSHOTS TAKEN 6/14/07 - 6/21/07
EL. 113.0 (-10')
EL. 120 (-2')
EXCAVATIONS REMAIN UNDISTURBED
STEWART AVENUE
ASPHALT
CHAIN LINK FENCE
BASEBALL FIELD
SKINNED AREA
DUGOUT
ASPHALT
BAT STOP
DUGOUT
ASPHALT
CHAIN LINK FENCE
ASPHALT
2001 EL.113.50' TARGET
TARGETS SET ON STEEL POLE
BETHPAGE050207
ASPH. WALK
SUN DECK
SWIMMING POOL
SUN SHELTER
CHAIN LINK FENCE
CONC. CURB
TIMBER CURB
CONC. CURB
RAMP
ASPHALT WALK
RAMP

PAGE 6 OF 6
FINAL TOPOGRAPHICAL SURVEY OF SITE

CONTOUR INTERVAL = 3"
30 24 16 12 6 0 30 60

FINAL TOPOGRAPHICAL SURVEY
CONSTRUCTION AREA IRM SOIL REMEDIATION
BETHPAGE COMMUNITY PARK
TOWN OF OYSTER BAY
BETHPAGE NEW YORK
FINAL SURVEY DATE: JUNE 14 - 21, 2007

STATE OF NEW YORK JEFFREY SHAW 050207 LICENSED LAND SURVEYOR

H2MGROUP

FIGURE 13

AIR MONITORING SUMMARY FOR VOCS

TOWN OF OYSTER BAY, BETHPAGE COMMUNITY PARK
BETHPAGE, NEW YORK
INTERIM REMEDIAL MEASURE - FINAL ENGINEERING REPORT

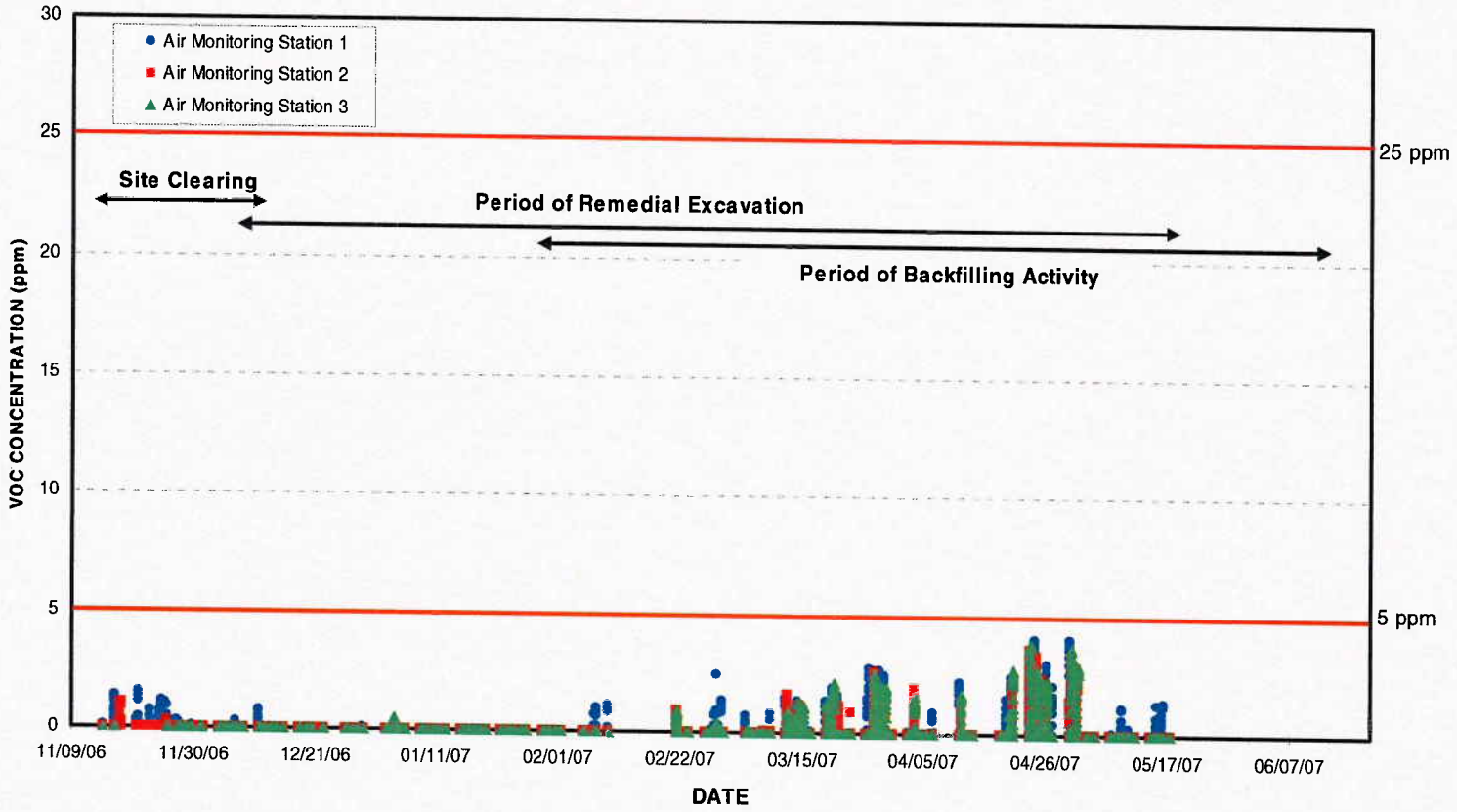

FIGURE 13. AIR MONITORING SUMMARY FOR VOLATILE ORGANIC COMPOUNDS (VOCS) DURING IRM REMEDIAL SITEWORK.

H2MGROUP
ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS

H2MGROUP

FIGURE 14

AIR MONITORING SUMMARY FOR PARTICULATES (PM-10)

TOWN OF OYSTER BAY, BETHPAGE COMMUNITY PARK
BETHPAGE, NEW YORK
INTERIM REMEDIAL MEASURE - FINAL ENGINEERING REPORT

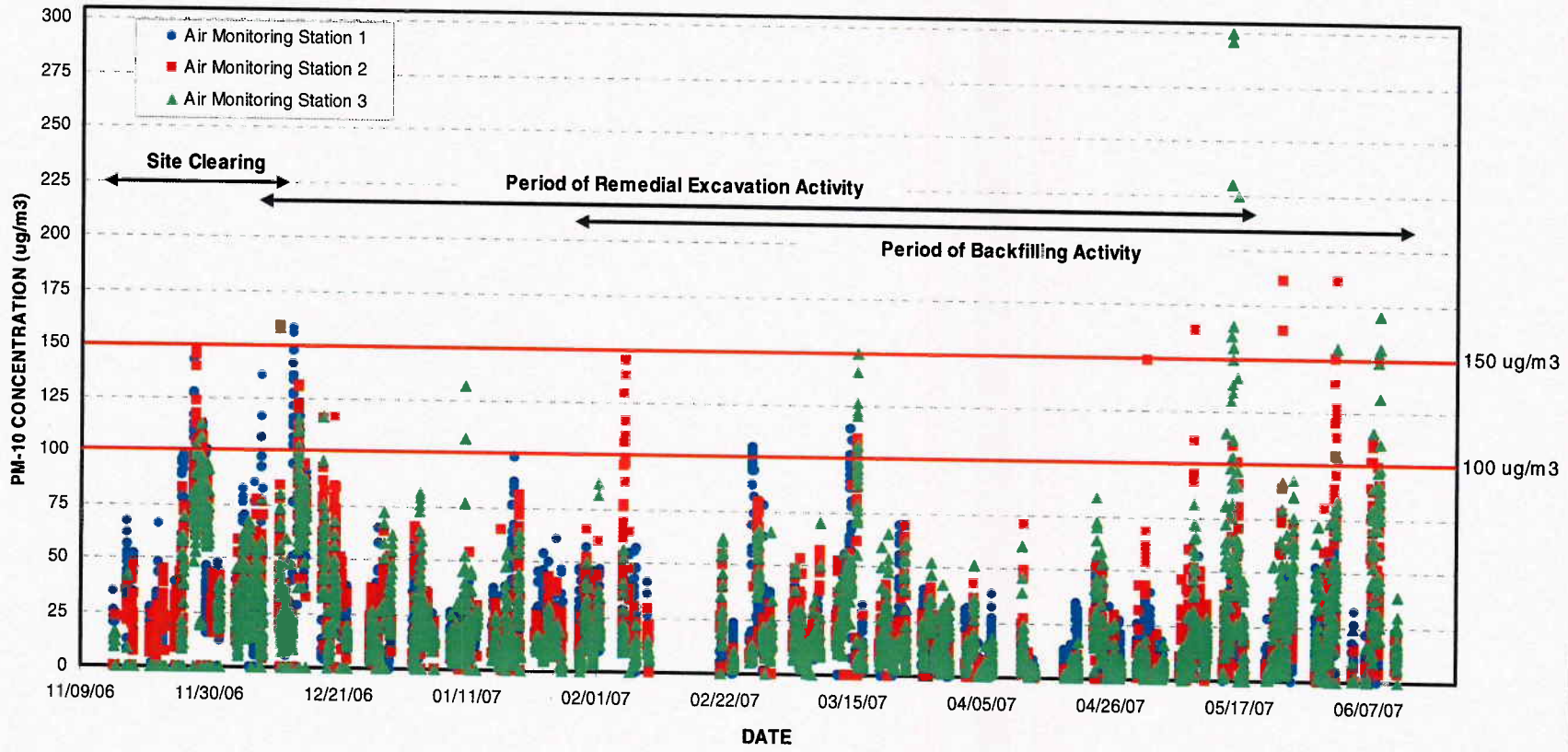

FIGURE 14. AIR MONITORING SUMMARY FOR PARTICULATES (PM-10) DURING IRM REMEDIAL SITEWORK.

H2MGROUP
ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS

H2MGROUP

TABLE 4.2.1

SUMMARY OF DAILY REMEDIAL EXCAVATION AND DISPOSAL QUANTITIES

Table 4.2.1. Summary of Daily Remedial Excavation and Disposal Quantities.

# Days	Date	Non-Hazardous (tons)	Non-TSCA Regulated (tons)	TSCA Regulated (tons)	RCRA Hazardous (tons)	Debris (tons)	Daily Total (tons)
1	12/7/2006	1306.46					1306.46
2	12/8/2006	2472.41					2472.41
3	12/11/2006	2575.79					2575.79
4	12/12/2006	2792.03					2792.03
5	12/13/2006	2976.04					2976.04
6	12/14/2006	3118.74					3118.74
7	12/15/2006	2744.84					2744.84
8	12/18/2006	3214.26					3214.26
9	12/19/2006	3314.65					3314.65
10	12/20/2006	3377.53					3377.53
11	12/21/2006	2934.17					2934.17
12	12/22/2006	3033.65					3033.65
13	12/26/2006	3515.20					3515.20
14	12/27/2006	3656.70					3656.70
15	12/28/2006	3004.72	1384.09				4388.81
16	12/29/2006	3910.82	309.60				4220.42
17	1/2/2007	3663.56	1399.71				5063.27
18	1/3/2007	3560.98	685.67				4246.65
19	1/4/2007	3653.73	701.56				4355.29
20	1/5/2007	116.98	772.45				889.43
21	1/8/2007	2793.27	1181.93				3975.20
22	1/9/2007		1324.92				1324.92
23	1/10/2007	3110.48	888.36				3998.84
24	1/11/2007	589.39	861.42				1450.81
25	1/12/2007		1094.91				1094.91
26	1/15/2007	1457.23	1318.41				2775.64
27	1/16/2007	1568.03	993.84				2561.87
28	1/17/2007	1769.62	912.36				2681.98
29	1/18/2007	2035.97	985.52				3021.49
30	1/19/2007	2301.25	1151.15				3452.40
31	1/22/2007	1657.49					1657.49
32	1/23/2007	1799.94	100.94				1900.88
33	1/24/2007	2506.83	106.24				2613.07
34	1/25/2007	1483.69					1483.69
35	1/26/2007	1190.03					1190.03
36	2/7/2007		895.62	314.17			1209.79
37	2/26/2007			376.44			376.44
38	2/27/2007	190.94	742.07	382.78			1315.79
39	2/28/2007	537.78	628.29	475.64			1641.71
40	3/1/2007		1211.67	625.29			1836.96
41	3/5/2007			800.86		470.14	1271.00
42	3/6/2007			787.75		675.67	1463.42
43	3/7/2007			476.52	299.77	786.88	1563.17
44	3/8/2007			159.83	574.89	872.13	1606.85
45	3/9/2007				851.31	1175.51	2026.82
46	3/12/2007				1264.20	634.21	1898.41
47	3/13/2007			1161.26	128.12	709.96	1999.34
48	3/14/2007	634.77	1239.93			569.58	2444.28
49	3/15/2007			1168.71		609.08	1777.79
50	3/16/2007					1121.53	1121.53
51	3/19/2007				1217.21	590.24	1807.45
52	3/20/2007	100.20	1467.12		51.66	765.45	2384.43
53	3/21/2007			943.94		538.15	1482.09
54	3/22/2007	1862.99	895.41				2758.40
55	3/23/2007	1947.91	911.57				2859.48
56	3/26/2007	1595.69	1102.91				2698.60
57	3/27/2007	1228.50	0.00	959.72		23.02	2211.24
58	3/28/2007	1374.01	1450.86				2824.87
59	4/2/2007	1029.53	970.49				2000.02
60	4/3/2007	1002.62	1019.80				2022.42
61	4/4/2007	915.41	865.23				1780.64
62	4/11/2007	1041.10	1016.93				2058.03
63	4/12/2007				906.91		906.91
64	4/13/2007		1464.93				1464.93
65	4/18/2007	1317.13	481.45				1798.58
66	4/19/2007					848.15	848.15
67	4/20/2007					847.16	847.16
68	4/23/2007			838.27			838.27
69	4/24/2007			1131.38			1131.38
70	4/25/2007			1249.73			1249.73
71	4/26/2007					1234.38	1234.38
72	4/27/2007					1239.75	1239.75
73	4/30/2007	481.84					481.84
74	5/2/2007	467.67	589.50				1057.17
75	5/3/2007		1234.10				1234.10
76	5/8/2007					826.78	826.78
77	5/9/2007	562.87				1038.01	1600.88
78	5/10/2007	632.59		1238.86			1871.45
79	5/11/2007			986.16			986.16
80	5/14/2007			1386.58			1386.58
81	5/15/2007	428.21		1216.82			1645.03
82	5/17/2007			528.52		34.14	562.66
	Net	**100558.24**	**34360.96**	**17209.23**	**5294.07**	**15609.92**	**173032.42**
	*Change			429.27	-429.27		
	Total	**100558.24**	**34360.96**	**17638.50**	**4864.80**	**15609.92**	**173032.42**

* Four railcars rejected on 4/12/2007 and transported to alternate TSCA facilites.

H2MGROUP

TABLE 4.3.1

ADDITIONAL SOIL AND WASTE CHARACTERIZATION SAMPLING KEY

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
9/27/2006	A-1	0610391-001A	-	A-1	0-2'	Pesticides
9/27/2006	A-2	0610391-002A	-	A-2	4-6'	Pesticides
9/27/2006	A-4	0610391-003A	-	A-4	0-2'	Pesticides
9/27/2006	A-5	0610391-004A	-	A-5	0-2'	Pesticides
9/27/2006	A-6	0610391-005A	-	A-6	2-4'	Pesticides
9/27/2006	A-8	0610391-006A	-	A-8	0-2'	Pesticides
9/27/2006	A-9	0610391-007A	-	A-9	0-2'	Pesticides
9/27/2006	A-10	0610391-008A	-	A-10	8-10'	Pesticides
9/27/2006	B-8	0610391-009A	-	B-8	0-2'	Pesticides
9/27/2006	B-9	0610391-010A	-	B-9	0-2'	Pesticides
9/27/2006	B-11	0610391-011A	-	B-11	0-2'	Pesticides
9/27/2006	B-10	0610391-012A	-	B-10	4-6'	Pesticides
9/27/2006	B-7	0610391-013A	-	B-7	2-4'	Pesticides
9/27/2006	B-6	0610391-014A	-	B-6	6-8'	Pesticides
9/27/2006	B-5	0610391-015A	-	B-5	0-2'	Pesticides
9/27/2006	B-4	0610391-016A	-	B-4	2-4'	Pesticides
9/27/2006	B-3	0610391-017A	-	B-3	0-2'	Pesticides
9/27/2006	C-1	0610391-018A	-	C-1	0-2'	Pesticides
9/27/2006	C-2	0610391-019A	-	C-2	4-6'	Pesticides
9/27/2006	C-4	0610391-020A	-	C-4	6'	Pesticides
9/27/2006	C-6	0610391-021A	-	C-6	0-2'	Pesticides
9/27/2006	C-7	0610391-022A	-	C-7	6-8'	Pesticides
9/27/2006	D-6	0610391-023A	-	D-6	4-6'	Pesticides
9/27/2006	D-5	0610391-024A	-	D-5	0-2'	Pesticides
9/27/2006	D-4	0610391-025A	-	D-4	2-4'	Pesticides
9/27/2006	D-3	0610391-026A	-	D-3	0-2'	Pesticides
9/27/2006	D-2	0610391-027A	-	D-2	4-6'	Pesticides
9/27/2006	E-2	0610391-028A	-	E-2	4-6'	Pesticides
9/27/2006	E-3	0610391-029A	-	E-3	0-2'	Pesticides
9/27/2006	E-4	0610391-030A	-	E-4	2-4'	Pesticides
9/27/2006	E-5	0610391-031A	-	E-5	4-6'	Pesticides
9/27/2006	E-6	0610391-032A	-	E-6	0-2'	Pesticides
9/27/2006	F-5	0610391-033A	-	F-5	0-2'	Pesticides
9/27/2006	F-6	0610391-034A	-	F-6	2-4'	Pesticides
9/27/2006	F-7	0610391-035A	-	F-7	0-2'	Pesticides
9/27/2006	F-8	0610391-036A	-	F-8	2-4'	Pesticides
9/27/2006	G-7	0610391-037A	-	G-7	0-2'	Pesticides
9/28/2006	H-1	0610444-001A	-	H-1	0-2'	Pesticides
9/28/2006	H-2	0610444-002A	-	H-2	2-4'	Pesticides
9/28/2006	G-2	0610444-003A	-	G-2	4-6'	Pesticides
9/28/2006	F-2	0610444-004A	-	F-2	0-2'	Pesticides
9/28/2006	F-3	0610444-005A	-	F-3	2-4'	Pesticides

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
9/28/2006	H-3	0610444-006A	-	H-3	0-2	Pesticides
9/28/2006	I-3	0610444-007A	-	I-3	4-6'	Pesticides
9/28/2006	J-3	0610444-008A	-	J-3	0-2'	Pesticides
9/28/2006	J-2	0610444-009A	-	J-2	6-8'	Pesticides
9/28/2006	K-3	0610444-010A	-	K-3	2-4'	Pesticides
9/28/2006	M-3	0610444-011A	-	M-3	0-4'	Pesticides
9/28/2006	N-3	0610444-012A	-	N-3	0-2'	Pesticides
9/28/2006	H-4	0610444-013A	-	H-4	2-4'	Pesticides
9/28/2006	I-4	0610444-014A	-	I-4	2-4'	Pesticides
9/28/2006	J-4	0610444-015A	-	J-4	2-4'	Pesticides
9/28/2006	K-4	0610444-016A	-	K-4	0-2'	Pesticides
9/28/2006	L-4	0610444-017A	-	L-4	0-2'	Pesticides
9/28/2006	M-4	0610444-018A	-	M-4	2-4'	Pesticides
9/28/2006	N-4	6610444-019A	-	N-4	2-4'	Pesticides
9/28/2006	M-5	0610444-020A	-	M-5	0-2'	Pesticides
9/28/2006	C-8	0610445-001A	-	C-8	2-4'	Pesticides
9/28/2006	D-7	0610445-002A	-	D-7	0-2'	Pesticides
9/28/2006	D-8	0610445-003A	-	D-8	6-8'	Pesticides
9/28/2006	C-12	0610445-004A	-	C-12	2-4'	Pesticides
9/28/2006	E-13	0610445-005A	-	E-13	2-4'	Pesticides
9/28/2006	E-7	0610445-006A	-	E-7	6-8'	Pesticides
9/28/2006	F-4	0610445-007A	-	F-4	8-10'	Pesticides
9/28/2006	C-3	0610445-008A	-	C-3	8-10'	Pesticides
9/28/2006	D-1	0610445-009A	-	D-1	0-2'	Pesticides
9/28/2006	E-1	0610445-010A	-	E-1	0-2'	Pesticides
9/28/2006	J-5	0610445-011A	-	J-5	0-2'	Pesticides
9/28/2006	I-5	0610445-012A	-	I-5	0-2'	Pesticides
9/28/2006	K-7	0610445-013A	-	K-7	0-2'	Pesticides
9/28/2006	N-7	0610445-014A	-	N-7	0-2'	Pesticides
9/28/2006	N-6	0610445-015A	-	N-6	0-2'	Pesticides
9/28/2006	M-6	0610445-016A	-	M-6	0-2'	Pesticides
10/3/2006	C-12	0610584-001A	-	C-12	0-2'	PCBs
10/3/2006	D-12	0610584-002A	-	D-12	2-4'	Pesticides
10/3/2006	E-12	0610584-003A	-	E-12	4-6'	Pesticides
10/3/2006	E-11	0610584-004A	-	E-11	0-2'	Pesticides
10/3/2006	F-11	0610584-005A	-	F-11	0-2'	Pesticides
10/3/2006	F-13	0610584-006A	-	F-13	2-4'	Pesticides
10/3/2006	G-14	0610584-007A	-	G-14	0-2'	Pesticides
10/3/2006	I-13	0610584-008A	-	I-13	0-2'	Pesticides
10/3/2006	H-1	0610584-009A	-	H-1	8-10'	Pesticides
10/3/2006	H-1	0610584-010A	-	H-1	16-18'	Pesticides
10/3/2006	M-7	0610584-011A	-	M-7	2-4'	Pesticides

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
10/3/2006	N-8	0610584-012A	-	N-8	8-10'	Pesticides
10/3/2006	M-8	0610584-013A	-	M-8	0-2'	Pesticides
10/3/2006	L-8	0610584-014A	-	L-8	0-2'	Pesticides
10/3/2006	K-8	0610584-015A	-	K-8	8-10'	Pesticides
10/3/2006	J-8	0610584-016A	-	J-8	0-2'	Pesticides
10/3/2006	I-8	0610584-017A	-	I-8	6-8'	Pesticides
10/3/2006	H-8	0610584-018A	-	H-8	2-4'	Pesticides
10/3/2006	J-9	0610584-019A	-	J-9	2-4'	Pesticides
10/3/2006	K-9	0610584-020A	-	K-9	4-6'	Pesticides
10/3/2006	K-5	0610584-021A	-	K-5	2-4'	Pesticides
10/3/2006	N-5	0610584-022A	-	N-5	4-6'	Pesticides
10/3/2006	K-6	0610584-023A	-	K-6	4-6'	Pesticides
10/3/2006	J-6	0610584-024A	-	J-6	2-4'	Pesticides
10/3/2006	I-6	0610584-025A	-	I-6	2-4'	Pesticides
10/3/2006	G-6	0610584-026A	-	G-6	2-4'	Pesticides
10/3/2006	H-7	0610584-027A	-	H-7	0-2'	Pesticides
10/3/2006	I-7	0610584-028A	-	I-7	4-6'	Pesticides
10/3/2006	J-7	0610584-029A	-	J-7	4-6'	Pesticides
10/3/2006	L-7	0610584-030A	-	L-7	2-4'	Pesticides
10/3/2006	F-1	0610584-031A	-	F-1	4-6'	Pesticides
10/3/2006	G-1	0610584-032A	-	G-1	2-4'	Pesticides
10/3/2006	F-3	0610584-033A	-	F-3	10-12'	Pesticides
10/3/2006	B-10	0610584-034A	-	B-10	0-2'	PCBs
10/3/2006	M-4	0610584-036A	-	M-4	0-2'	PCBs
10/3/2006	D-4	0610584-037A	-	D-4	8-10'	PCBs
10/3/2006	E-5	0610584-038A	-	E-5	2-4'	PCBs
10/3/2006	G-8	0610584-039A	-	G-8	4-6'	Pesticides
10/3/2006	C-4	0610584-040A	-	C-4	4-6'	PCBs
10/3/2006	B-2	0610584-041A	-	B-2	0-2'	Pesticides
10/3/2006	B-1	0610584-042A	-	B-1	4-6'	Pesticides
10/4/2006	K-9	0610644-001A	-	K-9	2-4'	PCBs
12/8/2006	B-11B	0612808-001A	-	B-11B	2'	PCBs
12/8/2006	C-11B	0612808-002A	-	C-11B	2'	PCBs
12/8/2006	C-2	0612808-003A	-	C-2	2'	PCBs
12/8/2006	A-10A	0612808-004A	-	A-10A	2'	PCBs
12/8/2006	A-9B	0612808-005A	-	A-9B	2'	PCBs
12/8/2006	B-10A	0612808-006A	-	B-10A	2'	PCBs
12/8/2006	B-9A	0612808-007A	-	B-9A	2'	PCBs
12/8/2006	B-4A	0612808-008A	-	B-4A	6'	PCBs
12/8/2006	B-3B	0612808-009A	-	B-3B	6'	PCBs
12/8/2006	D-5A	0612808-010A	-	D-5A	5'	PCBs
12/8/2006	E-5A	0612808-011A	-	E-5A	5'	PCBs

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
12/8/2006	E-4B	0612808-012A	-	E-4B	5'	PCBs
12/8/2006	F-8A	0612808-013A	-	F-8A	5'	PCBs
12/8/2006	G-8A	0612808-014A	-	G-8A	5'	PCBs
12/13/2006	S1/2-G1	0612962-001A	-	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	1-2'	TCLP VOA, P-moist
12/13/2006	S1/2-G2	0612962-002A	-	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	1-2'	TCLP VOA, P-moist
12/13/2006	S1/2-G3	0612962-003A	-	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	1-2'	TCLP VOA, P-moist
12/13/2006	S1/2-G4	0612962-004A	-	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	1-2'	TCLP VOA, P-moist
12/13/2006	S1/2-G5	0612962-005A	-	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	1-2'	TCLP VOA, P-moist
12/13/2006	S1/2-C1	0612962-006A	A6L140420-004	A-9B,A-10A,B-9B,A-10B,B-11B,C-11B,C-12	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S3-G1	0612959-001A	-	B-3B,B-4A	-	TCLP VOA, P-moist
12/13/2006	S3-G2	0612959-002A	-	B-3B,B-4A	-	TCLP VOA, P-moist
12/13/2006	S3-G3	0612959-003A	-	B-3B,B-4A	-	TCLP VOA, P-moist
12/13/2006	S3-G4	0612959-004A	-	B-3B,B-4A	-	TCLP VOA, P-moist
12/13/2006	S3-G5	0612959-005A	-	B-3B,B-4A	-	TCLP VOA, P-moist
12/13/2006	S3-C1	0612959-006A	A6L140420-001	B-3B,B-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-G5	0612952-001A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S4-G6	0612952-002A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S4-G7	0612952-003A	-	C-3,C-4,D-3B,D-4	2-3'	TCLP VOA, P-moist
12/13/2006	S4-G8	0612952-004A	-	C-3,C-4,D-3B,D-4	2-3'	TCLP VOA, P-moist
12/13/2006	S4-G9	0612952-005A	-	C-3,C-4,D-3B,D-4	6-7'	TCLP VOA, P-moist
12/13/2006	S4-G10	0612952-006A	-	C-3,C-4,D-3B,D-4	6-7'	TCLP VOA, P-moist
12/13/2006	S4-G11	0612952-007A	-	C-3,C-4,D-3B,D-4	8-9'	TCLP VOA, P-moist
12/13/2006	S4-G12	0612952-008A	-	C-3,C-4,D-3B,D-4	8-9'	TCLP VOA, P-moist
12/13/2006	S4-G13	0612952-009A	-	C-3,C-4,D-3B,D-4	5-6'	TCLP VOA, P-moist
12/13/2006	S4-G14	0612952-010A	-	C-3,C-4,D-3B,D-4	5-6'	TCLP VOA, P-moist
12/13/2006	S4-G15	0612952-011A	-	C-3,C-4,D-3B,D-4	7-8'	TCLP VOA, P-moist
12/13/2006	S4-G16	0612952-012A	-	C-3,C-4,D-3B,D-4	7-8'	TCLP VOA, P-moist
12/13/2006	S4-G17	0612952-013A	-	C-3,C-4,D-3B,D-4	9-10'	TCLP VOA, P-moist
12/13/2006	S4-G18	0612952-014A	-	C-3,C-4,D-3B,D-4	9-10'	TCLP VOA, P-moist
12/13/2006	S4-G19	0612952-015A	-	C-3,C-4,D-3B,D-4	3-4'	TCLP VOA, P-moist
12/13/2006	S4-G20	0612952-016A	-	C-3,C-4,D-3B,D-4	3-4'	TCLP VOA, P-moist
12/13/2006	S4-G21	0612952-017A	-	C-3,C-4,D-3B,D-4	4-5'	TCLP VOA, P-moist
12/13/2006	S4-G22	0612952-018A	-	C-3,C-4,D-3B,D-4	4-5'	TCLP VOA, P-moist
12/13/2006	S4-G23	0612952-019A	-	C-3,C-4,D-3B,D-4	6-7'	TCLP VOA, P-moist
12/13/2006	S4-G24	0612952-020A	-	C-3,C-4,D-3B,D-4	6-7'	TCLP VOA, P-moist
12/13/2006	S4-G25	0612952-021A	-	C-3,C-4,D-3B,D-4	2-3'	TCLP VOA, P-moist
12/13/2006	S4-G26	0612952-022A	-	C-3,C-4,D-3B,D-4	2-3'	TCLP VOA, P-moist
12/13/2006	S4-G27	0612952-023A	-	C-3,C-4,D-3B,D-4	4-5'	TCLP VOA, P-moist
12/13/2006	S4-G28	0612952-024A	-	C-3,C-4,D-3B,D-4	4-5'	TCLP VOA, P-moist
12/13/2006	S4-G29	0612952-025A	-	C-3,C-4,D-3B,D-4	6-7'	TCLP VOA, P-moist
12/13/2006	S4-C1	0612953-001A	A6L140420-008	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-C2	0612953-002A	A6L140420-009	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
12/13/2006	S4-C3	0612953-003A	A6L140420-010	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-C4	0612953-004A	A6L140420-011	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-C5	0612953-005A	A6L140420-012	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-C6	0612953-006A	A6L140420-013	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S4-G1	0612953-007A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S4-G2	0612953-008A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S4-G3	0612953-009A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S4-G4	0612953-010A	-	C-3,C-4,D-3B,D-4	-	TCLP VOA, P-moist
12/13/2006	S5-G1	0612961-001A	-	D-5A,E-4B,E-5A	2-3'	TCLP VOA, P-moist
12/13/2006	S5-G2	0612961-002A	-	D-5A,E-4B,E-5A	2-3'	TCLP VOA, P-moist
12/13/2006	S5-G3	0612961-003A	-	D-5A,E-4B,E-5A	3-4'	TCLP VOA, P-moist
12/13/2006	S5-G4	0612961-004A	-	D-5A,E-4B,E-5A	4-5'	TCLP VOA, P-moist
12/13/2006	S5-G5	0612961-005A	-	D-5A,E-4B,E-5A	-	TCLP VOA, P-moist
12/13/2006	S5-G6	0612961-006A	-	D-5A,E-4B,E-5A	-	TCLP VOA, P-moist
12/13/2006	S5-G7	0612961-007A	-	D-5A,E-4B,E-5A	-	TCLP VOA, P-moist
12/13/2006	S5-C1	0612961-008A	A6L140420-002	D-5A,E-4B,E-5A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S5-C2	0612961-009A	A6L140420-003	D-5A,E-4B,E-5A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S6/7-G1	0613032-001A	A6L150223-032	F-8A,G-8A,G-4A	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-G2	0613032-002A	A6L150223-033	F-8A,G-8A,G-4A	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-G3	0613032-003A	A6L150223-034	F-8A,G-8A,G-4A	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-G4	0613032-004A	A6L150223-035	F-8A,G-8A,G-4A	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-G5	0613032-005A	A6L150223-036	F-8A,G-8A,G-4A	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-G6	0613032-006A	A6L150223-037	F-8A,G-8A,G-4A	4-5'	TCLP VOA, P-moist, TOX
12/14/2006	S6/7-C1	0613032-024A	A6l150339-006	F-8A,G-8A,G-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S8-G1	0612950-001A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G2	0612950-002A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G3	0612950-003A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G4	0612950-004A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G5	0612950-005A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G6	0612950-006A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G7	0612950-007A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G8	0612950-008A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G9	0612950-009A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G10	0612950-010A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G11	0612950-011A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G12	0612950-012A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G13	0612950-013A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G14	0612950-014A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G15	0612950-015A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G16	0612950-016A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-G17	0612950-017A	-	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist
12/13/2006	S8-C1	0612950-018A	A6L140420-005	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
12/13/2006	S8-C2	0612950-019A	A6L140420-006	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/13/2006	S8-C3	0612950-020A	A6L140420-007	H-3,H-4,I-3,I-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S9-G1	0613031-015A	-	J-9,K-9	2-3'	TCLP VOA, P-moist
12/14/2006	S9-G2	0613031-016A	-	J-9,K-9	2-3'	TCLP VOA, P-moist
12/14/2006	S9-G3	0613031-017A	-	J-9,K-9	3-4'	TCLP VOA, P-moist
12/14/2006	S9-G4	0613031-018A	-	J-9,K-9	3-4'	TCLP VOA, P-moist
12/14/2006	S9-G5	0613031-019A	-	J-9,K-9	4-5'	TCLP VOA, P-moist
12/14/2006	S9-C1	0613031-020A	A6I150339-009	J-9,K-9	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S10-G1	0613027-001A	A6L150223-012	M-8B,H-8	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G2	0613027-002A	A6L150223-013	M-8B,H-8	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G3	0613027-003A	A6L150223-014	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G4	0613027-004A	A6L150223-015	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G5	0613027-005A	A6L150223-016	M-8B,H-8	4-5'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G6	0613027-006A	A6L150223-017	M-8B,H-8	4-5'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G7	0613027-007A	A6L150223-018	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G8	0613027-008A	A6L150223-019	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G9	0613027-009A	A6L150223-020	M-8B,H-8	7-8'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G10	0613027-010A	A6L150223-021	M-8B,H-8	7-8'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G11	0613027-011A	A6L150223-022	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G12	0613027-012A	A6L150223-023	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G13	0613027-013A	A6L150223-024	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G14	0613027-014A	A6L150223-025	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G15	0613027-015A	A6L150223-026	M-8B,H-8	7-8'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G16	0613027-016A	A6L150223-027	M-8B,H-8	7-8'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G17	0613027-017A	A6L150223-028	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G18	0613027-018A	A6L150223-029	M-8B,H-8	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G19	0613027-019A	A6L150223-030	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G20	0613027-020A	A6L150223-031	M-8B,H-8	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S10-G21	0613027-021A	-	M-8B,H-8	7-8'	TCLP VOA, P-moist
12/14/2006	S10-G22	0613027-022A	-	M-8B,H-8	7-8'	TCLP VOA, P-moist
12/14/2006	S10-G23	0613027-023A	-	M-8B,H-8	9-10'	TCLP VOA, P-moist
12/14/2006	S10-C1	0613027-024A	A6I150339-001	M-8B,H-8	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S10-C2	0613027-025A	A6I150339-002	M-8B,H-8	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S10-C3	0613027-026A	A6I150339-003	M-8B,H-8	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S10-C4	0613027-027A	A6I150339-004	M-8B,H-8	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S10-C5	0613027-028A	A6I150339-005	M-8B,H-8	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S11/12-G1	0613031-001A	A6L150223-001	M-4A,F-5B,G-5B	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G2	0613031-002A	A6L150223-002	M-4A,F-5B,G-5B	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G3	0613031-003A	A6L150223-003	M-4A,F-5B,G-5B	4-5'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G4	0613031-004A	A6L150223-004	M-4A,F-5B,G-5B	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G5	0613031-005A	A6L150223-005	M-4A,F-5B,G-5B	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G6	0613031-006A	A6L150223-006	M-4A,F-5B,G-5B	4-5'	TCLP VOA, P-moist, TOX

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
12/14/2006	S11/12-G7	0613031-007A	A6L150223-007	M-4A,F-5B,G-5B	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G8	0613031-008A	A6L150223-008	M-4A,F-5B,G-5B	3-4'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G9	0613031-009A	A6L150223-009	M-4A,F-5B,G-5B	5-6'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G10	0613031-010A	A6L150223-010	M-4A,F-5B,G-5B	7-8'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G11	0613031-011A	A6L150223-011	M-4A,F-5B,G-5B	2-3'	TCLP VOA, P-moist, TOX
12/14/2006	S11/12-G12	0613031-012A	-	M-4A,F-5B,G-5B	4-5'	TCLP VOA, P-moist
12/14/2006	S11/12-C1	0613031-013A	A6I150339-007	M-4A,F-5B,G-5B	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
12/14/2006	S11/12-C2	0613031-014A	A6I150339-008	M-4A,F-5B,G-5B	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	G1 A5	0701181-001A	-	F-6,G-6,F-7,G-7	1-2'	TCLP VOA, P-moist
1/5/2007	G2 A5	0701181-002A	-	F-6,G-6,F-7,G-7	2-3'	TCLP VOA, P-moist
1/5/2007	G3 A5	0701181-003A	-	F-6,G-6,F-7,G-7	3-4'	TCLP VOA, P-moist
1/5/2007	G4 A5	0701181-004A	-	F-6,G-6,F-7,G-7	4-5'	TCLP VOA, P-moist
1/5/2007	G5 A5	0701181-005A	-	F-6,G-6,F-7,G-7	5-6'	TCLP VOA, P-moist
1/5/2007	G6 A5	0701181-006A	-	F-6,G-6,F-7,G-7	1-2'	TCLP VOA, P-moist
1/5/2007	G7 A5	0701181-007A	-	F-6,G-6,F-7,G-7	2-3'	TCLP VOA, P-moist
1/5/2007	G8 A5	0701181-008A	-	F-6,G-6,F-7,G-7	3-4'	TCLP VOA, P-moist
1/5/2007	G9 A5	0701181-009A	-	F-6,G-6,F-7,G-7	4-5'	TCLP VOA, P-moist
1/5/2007	G10 A5	0701181-010A	-	F-6,G-6,F-7,G-7	5-6'	TCLP VOA, P-moist
1/5/2007	G21 A5	0701181-021A	-	F-6,G-6,F-7,G-7	4-5'	TCLP VOA, P-moist
1/5/2007	G22 A5	0701181-022A	-	F-6,G-6,F-7,G-7	5-6'	TCLP VOA, P-moist
1/5/2007	A5-C1	0701181-023A	-	F-6,G-6,F-7,G-7	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A5-C2	0701181-024A	-	F-6,G-6,F-7,G-7	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A5-C3	0701181-025A	-	F-6,G-6,F-7,G-7	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A5-C4	0701181-026A	-	F-6,G-6,F-7,G-7	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A1-C1	0701181-027A	-	H-1,I-1,J-1	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A1-C2	0701181-028A	-	H-1,I-1,J-1	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	A1-C3	0701181-029A	-	H-1,I-1,J-1	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/5/2007	G23 A1	0701181-030A	-	H-1,I-1,J-1	0-1'	TCLP VOA, P-moist
1/5/2007	G24 A1	0701181-031A	-	H-1,I-1,J-1	1-2'	TCLP VOA, P-moist
1/5/2007	G25 A1	0701181-032A	-	H-1,I-1,J-1	2-3'	TCLP VOA, P-moist
1/5/2007	G26 A1	0701181-033A	-	H-1,I-1,J-1	3-4'	TCLP VOA, P-moist
1/5/2007	G27 A1	0701181-034A	-	H-1,I-1,J-1	4-5'	TCLP VOA, P-moist
1/5/2007	G28 A1	0701181-035A	-	H-1,I-1,J-1	0-1'	TCLP VOA, P-moist
1/5/2007	G29 A1	0701181-036A	-	H-1,I-1,J-1	1-2'	TCLP VOA, P-moist
1/5/2007	G30 A1	0701181-037A	-	H-1,I-1,J-1	2-3'	TCLP VOA, P-moist
1/5/2007	G31 A1	0701181-038A	-	H-1,I-1,J-1	3-4'	TCLP VOA, P-moist
1/5/2007	G32 A1	0701181-039A	-	H-1,I-1,J-1	4-5'	TCLP VOA, P-moist
1/5/2007	G33 A1	0701181-040A	-	H-1,I-1,J-1	0-1'	TCLP VOA, P-moist
1/5/2007	G34 A1	0701181-041A	-	H-1,I-1,J-1	1-2'	TCLP VOA, P-moist
1/5/2007	G35 A1	0701181-042A	-	H-1,I-1,J-1	2-3'	TCLP VOA, P-moist
1/5/2007	G36 A1	0701181-043A	-	H-1,I-1,J-1	3-4'	TCLP VOA, P-moist
1/5/2007	G37 A1	0701181-044A	-	H-1,I-1,J-1	4-5'	TCLP VOA, P-moist

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
1/5/2007	A5-C1	0701191-001A	-	F-6,G-6,F-7,G-7	-	Total Sulfur, TOX
1/5/2007	A5-C2	0701191-002A	-	F-6,G-6,F-7,G-7	-	Total Sulfur, TOX
1/5/2007	A5-C3	0701191-003A	-	F-6,G-6,F-7,G-7	-	Total Sulfur, TOX
1/5/2007	A5-C4	0701191-004A	-	F-6,G-6,F-7,G-7	-	Total Sulfur, TOX
1/5/2007	A1-C1	0701191-005A	-	H-1,I-1,J-1	-	Total Sulfur, TOX
1/5/2007	A1-C2	0701191-006A	-	H-1,I-1,J-1	-	Total Sulfur, TOX
1/5/2007	A1-C3	0701191-007A	-	H-1,I-1,J-1	-	Total Sulfur, TOX
1/17/2007	F/G 4/5 G1	0701628-001A	-	F-4,F-5,G-4,G-5	5-10'	TCLP VOA, P-moist
1/17/2007	F/G 4/5 G2	0701628-002A	-	F-4,F-5,G-4,G-5	5-10'	TCLP VOA, P-moist
1/17/2007	F/G 4/5 G3	0701628-003A	-	F-4,F-5,G-4,G-5	5-10'	TCLP VOA, P-moist
1/17/2007	H/I 3/4 G1	0701628-004A	-	H-3,H-4,I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	H/I 3/4 G2	0701628-005A	-	H-3,H-4,I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 C1	0701628-006A	-	I-3,I-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/17/2007	I 3/4 C2	0701628-007A	-	I-3,I-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/17/2007	I 3/4 G1	0701628-008A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 G2	0701628-009A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 G3	0701628-010A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 G4	0701628-011A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 G5	0701628-012A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 G6	0701628-013A	-	I-3,I-4	7-10'	TCLP VOA, P-moist
1/17/2007	I 3/4 C1	0701633-001A	-	I-3,I-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/17/2007	I 3/4 C2	0701633-002A	-	I-3,I-4	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A1-G1	0702037-001A	-	H-1,I-1,J-1	11-12'	TCLP VOA, P-moist
1/31/2007	A1-G2	0702037-002A	-	H-1,I-1,J-1	12-13'	TCLP VOA, P-moist
1/31/2007	A1-G3	0702037-003A	-	H-1,I-1,J-1	13-14'	TCLP VOA, P-moist
1/31/2007	A1-G4	0702037-004A	-	H-1,I-1,J-1	13-14'	TCLP VOA, P-moist
1/31/2007	A1-G5	0702037-005A	-	H-1,I-1,J-1	14-15'	TCLP VOA, P-moist
1/31/2007	A1-G6	0702037-006A	-	H-1,I-1,J-1	14-15'	TCLP VOA, P-moist
1/31/2007	A1-G7	0702037-007A	-	H-1,I-1,J-1	15-16'	TCLP VOA, P-moist
1/31/2007	A1-G8	0702037-008A	-	H-1,I-1,J-1	16-17'	TCLP VOA, P-moist
1/31/2007	A1-G9	0702037-009A	-	H-1,I-1,J-1	16-17'	TCLP VOA, P-moist
1/31/2007	A1-G10	0702037-010A	-	H-1,I-1,J-1	17-18'	TCLP VOA, P-moist
1/31/2007	A1-G11	0702037-011A	-	H-1,I-1,J-1	17-18'	TCLP VOA, P-moist
1/31/2007	A1-G12	0702037-012A	-	H-1,I-1,J-1	18-19'	TCLP VOA, P-moist
1/31/2007	A1-C1	0702037-013A	-	H-1,I-1,J-1	11-20'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A1-C2	0702037-014A	-	H-1,I-1,J-1	11-20'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-G1	0702037-015A	-	H-2,I-2	0-1'	TCLP VOA, P-moist
1/31/2007	A3-G2	0702037-016A	-	H-2,I-2	1-2'	TCLP VOA, P-moist
1/31/2007	A3-G3	0702037-017A	-	H-2,I-2	2-3'	TCLP VOA, P-moist
1/31/2007	A3-G4	0702037-018A	-	H-2,I-2	3-4'	TCLP VOA, P-moist
1/31/2007	A3-G5	0702037-019A	-	H-2,I-2	4-5'	TCLP VOA, P-moist
1/31/2007	A3-G6	0702037-020A	-	H-2,I-2	5-6'	TCLP VOA, P-moist

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
1/31/2007	A3-G7	0702037-021A	-	H-2,I-2	6-7'	TCLP VOA, P-moist
1/31/2007	A3-G8	0702037-022A	-	H-2,I-2	11-12'	TCLP VOA, P-moist
1/31/2007	A3-G9	0702037-023A	-	H-2,I-2	12-13'	TCLP VOA, P-moist
1/31/2007	A3-G10	0702037-024A	-	H-2,I-2	13-14'	TCLP VOA, P-moist
1/31/2007	A3-G11	0702037-025A	-	H-2,I-2	14-15'	TCLP VOA, P-moist
1/31/2007	A3-G12	0702037-026A	-	H-2,I-2	15-16'	TCLP VOA, P-moist
1/31/2007	A3-G13	0702037-027A	-	H-2,I-2	16-17'	TCLP VOA, P-moist
1/31/2007	A3-G13	0702037-028A	-	H-2,I-2	17-18'	TCLP VOA, P-moist
1/31/2007	A3-G15	0702037-029A	-	H-2,I-2	18-19'	TCLP VOA, P-moist
1/31/2007	A3-G16	0702037-030A	-	H-2,I-2	19-20'	TCLP VOA, P-moist
1/31/2007	A3-G17	0702037-031A	-	H-2,I-2	1-2'	TCLP VOA, P-moist
1/31/2007	A3-G18	0702037-032A	-	H-2,I-2	2-3'	TCLP VOA, P-moist
1/31/2007	A3-G19	0702037-033A	-	H-2,I-2	3-4'	TCLP VOA, P-moist
1/31/2007	A3-G20	0702037-034A	-	H-2,I-2	4-5'	TCLP VOA, P-moist
1/31/2007	A3-G21	0702037-035A	-	H-2,I-2	5-6'	TCLP VOA, P-moist
1/31/2007	A3-G22	0702037-036A	-	H-2,I-2	6-7'	TCLP VOA, P-moist
1/31/2007	A3-G23	0702037-037A	-	H-2,I-2	7-8'	TCLP VOA, P-moist
1/31/2007	A3-G24	0702037-038A	-	H-2,I-2	8-9'	TCLP VOA, P-moist
1/31/2007	A3-G25	0702037-039A	-	H-2,I-2	9-10'	TCLP VOA, P-moist
1/31/2007	A3-G26	0702037-040A	-	H-2,I-2	10-11'	TCLP VOA, P-moist
1/31/2007	A3-G27	0702037-041A	-	H-2,I-2	11-12'	TCLP VOA, P-moist
1/31/2007	A3-G28	0702037-042A	-	H-2,I-2	12-13'	TCLP VOA, P-moist
1/31/2007	A3-C1	0702037-043A	-	H-2,I-2	0-7'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-C2	0702037-044A	-	H-2,I-2	0-7'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-C3	0702037-045A	-	H-2,I-2	11-20'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-C4	0702037-046A	-	H-2,I-2	11-20'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-C5	0702037-047A	-	H-2,I-2	0-14'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A3-C6	0702037-048A	-	H-2,I-2	0-14'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A5-G1	0702037-049A	-	F-6,G-6,F-7,G-7	7-8'	TCLP VOA, P-moist
1/31/2007	A5-G2	0702037-050A	-	F-6,G-6,F-7,G-7	8-9'	TCLP VOA, P-moist
1/31/2007	A5-G3	0702037-051A	-	F-6,G-6,F-7,G-7	9-10'	TCLP VOA, P-moist
1/31/2007	A5-C1	0702037-052A	-	F-6,G-6,F-7,G-7	7-10'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A2-G1	0702037-053A	-	J-2	0-1'	TCLP VOA, P-moist
1/31/2007	A2-G2	0702037-054A	-	J-2	1-2'	TCLP VOA, P-moist
1/31/2007	A2-G3	0702037-055A	-	J-2	2-3'	TCLP VOA, P-moist
1/31/2007	A2-G4	0702037-056A	-	J-2	3-4'	TCLP VOA, P-moist
1/31/2007	A2-G5	0702037-057A	-	J-2	3-4'	TCLP VOA, P-moist
1/31/2007	A2-G6	0702037-058A	-	J-2	4-5'	TCLP VOA, P-moist
1/31/2007	A2-G7	0702037-059A	-	J-2	4-5'	TCLP VOA, P-moist
1/31/2007	A2-C1	0702037-060A	-	J-2	0-5'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A2-C2	0702037-061A	-	J-2	0-5'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A4-G1	0702037-062A	-	F-2,G-2,F-3,G-3	4-5'	TCLP VOA, P-moist

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
1/31/2007	A4-G2	0702037-063A	-	F-2,G-2,F-3,G-3	5-6'	TCLP VOA, P-moist
1/31/2007	A4-G3	0702037-064A	-	F-2,G-2,F-3,G-3	5-6'	TCLP VOA, P-moist
1/31/2007	A4-G4	0702037-065A	-	F-2,G-2,F-3,G-3	6-7'	TCLP VOA, P-moist
1/31/2007	A4-G5	0702037-066A	-	F-2,G-2,F-3,G-3	6-7'	TCLP VOA, P-moist
1/31/2007	A4-G6	0702037-067A	-	F-2,G-2,F-3,G-3	7-8'	TCLP VOA, P-moist
1/31/2007	A4-C1	0702037-068A	-	F-2,G-2,F-3,G-3	4-10'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A6-G1	0702037-069A	-	I-8,J-8,I-9A,J-9	0-1'	TCLP VOA, P-moist
1/31/2007	A6-G2	0702037-070A	-	I-8,J-8,I-9A,J-9	0-1'	TCLP VOA, P-moist
1/31/2007	A6-G3	0702037-071A	-	I-8,J-8,I-9A,J-9	1-2'	TCLP VOA, P-moist
1/31/2007	A6-G4	0702037-072A	-	I-8,J-8,I-9A,J-9	2-3'	TCLP VOA, P-moist
1/31/2007	A6-G5	0702037-073A	-	I-8,J-8,I-9A,J-9	3-4'	TCLP VOA, P-moist
1/31/2007	A6-G6	0702037-074A	-	I-8,J-8,I-9A,J-9	3-4'	TCLP VOA, P-moist
1/31/2007	A6-G7	0702037-075A	-	I-8,J-8,I-9A,J-9	4-5'	TCLP VOA, P-moist
1/31/2007	A6-G8	0702037-076A	-	I-8,J-8,I-9A,J-9	5-6'	TCLP VOA, P-moist
1/31/2007	A6-G9	0702037-077A	-	I-8,J-8,I-9A,J-9	6-7'	TCLP VOA, P-moist
1/31/2007	A6-C1	0702037-078A	-	I-8,J-8,I-9A,J-9	0-7'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
1/31/2007	A6-C2	0702037-079A	-	I-8,J-8,I-9A,J-9	0-7'	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	F4A-G1	0702244-001A	-	F-4A	5-6'	TCLP VOA, P-moist
2/7/2007	F4A-G2	0702244-002A	-	F-4A	7-8'	TCLP VOA, P-moist
2/7/2007	F4A-G3	0702244-003A	-	F-4A	9-10'	TCLP VOA, P-moist
2/7/2007	F4A-G4	0702244-004A	-	F-4A	11-12'	TCLP VOA, P-moist
2/7/2007	F4A-C1	0702244-005A	-	F-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	G2B-G1	0702244-006A	-	G-2B	4-5'	TCLP VOA, P-moist
2/7/2007	G2B-G2	0702244-007A	-	G-2B	5-6'	TCLP VOA, P-moist
2/7/2007	G2B-G3	0702244-008A	-	G-2B	5-6'	TCLP VOA, P-moist
2/7/2007	G2B-G4	0702244-009A	-	G-2B	6-7'	TCLP VOA, P-moist
2/7/2007	G2B-G5	0702244-010A	-	G-2B	11-12'	TCLP VOA, P-moist
2/7/2007	G2B-G6	0702244-011A	-	G-2B	12-13'	TCLP VOA, P-moist
2/7/2007	G2B-G7	0702244-012A	-	G-2B	15-16'	TCLP VOA, P-moist
2/7/2007	G2B-G8	0702244-013A	-	G-2B	16-17'	TCLP VOA, P-moist
2/7/2007	G2B-G9	0702244-014A	-	G-2B	19-20'	TCLP VOA, P-moist
2/7/2007	G2B-C1	0702244-015A	-	G-2B	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	H2B/I2-G1	0702244-016A	-	H-2B,I-2	7-8'	TCLP VOA, P-moist
2/7/2007	H2B/I2-G2	0702244-017A	-	H-2B,I-2	8-9'	TCLP VOA, P-moist
2/7/2007	H2B/I2-G3	0702244-018A	-	H-2B,I-2	9-10'	TCLP VOA, P-moist
2/7/2007	H2B/I2-G4	0702244-019A	-	H-2B,I-2	7-8'	TCLP VOA, P-moist
2/7/2007	H2B/I2-G5	0702244-020A	-	H-2B,I-2	9-10'	TCLP VOA, P-moist
2/7/2007	H2B/I2-C1	0702244-021A	-	H-2B,I-2	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	A2-G1	0702244-022A	-	A-2	5-6'	TCLP VOA, P-moist
2/7/2007	A2-G1	0702244-023A	-	A-2	7-8'	TCLP VOA, P-moist
2/7/2007	A2-G1	0702244-024A	-	A-2	10-Sep	TCLP VOA, P-moist
2/7/2007	A2-C1	0702244-025A	-	A-2	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
2/7/2007	F4A-C1	0702267-001A	-	F-4A	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	G2B-C1	0702267-002A	-	G-2B	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	H2B/I2-C1	0702267-003A	-	H-2B,I-2	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/7/2007	A2-C1	0702267-004A	-	A-2	-	TCLP VOA, P-moist, TOX, Pests, PCBs, Ignit., SVOA, React., Corros.,Total Sulfur,TCLP Metals
2/9/2007	G4B-G1	0702355-001A	-	G-4B	4-5'	TCLP VOA, P-moist
2/9/2007	G4B-G2	0702355-002A	-	G-4B	4-5'	TCLP VOA, P-moist
2/9/2007	G4B-G3	0702355-003A	-	G-4B	5-6'	TCLP VOA, P-moist
2/9/2007	G4B-G4	0702355-004A	-	G-4B	5-6'	TCLP VOA, P-moist
2/9/2007	F8A-G1	0702355-005A	-	F-8A	5-6'	TCLP VOA, P-moist
2/9/2007	F8A-G2	0702355-006A	-	F-8A	5-6'	TCLP VOA, P-moist
2/9/2007	F8A-G3	0702355-007A	-	F-8A	6-7'	TCLP VOA, P-moist
2/9/2007	F8A-G4	0702355-008A	-	F-8A	6-7'	TCLP VOA, P-moist
2/9/2007	G8A-G1	0702355-009A	-	G-8A	5-6'	TCLP VOA, P-moist
2/9/2007	G8A-G2	0702355-010A	-	G-8A	5-6'	TCLP VOA, P-moist
2/9/2007	G8A-G3	0702355-011A	-	G-8A	6-7'	TCLP VOA, P-moist
2/9/2007	G8A-G4	0702355-012A	-	G-8A	6-7'	TCLP VOA, P-moist
2/9/2007	K9-G1	0702355-013A	-	K-9	5-6'	TCLP VOA, P-moist
2/9/2007	K9-G2	0702355-014A	-	K-9	5-6'	TCLP VOA, P-moist
2/9/2007	K9-G3	0702355-015A	-	K-9	6-7'	TCLP VOA, P-moist
2/9/2007	K9-G4	0702355-016A	-	K-9	6-7'	TCLP VOA, P-moist
2/9/2007	J9-G1	0702355-017A	-	J-9	5-6'	TCLP VOA, P-moist
2/9/2007	J9-G2	0702355-018A	-	J-9	5-6'	TCLP VOA, P-moist
2/9/2007	J9-G3	0702355-019A	-	J-9	6-7'	TCLP VOA, P-moist
2/9/2007	J9-G4	0702355-020A	-	J-9	6-7'	TCLP VOA, P-moist
2/9/2007	G1B-G1	0702355-021A	-	G-1B	4-5'	TCLP VOA, P-moist
2/9/2007	G1B-G1	0702355-022A	-	G-1B	4-5'	TCLP VOA, P-moist
2/9/2007	G1B-G1	0702355-023A	-	G-1B	4-5'	TCLP VOA, P-moist
2/9/2007	G1B-G1	0702355-024A	-	G-1B	4-5'	TCLP VOA, P-moist
2/9/2007	H3-G1	0702355-025A	-	H-3	4-5'	TCLP VOA, P-moist
2/9/2007	H3-G2	0702355-026A	-	H-3	4-5'	TCLP VOA, P-moist
2/9/2007	H3-G3	0702355-027A	-	H-3	5-6'	TCLP VOA, P-moist
2/9/2007	H3-G4	0702355-028A	-	H-3	5-6'	TCLP VOA, P-moist
2/9/2007	I3-G1	0702355-029A	-	I-3	4-5'	TCLP VOA, P-moist
2/9/2007	I3-G2	0702355-030A	-	I-3	4-5'	TCLP VOA, P-moist
2/9/2007	I3-G3	0702355-031A	-	I-3	5-6'	TCLP VOA, P-moist
2/9/2007	I3-G4	0702355-032A	-	I-3	5-6'	TCLP VOA, P-moist
2/9/2007	I4A-G1	0702355-033A	-	I-4A	4-5'	TCLP VOA, P-moist
2/9/2007	I4A-G2	0702355-034A	-	I-4A	4-5'	TCLP VOA, P-moist
2/9/2007	I4A-G3	0702355-035A	-	I-4A	5-6'	TCLP VOA, P-moist
2/9/2007	I4A-G4	0702355-036A	-	I-4A	5-6'	TCLP VOA, P-moist
2/9/2007	H4-G1	0702355-037A	-	H-4	4-5'	TCLP VOA, P-moist
2/9/2007	H4-G2	0702355-038A	-	H-4	4-5'	TCLP VOA, P-moist

Table 4.3.1. Summary of Additional Soil and Waste Characterization Sampling.

Date	Sample ID	H2M Lab ID	Severn Trent Lab ID	Grid Location	Sample Depth	Analysis
2/9/2007	H4-G3	0702355-039A	-	H-4	5-6'	TCLP VOA, P-moist
2/9/2007	H4-G4	0702355-040A	-	H-4	5-6'	TCLP VOA, P-moist
2/9/2007	G2B-G1	0702355-041A	-	G-2B	4-5'	TCLP VOA, P-moist
2/9/2007	G2B-G2	0702355-042A	-	G-2B	4-5'	TCLP VOA, P-moist
2/9/2007	G2B-G3	0702355-043A	-	G-2B	5-6'	TCLP VOA, P-moist
2/9/2007	G2B-G4	0702355-044A	-	G-2B	5-6'	TCLP VOA, P-moist
2/9/2007	G4B-G1	0702784-001A	-	G-4B	4-5'	TCLP VOA, P-moist
2/9/2007	G4B-G2	0702784-002A	-	G-4B	4-5'	TCLP VOA, P-moist
2/9/2007	G4B-G3	0702784-003A	-	G-4B	5-6'	TCLP VOA, P-moist
2/9/2007	G4B-G4	0702784-004A	-	G-4B	5-6'	TCLP VOA, P-moist

H2MGROUP

TABLE 4.5.1.1

SUMMARY OF BACKFILLING OPERATIONS AND QUANTITIES

Table 4.5.1.1. Summary of Backfilling Operations and Quantities.

# Days	Date	Backfill Source			Daily Total
		Pinelawn (tons)	Jericho (tons)	110 Sand Company (tons)	(tons)
1	01/29/07	4936.65			4936.65
2	01/30/07	4210.63			4210.63
3	01/31/07	4515.59	577.22		5092.81
4	02/01/07	3327.64	914.29		4241.93
5	02/05/07	3025.59	1494.48		4520.07
6	03/29/07		1853.98		1853.98
7	03/30/07		2557.9		2557.90
8	04/02/07	2317.72			2317.72
9	04/03/07	3277.47			3277.47
10	04/04/07	3551.75			3551.75
11	04/05/07	3088.46			3088.46
12	04/06/07	3244.85			3244.85
13	04/11/07	2308.28			2308.28
14	04/19/07			1149.99	1149.99
15	04/20/07			799.49	799.49
16	04/23/07			1438.23	1438.23
17	04/24/07	2316.45			2316.45
18	04/25/07			1959.75	1959.75
19	04/26/07	2932.75			2932.75
20	04/30/07	3199.37			3199.37
21	05/01/07	2795.03	552.96		3347.99
22	05/03/07	2745.79	571.79		3317.58
23	05/04/07		840.17	2981.68	3821.85
24	05/07/07		858.79	3005.77	3864.56
25	05/08/07			2889.79	2889.79
26	05/09/07			2757.71	2757.71
27	05/10/07			3384.25	3384.25
28	05/11/07			2785.55	2785.55
29	05/14/07	3226.08			3226.08
30	05/15/07	2419.93	857.56		3277.49
31	05/16/07			3190.87	3190.87
32	05/17/07			3274.32	3274.32
33	05/21/07			3501.83	3501.83
34	05/22/07	3656.36	651.25		4307.61
35	05/23/07	4034.75	1093.03		5127.78
36	05/24/07		1049.39	3685.1	4734.49
37	05/25/07		1285.76	4545.9	5831.66
38	05/29/07		1143.29	5598.71	6742.00
39	05/30/07	4849.53			4849.53
40	05/31/07	4763.31			4763.31
41	06/01/07			5158.58	5158.58
42	06/04/07			2316.08	2316.08
43	06/06/07			1920.07	1920.07
44	06/07/07			2559.03	2559.03
45	06/08/07	2102.67			2102.67
46	06/11/07	2139.52			2139.52
47	06/12/07	2449.36			2449.36
	Total	**81435.53**	**16301.86**	**58902.70**	**156640.09**

H2MGROUP

TABLE 4.6.1

QA PARTICULATE (PM-10) AIR MONITORING RESULTS

TABLE 4.6.1. QA PARTICULATE (PM-10) AIR MONITORING RESULTS.

Sample Date	Gravimetric PM-10 Sample					Real-Time Air Monitoring	
	Start Time	End Time	Air Volume (m^3)	Dust Weight on Filter (mg)	PM-10 Conc.[1] (mg/m^3)	Nearby Monitoring Station Number	Avg. PM-10 Concentration (mg/m^3)
12/15/2006	11:00	13:35	0.310	<0.05	<0.2	Unit 2	0.069
12/19/2006	7:52	14:45	0.826	0.06	0.073	Unit 2	0.031
12/22/2006	8:00	12:25	0.530	<0.05	<0.09	Unit 2	0.016
12/29/2006	9:59	14:00	0.482	<0.05	<0.1	Unit 3	0.029
1/12/2007	10:34	14:40	0.492	<0.05	<0.1	Unit 1	0.028
3/6/2007	6:30	14:30	0.960	0.052	0.054	Unit 1	0.025
3/16/2007	8:30	14:00	0.660	0.132	0.20	Unit 1	0.010
4/13/2007	6:45	13:45	0.840	<0.05	<0.06	Unit 1	0.008
4/20/2007	6:30	14:30	0.960	<0.05	<0.05	Unit 1	0.009
5/2/2007	8:30	14:30	0.720	<0.05	<0.07	Unit 1	0.019
5/14/2007	7:00	15:30	1.020	<0.05	<0.05	Unit 1	0.005
5/23/2007	7:15	15:45	1.020	<0.05	<0.05	Unit 1	0.005
5/31/2007	8:30	15:30	0.840	0.070	0.083	Unit 1	0.025

[1] Gravimetric PM-10 Concentration calculated as total aerosol/dust mass collected on filter divided by drawn air volume for the time period.

H2MGROUP

TABLE 4.6.2

QA VOLATILE ORGANIC COMPOUND (VOC) AIR SAMPLING RESULTS

TABLE 4.6.2. QA VOLATILE ORGANIC COMPOUND (VOC) AIR SAMPLING RESULTS.

Parameter	12-15-2006	12-22-2006	1-5-2007	1-12-2007	1-26-2007
	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
1,1,1-Trichloroethane	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U
1,2-Dibromoethane	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U
1,2-Dichlorotetrafluoroethane	U	U	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U
2-Butanone (Methyl Ethyl Ketone, MEK)	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U
2-Hexanone	U	U	U	U	U
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	U	U	U	U	U
Acetone	9.3	5.2	8.6	6.9	8.6*
Benzene	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U
Bromoethene	U	U	U	U	U
Bromoform	U	U	U	U	U
Bromomethane	U	U	U	U	U
Carbon Disulfide	15	U	3.4	U	U
Carbon Tetrachloride	U	U	U	U	U
Chlorobenzene	U	U	U	U	U
Chloroethane	U	U	U	U	U
Chloroform	U	U	U	U	U
Chlorodifluoromethane (Freon 22)	U	U	U	4.2	U
Chloromethane	1.1	U	U	1.1	U
cis-1,2-Dichloroethene	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U
Dichlorodifluoromethane (Freon 12)	2.9	2.8	U	2.7	U
Ethylbenzene	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U
Methyl tert-Butyl Ether (MtBE)	U	U	U	U	U
Methylene Chloride	3.0	2.7	3.8	3.2	5.9
Styrene	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U
Toluene	3.6	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U
Trichloroethene	U	U	U	U	U
Trichlorofluoromethane	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U
Xylene (m,p)	U	U	U	U	U
Xylene (o)	U	U	U	U	U
Xylene (total)	U	U	U	U	U

U – Parameter was analyzed but was not detected above the reporting limit.
* - Acetone detected in method blank.

TABLE 4.6.2. QA VOLATILE ORGANIC COMPOUND (VOC) AIR SAMPLING RESULTS.

Parameter	3-6-2007	3-9-2007	3-16-2007	3-23-2007	4-13-2007
	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
1,1,1-Trichloroethane	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U
1,2-Dibromoethane	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U
1,2-Dichlorotetrafluoroethane	U	U	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U
2-Butanone (Methyl Ethyl Ketone, MEK)	U	U	U	2.8	U
1,3-Dichlorobenzene	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U
2-Hexanone	U	U	U	U	U
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	U	U	U	U	U
Acetone	11	9.3	9.0	18	6.08
Benzene	U	U	U	2.1	U
Bromodichloromethane	U	U	U	U	U
Bromoethene	U	U	U	U	U
Bromoform	U	U	U	U	U
Bromomethane	U	U	U	U	U
Carbon Disulfide	U	26	U	U	U
Carbon Tetrachloride	U	U	U	U	U
Chlorobenzene	U	U	U	U	U
Chloroethane	U	U	U	U	U
Chloroform	U	U	U	U	U
Chlorodifluoromethane (Freon 22)	U	U	U	U	U
Chloromethane	1.3	1.5	1.4	1.5	1.24
cis-1,2-Dichloroethene	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U
Dichlorodifluoromethane (Freon 12)	3.0	3.2	3.1	2.9	2.72
Ethylbenzene	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U
Methyl tert-Butyl Ether (MtBE)	U	U	U	U	U
Methylene Chloride	U	2.5	2.2	3.5	U
Styrene	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U
Toluene	U	U	U	4.9	U
trans-1,2-Dichloroethene	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U
Trichloroethene	U	U	U	U	U
Trichlorofluoromethane	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U
Xylene (m,p)	U	U	U	U	U
Xylene (o)	U	U	U	U	U
Xylene (total)	U	U	U	U	U

U – Parameter was analyzed but was not detected above the reporting limit.

TABLE 4.6.2. QA VOLATILE ORGANIC COMPOUND (VOC) AIR SAMPLING RESULTS.

Parameter	4-20-2007	5-2-2007	5-11-2007
	(µg/m^3)	(µg/m^3)	(µg/m^3)
1,1,1-Trichloroethane	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U
1,1,2-Trichloroethane	U	U	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	U	U	U
1,1-Dichloroethane	U	U	U
1,1-Dichloroethene	U	U	U
1,2,4-Trichlorobenzene	U	U	U
1,2,4-Trimethylbenzene	U	U	U
1,2-Dibromoethane	U	U	U
1,2-Dichlorobenzene	U	U	U
1,2-Dichloroethane	U	U	U
1,2-Dichloropropane	U	U	U
1,2-Dichlorotetrafluoroethane	U	U	U
1,3,5-Trimethylbenzene	U	U	U
2-Butanone (Methyl Ethyl Ketone, MEK)	U	U	U
1,3-Dichlorobenzene	U	U	U
1,4-Dichlorobenzene	U	U	U
2-Hexanone	U	U	U
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	U	U	U
Acetone	15.5	11.8	10.9
Benzene	U	U	U
Bromodichloromethane	U	U	U
Bromoethene	U	U	U
Bromoform	U	U	U
Bromomethane	U	U	U
Carbon Disulfide	U	U	U
Carbon Tetrachloride	U	U	U
Chlorobenzene	U	U	U
Chloroethane	U	U	U
Chloroform	U	U	U
Chlorodifluoromethane (Freon 22)	U	1.98	2.02
Chloromethane	U	1.80	1.40
cis-1,2-Dichloroethene	U	U	U
cis-1,3-Dichloropropene	U	U	U
Dibromochloromethane	U	U	U
Dichlorodifluoromethane (Freon 12)	U	3.86	2.97
Ethylbenzene	U	U	U
Hexachlorobutadiene	U	U	U
Methyl tert-Butyl Ether (MtBE)	U	U	U
Methylene Chloride	U	2.50	2.05
Styrene	U	U	U
Tetrachloroethene	U	U	U
Toluene	U	2.60	2.00
trans-1,2-Dichloroethene	U	U	U
trans-1,3-Dichloropropene	U	U	U
Trichloroethene	U	U	U
Trichlorofluoromethane	U	U	U
Vinyl Acetate	U	U	U
Vinyl Chloride	U	U	U
Xylene (m,p)	U	U	U
Xylene (o)	U	U	U
Xylene (total)	U	U	U

U – Parameter was analyzed but was not detected above the reporting limit.

H2MGROUP

APPENDIX A

COMPACT DISC (CD) WITH WASTE DISPOSAL MANIFESTS

APPENDIX B

COMPACT DISC (CD) WITH IRM PROJECT PHOTOGRAPHS

APPENDIX C

COMPACT DISC (CD) WITH ADDITIONAL SOIL AND WASTE DISPOSAL CHARACTERIZATION SAMPLING DATA

H2MGROUP

APPENDIX D

SAMPLING AND CHARACTERIZATION DATA OF UNIQUE MATERIALS AND WASTES

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-001A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : 001 (BLACK)

Collected : 1/3/2007 2:20:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4´-DDD, 4,4´-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
alpha-BHC	< 1.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
beta-BHC	60	D	5	µg/Kg-dry	SW8081/8082	01/14/2007 4:03 AM
delta-BHC	< 1.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
gamma-BHC	< 1.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Heptachlor	14		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aldrin	< 1.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Heptachlor epoxide	6.7		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endosulfan I	< 1.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Dieldrin	< 3.7		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
4,4´-DDE	12		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endrin	12		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endosulfan II	< 3.7		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
4,4´-DDD	7.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endosulfan sulfate	46		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
4,4´-DDT	6.5		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Methoxychlor	41		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endrin ketone	20		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Endrin aldehyde	4.1		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
alpha-Chlordane	92	D	5	µg/Kg-dry	SW8081/8082	01/14/2007 4:03 AM
gamma-Chlordane	120	D	5	µg/Kg-dry	SW8081/8082	01/14/2007 4:03 AM
Toxaphene	< 190		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1016	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1221	< 74		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1232	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1242	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1248	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1254	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Aroclor 1260	< 37		1	µg/Kg-dry	SW8081/8082	01/09/2007 8:37 PM
Barium	61.5		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Cadmium	1.17		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Chromium	13.4		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Copper	24.7		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Nickel	12.1		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Zinc	212		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Arsenic	10.9		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Lead	47.3		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Selenium	0.74		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM
Silver	< 1.11		1	mg/Kg-dry	SW6010B	01/05/2007 1:02 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

QA Manager

Date Reported : 1/16/2007

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-001A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : 001 (BLACK)

Collected : 1/3/2007 2:20:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4´-DDD, 4,4´-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Mercury	0.23		1	mg/Kg-dry	SW7471	01/05/2007 3:07 PM
Phenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Bis(2-chloroethyl)ether	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Chlorophenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
1,3-Dichlorobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
1,4-Dichlorobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
1,2-Dichlorobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Methylphenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,2´-oxybis(1-Chloropropane)	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4-Methylphenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
N-Nitroso-di-n-propylamine	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Hexachloroethane	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Nitrobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Isophorone	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Nitrophenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,4-Dimethylphenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
bis(2-Chloroethoxy)methane	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,4-Dichlorophenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
1,2,4-Trichlorobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Naphthalene	2500		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4-Chloroaniline	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Hexachlorobutadiene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4-Chloro-3-methylphenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Methylnaphthalene	1300		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Hexachlorocyclopentadiene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,4,6-Trichlorophenol	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,4,5-Trichlorophenol	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Chloronaphthalene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2-Nitroaniline	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Dimethylphthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Acenaphthylene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,6-Dinitrotoluene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
3-Nitroaniline	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Acenaphthene	9600	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
2,4-Dinitrophenol	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4-Nitrophenol	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Dibenzofuran	5000		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
2,4-Dinitrotoluene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Diethylphthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi
QA Manager

Date Reported : 1/16/2007

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-001A

Sample Information...
Type : Soil

Attn To :

Origin:

Client ID. : 001 (BLACK)

Collected : 1/3/2007 2:20:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4'-DDD, 4,4'-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
4-Chlorophenyl-phenylether	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Fluorene	13000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
4-Nitroaniline	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4,6-Dinitro-2-methylphenol	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
N-Nitrosodiphenylamine	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
4-Bromophenyl-phenylether	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Hexachlorobenzene	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Pentachlorophenol	< 920		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Phenanthrene	76000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Anthracene	19000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Carbazole	14000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Di-n-butyl phthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Fluoranthene	88000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Pyrene	64000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Butyl benzyl phthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
3,3'-Dichlorobenzidine	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Benzo(a)anthracene	38000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Chrysene	40000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
bis(2-Ethylhexyl)phthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Di-n-octyl phthalate	< 370		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Benzo(b)fluoranthene	40000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Benzo(k)fluoranthene	15000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Benzo(a)pyrene	32000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Indeno(1,2,3-cd)pyrene	16000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Dibenzo(a,h)anthracene	2900		1	µg/Kg-dry	SW8270B	01/08/2007 4:17 PM
Benzo(g,h,i)perylene	21000	D	25	µg/Kg-dry	SW8270B	01/08/2007 3:45 PM
Chloromethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Vinyl chloride	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Bromomethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Chloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,1-Dichloroethene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,2-Dichloroethene (total)	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Acetone	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Carbon disulfide	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Methylene chloride	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,1-Dichloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
2-Butanone	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Chloroform	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,1,1-Trichloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-001A

Sample Information...
Type : Soil

Attn To :

Origin:

Client ID. : 001 (BLACK)

Collected : 1/3/2007 2:20:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4'-DDD, 4,4'-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Carbon tetrachloride	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Benzene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,2-Dichloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Trichloroethene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,2-Dichloropropane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Bromodichloromethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
cis-1,3-Dichloropropene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
4-Methyl-2-pentanone	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Toluene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
trans-1,3-Dichloropropene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,1,2-Trichloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Tetrachloroethene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
2-Hexanone	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Dibromochloromethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Chlorobenzene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Ethylbenzene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Xylene (total)	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Styrene	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Bromoform	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
1,1,2,2-Tetrachloroethane	< 11		1	µg/Kg-dry	SW8260B	01/10/2007 1:13 AM
Percent Moisture	10		1	wt%	D2216	01/09/2007 10:12 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-002A

Sample Information...
Type : Soil

Origin:

Attn To :

Client ID. : 002 (WHITE)

Collected : 1/3/2007 2:25:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03

Copy : Original

CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4'-DDD, 4,4'-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
alpha-BHC	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
beta-BHC	200	D	50	µg/Kg-dry	SW8081/8082	01/09/2007 10:03 PM
delta-BHC	< 130	D	50	µg/Kg-dry	SW8081/8082	01/09/2007 10:03 PM
gamma-BHC	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Heptachlor	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aldrin	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Heptachlor epoxide	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endosulfan I	28		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Dieldrin	42		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
4,4'-DDE	11		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endrin	51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endosulfan II	21		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
4,4'-DDD	< 5.1		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endosulfan sulfate	< 5.1		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
4,4'-DDT	< 5.1		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Methoxychlor	< 26		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endrin ketone	7.9		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Endrin aldehyde	6.4		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
alpha-Chlordane	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
gamma-Chlordane	< 2.6		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Toxaphene	< 260		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1016	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1221	< 100		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1232	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1242	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1248	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1254	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Aroclor 1260	< 51		1	µg/Kg-dry	SW8081/8082	01/09/2007 3:51 PM
Barium	43.6		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Cadmium	< 0.78		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Calcium	203000		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Chromium	2.53		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Copper	< 3.12		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Nickel	< 6.23		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Sodium	145		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Zinc	52.5		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Arsenic	< 1.56		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Lead	5.81		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-002A

Sample Information...
Type : Soil

Origin:

,
Attn To :

Client ID. : 002 (WHITE)

Collected : 1/3/2007 2:25:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4´-DDD, 4,4´-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Selenium	< 0.78		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Silver	< 1.56		1	mg/Kg-dry	SW6010B	01/05/2007 1:45 PM
Mercury	< 0.31		1	mg/Kg-dry	SW7471	01/05/2007 3:17 PM
Phenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Bis(2-chloroethyl)ether	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Chlorophenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
1,3-Dichlorobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
1,4-Dichlorobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
1,2-Dichlorobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Methylphenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,2´-oxybis(1-Chloropropane)	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Methylphenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
N-Nitroso-di-n-propylamine	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Hexachloroethane	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Nitrobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Isophorone	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Nitrophenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,4-Dimethylphenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
bis(2-Chloroethoxy)methane	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,4-Dichlorophenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
1,2,4-Trichlorobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Naphthalene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Chloroaniline	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Hexachlorobutadiene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Chloro-3-methylphenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Methylnaphthalene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Hexachlorocyclopentadiene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,4,6-Trichlorophenol	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,4,5-Trichlorophenol	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Chloronaphthalene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2-Nitroaniline	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Dimethylphthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Acenaphthylene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,6-Dinitrotoluene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
3-Nitroaniline	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Acenaphthene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
2,4-Dinitrophenol	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Nitrophenol	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Dibenzofuran	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-002A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : 002 (WHITE)

Collected : 1/3/2007 2:25:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03
Copy : Original
CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4´-DDD, 4,4´-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
2,4-Dinitrotoluene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Diethylphthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Chlorophenyl-phenylether	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Fluorene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Nitroaniline	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4,6-Dinitro-2-methylphenol	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
N-Nitrosodiphenylamine	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
4-Bromophenyl-phenylether	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Hexachlorobenzene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Pentachlorophenol	< 1300		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Phenanthrene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Anthracene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Carbazole	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Di-n-butyl phthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Fluoranthene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Pyrene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Butyl benzyl phthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
3,3´-Dichlorobenzidine	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Benzo(a)anthracene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Chrysene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
bis(2-Ethylhexyl)phthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Di-n-octyl phthalate	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Benzo(b)fluoranthene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Benzo(k)fluoranthene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Benzo(a)pyrene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Indeno(1,2,3-cd)pyrene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Dibenzo(a,h)anthracene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Benzo(g,h,i)perylene	< 510		1	µg/Kg-dry	SW8270B	01/08/2007 3:13 PM
Chloromethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Vinyl chloride	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Bromomethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Chloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,1-Dichloroethene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,2-Dichloroethene (total)	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Acetone	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Carbon disulfide	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Methylene chloride	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,1-Dichloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
2-Butanone	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-002A

Sample Information...
Type : Soil

Origin:

Attn To :

Client ID. : 002 (WHITE)

Collected : 1/3/2007 2:25:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03

Copy : Original

CC

Due to sample matrix, closing calibration standard recovered slightly below acceptance limits for 4,4´-DDD, 4,4´-DDT, Endrin and Gamma-BHC. LFB and surrogates recovered acceptable.

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Chloroform	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,1,1-Trichloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Carbon tetrachloride	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Benzene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,2-Dichloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Trichloroethene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,2-Dichloropropane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Bromodichloromethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
cis-1,3-Dichloropropene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
4-Methyl-2-pentanone	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Toluene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
trans-1,3-Dichloropropene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,1,2-Trichloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Tetrachloroethene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
2-Hexanone	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Dibromochloromethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Chlorobenzene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Ethylbenzene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Xylene (total)	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Styrene	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Bromoform	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
1,1,2,2-Tetrachloroethane	< 16		1	µg/Kg-dry	SW8260B	01/10/2007 1:45 AM
Percent Moisture	35.8		1	wt%	D2216	01/09/2007 10:16 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi

Date Reported : 1/16/2007

QA Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0701079-002B

Sample Information...
Type : Soil

Origin:

,
Attn To :

Client ID. : 002 (WHITE)

Collected : 1/3/2007 2:25:00 PM
Received : 1/3/2007 2:54:00 PM
Collected By : KGC03

TCLP PREP.

Copy : Original

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Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Silver	< 0.02		1	mg/L	SW1311/7760	01/05/2007 12:11 PM
Mercury	< 0.200		1	ug/L	SW1311/7470	01/05/2007 2:55 PM
Barium	< 10.0		1	mg/L	SW1311/6010	01/05/2007 5:53 PM
Cadmium	< 0.100		1	mg/L	SW1311/6010	01/05/2007 5:53 PM
Chromium	< 1.00		1	mg/L	SW1311/6010	01/05/2007 5:53 PM
Arsenic	< 1.00		1	mg/L	SW1311/6010	01/05/2007 5:53 PM
Lead	< 1.00		1	mg/L	SW1311/6010	01/05/2007 5:53 PM
Selenium	< 0.100		1	mg/L	SW1311/6010	01/05/2007 5:53 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Nicole R. Crespi
QA Manager

Date Reported : 1/16/2007

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0704200-001A

Sample Information...
Type : Solid

,
Attn To :

Origin: Other

Client ID. : ORANGE FORM SOLID

Collected : 4/3/2007 3:00:00 PM
Received : 4/3/2007 3:25:00 PM
Collected By : Client
Copy : Paul Lageraaen
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Beryllium	< 0.50		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Cadmium	1.62		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Chromium	25.0		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Copper	4.90		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Nickel	5.02		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Zinc	21.6		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Antimony	< 6.00		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Arsenic	1.07		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Lead	3.74		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Selenium	0.83		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Silver	< 1.00		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Thallium	< 1.00		1	mg/Kg	SW6010A	04/05/2007 2:29 PM
Mercury	< 0.20		1	mg/Kg	SW7471	04/05/2007 1:06 PM
Phenol	1400		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Bis(2-chloroethyl)ether	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Chlorophenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
1,3-Dichlorobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
1,4-Dichlorobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
1,2-Dichlorobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Methylphenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,2'-oxybis(1-Chloropropane)	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Methylphenol	1400		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
N-Nitroso-di-n-propylamine	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Hexachloroethane	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Nitrobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Isophorone	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Nitrophenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,4-Dimethylphenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
bis(2-Chloroethoxy)methane	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,4-Dichlorophenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
1,2,4-Trichlorobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Naphthalene	500		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Chloroaniline	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Hexachlorobutadiene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Chloro-3-methylphenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Methylnaphthalene	490		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Hexachlorocyclopentadiene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,4,6-Trichlorophenol	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 4/10/2007

Laboratory Manager

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0704200-001A

Sample Information...
Type : Solid

,
Attn To :

Origin: Other

Client ID. : ORANGE FORM SOLID

Collected : 4/3/2007 3:00:00 PM
Received : 4/3/2007 3:25:00 PM
Collected By : Client
Copy : Paul Lageraaen
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Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
2,4,5-Trichlorophenol	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Chloronaphthalene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2-Nitroaniline	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Dimethylphthalate	1800		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Acenaphthylene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,6-Dinitrotoluene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
3-Nitroaniline	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Acenaphthene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,4-Dinitrophenol	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Nitrophenol	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Dibenzofuran	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
2,4-Dinitrotoluene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Diethylphthalate	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Chlorophenyl-phenylether	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Fluorene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Nitroaniline	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4,6-Dinitro-2-methylphenol	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
N-Nitrosodiphenylamine	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
4-Bromophenyl-phenylether	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Hexachlorobenzene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Pentachlorophenol	< 830		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Phenanthrene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Anthracene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Carbazole	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Di-n-butyl phthalate	460		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Fluoranthene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Pyrene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Butyl benzyl phthalate	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
3,3'-Dichlorobenzidine	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Benzo(a)anthracene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Chrysene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
bis(2-Ethylhexyl)phthalate	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Di-n-octyl phthalate	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Benzo(b)fluoranthene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Benzo(k)fluoranthene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Benzo(a)pyrene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Indeno(1,2,3-cd)pyrene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Dibenzo(a,h)anthracene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM
Benzo(g,h,i)perylene	< 330		1	µg/Kg	SW8270B	04/09/2007 11:04 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 4/10/2007

Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0704200-001A

Sample Information...
Type : Solid

Origin: Other

Attn To :

Client ID. : ORANGE FORM SOLID

Collected : 4/3/2007 3:00:00 PM
Received : 4/3/2007 3:25:00 PM
Collected By : Client
Copy : Paul Lageraaen
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
1-Octadecanol	4700	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
2-Pentanone, 4-hydroxy-4-methyl-	5000	JNA	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Alkane: Branched	2300	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Benzaldehyde, 2-hydroxy-	1800	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Benzaldehyde, 4-hydroxy-	4000	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Benzenebutanoic acid, 2,5-dimethyl	5400	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Hexanoic acid	13000	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Octanoic acid	8500	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
Propanoic acid, 2-methyl-	2500	JN	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (13.2)	1700	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (13.94)	2000	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (14.38)	2000	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (15.08)	3700	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (4.04)	2700	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM
unknown (8.68)	3200	J	1	µg/Kg(TICS)	SW8270B	04/09/2007 11:04 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F = Dilution Factor

Joann M. Slavin

Date Reported : 4/10/2007

Laboratory Manager

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-002A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : YELLOW CAKE

Collected 3/1/2007 1:40:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Aroclor 1016	< 41		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Aroclor 1221	< 84		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Aroclor 1232	< 41		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Aroclor 1242	700	D	2	µg/Kg-dry	SW8082	03/09/2007 12:12 AM
Aroclor 1248	< 41		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Aroclor 1254	290		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Aroclor 1260	72		1	µg/Kg-dry	SW8082	03/06/2007 5:03 PM
Barium	43.1		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Cadmium	101		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Chromium	117000		50	mg/Kg-dry	SW6010A	03/05/2007 3:05 PM
Copper	93.3		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Nickel	114		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Zinc	246000		200	mg/Kg-dry	SW6010A	03/06/2007 4:55 PM
Arsenic	7.43		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Lead	2890		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Selenium	< 31.3		50	mg/Kg-dry	SW6010A	03/05/2007 3:05 PM
Silver	< 1.25		1	mg/Kg-dry	SW6010A	03/05/2007 3:38 PM
Mercury	0.61		1	mg/Kg-dry	SW7471	03/05/2007 2:05 PM
Chloromethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Vinyl chloride	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Bromomethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Chloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,1-Dichloroethene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,2-Dichloroethene (total)	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Acetone	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Carbon disulfide	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Methylene chloride	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,1-Dichloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
2-Butanone	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Chloroform	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,1,1-Trichloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Carbon tetrachloride	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Benzene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,2-Dichloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Trichloroethene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,2-Dichloropropane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Bromodichloromethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
cis-1,3-Dichloropropene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID # 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-002A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : YELLOW CAKE

Collected 3/1/2007 1:40:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
4-Methyl-2-pentanone	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Toluene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
trans-1,3-Dichloropropene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,1,2-Trichloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Tetrachloroethene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
2-Hexanone	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Dibromochloromethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Chlorobenzene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Ethylbenzene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Xylene (total)	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Styrene	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Bromoform	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
1,1,2,2-Tetrachloroethane	< 13		1	µg/Kg-dry	SW8260B	03/06/2007 12:24 AM
Reactive Cyanide	< 100		1	mg/Kg	SW7.3.3.2	03/07/2007 11:26 AM
Ignitability	>60		1	°C	SW1010	03/06/2007 4:45 PM
Percent Moisture	20.2		1	wt%	D2216	03/05/2007 4:07 PM
Reactive Sulfide	< 100		1	mg/Kg	SW7.3.4.2	03/12/2007 5:06 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2M LABS, INC.

575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-001A

Sample Information...
Type : Soil

,
Attn To :

Origin:

Client ID. : CAI-BLUE SILT

Collected 3/1/2007 1:30:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Aroclor 1016	< 120		1	µg/Kg-dry	SW8082	03/06/2007 5:31 PM
Aroclor 1221	< 240		1	µg/Kg-dry	SW8082	03/06/2007 5:31 PM
Aroclor 1232	< 120		1	µg/Kg-dry	SW8082	03/06/2007 5:31 PM
Aroclor 1242	3600	D	5	µg/Kg-dry	SW8082	03/09/2007 12:42 AM
Aroclor 1248	< 120		1	µg/Kg-dry	SW8082	03/06/2007 5:31 PM
Aroclor 1254	6500	D	5	µg/Kg-dry	SW8082	03/09/2007 12:42 AM
Aroclor 1260	950		1	µg/Kg-dry	SW8082	03/06/2007 5:31 PM
Barium	280		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Cadmium	431		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Chromium	96100		10	mg/Kg-dry	SW6010A	03/05/2007 2:42 PM
Copper	1660		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Nickel	209		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Zinc	9190		10	mg/Kg-dry	SW6010A	03/05/2007 2:42 PM
Arsenic	< 3.61		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Lead	758		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Selenium	< 1.81		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Silver	< 3.61		1	mg/Kg-dry	SW6010A	03/05/2007 2:53 PM
Mercury	3.28		1	mg/Kg-dry	SW7471	03/05/2007 2:00 PM
Chloromethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Vinyl chloride	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Bromomethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Chloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,1-Dichloroethene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,2-Dichloroethene (total)	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Acetone	91		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Carbon disulfide	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Methylene chloride	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,1-Dichloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
2-Butanone	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Chloroform	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,1,1-Trichloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Carbon tetrachloride	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Benzene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,2-Dichloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Trichloroethene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,2-Dichloropropane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Bromodichloromethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
cis-1,3-Dichloropropene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-001A

Sample Information...
Type : Soil

Origin:

Attn To :

Client ID. : CAI-BLUE SILT

Collected 3/1/2007 1:30:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
4-Methyl-2-pentanone	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Toluene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
trans-1,3-Dichloropropene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,1,2-Trichloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Tetrachloroethene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
2-Hexanone	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Dibromochloromethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Chlorobenzene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Ethylbenzene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Xylene (total)	140		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Styrene	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Bromoform	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
1,1,2,2-Tetrachloroethane	< 36		1	µg/Kg-dry	SW8260B	03/05/2007 11:53 PM
Reactive Cyanide	< 100		1	mg/Kg	SW7.3.3.2	03/07/2007 11:19 AM
Ignitability	>60		1	°C	SW1010	03/06/2007 4:40 PM
Percent Moisture	72.3		1	wt%	D2216	03/05/2007 4:06 PM
Reactive Sulfide	< 100		1	mg/Kg	SW7.3.4.2	03/12/2007 5:04 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-003A

Sample Information...
Type : Soil

Origin:

Attn To :

Client ID. : LT. BLUE SOLID

Collected 3/1/2007 1:50:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
Aroclor 1016	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1221	< 97		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1232	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1242	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1248	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1254	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Aroclor 1260	< 48		1	µg/Kg-dry	SW8082	03/07/2007 3:30 AM
Barium	< 28.9		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Cadmium	< 0.72		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Chromium	47.1		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Copper	7.43		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Nickel	< 5.77		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Zinc	25.1		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Arsenic	< 1.44		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Lead	2.24		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Selenium	< 0.72		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Silver	< 1.44		1	mg/Kg-dry	SW6010A	03/05/2007 4:47 PM
Mercury	< 0.29		1	mg/Kg-dry	SW7471	03/05/2007 2:07 PM
Chloromethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Vinyl chloride	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Bromomethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Chloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,1-Dichloroethene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,2-Dichloroethene (total)	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Acetone	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Carbon disulfide	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Methylene chloride	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,1-Dichloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
2-Butanone	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Chloroform	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,1,1-Trichloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Carbon tetrachloride	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Benzene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,2-Dichloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Trichloroethene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,2-Dichloropropane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Bromodichloromethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
cis-1,3-Dichloropropene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040. FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Town of Oyster Bay

Lab No. : 0703041-003A

Sample Information...
Type : Soil

Origin:

Attn To :

Client ID. : LT. BLUE SOLID

Collected 3/1/2007 1:50:00 PM
Received 3/1/2007 3:30:00 PM
Collected By : Client
Copy : PRL
CC

Parameter(s)	Results	Qualifier	D.F.	Units	Method Number	Analyzed
4-Methyl-2-pentanone	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Toluene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
trans-1,3-Dichloropropene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,1,2-Trichloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Tetrachloroethene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
2-Hexanone	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Dibromochloromethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Chlorobenzene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Ethylbenzene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Xylene (total)	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Styrene	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Bromoform	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
1,1,2,2-Tetrachloroethane	< 14		1	µg/Kg-dry	SW8260B	03/06/2007 12:55 AM
Reactive Cyanide	< 100		1	mg/Kg	SW7.3.3.2	03/07/2007 11:33 AM
Ignitability	>60		1	°C	SW1010	03/06/2007 4:50 PM
Percent Moisture	30.7		1	wt%	D2216	03/05/2007 4:08 PM
Reactive Sulfide	< 100		1	mg/Kg	SW7.3.4.2	03/12/2007 5:08 PM

Qualifiers: E - Value above quantitation range
D - Results for Dilution

D.F. = Dilution Factor

Joann M. Slavin

Date Reported : 3/13/2007

Laboratory Manager

H2MGROUP

APPENDIX E

REMEDIAL ACTION PLAN REVISION DOCUMENTATION FOR B-43 AREA

A

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A,11th Floor
625 Broadway, Albany, New York 12233-7015
Phone: (518) 402-9620 FAX: (518) 402-9022

April 10, 2007

Philip Schade
H2M Group, P.C.
575 Broad Hollow Road
Melville, NY 11747-5076

RE: NYSDEC Site No. 1-30-003A-OU3 Bethpage
Community Party Park, Town of Oyster Bay IRM.

Dear Mr. Schade:

The H2M Group, P.C., on behalf of the Town of Oyster Bay (Town), submitted a change to the scope of work for the Town Interim Remedial Measure Remedial Measure (IRM-RAP) in response to the Northrop Grumman B-43Area report. The H2M proposal is to excavate deeper, as per figure 1 of the H2M proposal. This will address the elevated site-related contaminant concentrations identified in areas deeper than the original Town IRM RAP.

The New York State Department of Environmental Conservation (NYSDEC) has reviewed the H2M proposed revision to the B-43 area section of the Town IRM and has no comments on the H2M proposal. Therefore, by means of this letter, the NYSDEC approves this modification to the Town IRM. H2M Group, P.C., as the Professional Engineer for the Town, is responsible for proper implementation of the Town IRM RAP.

In the mean time, if you have any questions, please contact me at your earliest convenience.

Sincerely,

Steven M. Scharf

Steven M. Scharf, P.E.
Project Engineer
Remedial Bureau A
Division of Environmental Remediation

ec: J. Swartwout/S. Scharf/Daybook
W. Parish, Region 1 (Via E-mail)
J. Nealon, NYSDOH (Via E-mail)
M. Russo, Town of Oyster Bay (Via E-mail)
P. Lageraaen, H2M, Inc. (Via E-mail)
L. Leskovjan, Northrop Grumman (Via E-mail)
J. Cofman, Northrop Grumman (Via E-mail)
D. Stern, ARCADIS (Via E-mail)
M. Hofgren, D&B
(TOB-B43soilplan.wpd)

H2MGROUP

ACEC MEMBER SUPPORTING EXCELLENCE IN ENGINEERING

Holzmacher, McLendon & Murrell, P.C. ◣ H2M Associates, Inc.
H2M Labs, Inc. ◣ H2M Architects & Engineers, Inc.
575 Broad Hollow Road, Melville, New York 11747
631.756.8000, Fax: 631.694.4122
www.h2m.com

February 18, 2007

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

Re: Town of Oyster Bay, Bethpage Community Park IRM
Remedial Action Plan Revision – B-43 Area
H2M Project No. TOBY 04-02

Dear Mr. Scharf:

On behalf of the Town of Oyster Bay, Holzmacher, McLendon & Murrell, P.C. (H2M) provides herein a proposed revision to the New York State Department of Environmental Conservation (NYSDEC)-approved Bethpage Community Park IRM Remedial Action Plan (RAP). This revision has been prepared based on a request by the NYSDEC to revise the RAP to include additional remedial excavation in certain areas based upon the results of the Dvirka & Bartilucci (D&B) B-43 report, as referenced in the NYSDEC letter to the Town of Oyster Bay dated January 23, 2007.

H2M has reviewed the D&B B-43 Report, dated November 9, 2006, which provides a summary of investigative activities in the B-43 area that were conducted under the direction of the NYSDEC and in accordance with Northrop Grumman Corporation's (NGC) NYSDEC-approved Work Plan Addendum No. 5. It is our understanding that the B-43 area designation utilized by D&B and NGC correlates with the boring designation G-7 utilized by H2M and the Town in the IRM Site Investigation.

The NYSDEC-approved IRM RAP, as documented in H2M's Investigation Report and Remedial Action Plan, dated November 2005 (11/2005 IR/RAP), Supplemental Investigation Report, dated December 2005 (12/2005 SIR), and Addendum to the Remedial Action Plan, dated March 2006 (3/2006 Addendum), specified a remedial excavation depth of 12 feet in the B-43/G-7 area. Applying the additional soil sampling data provided in the D&B B-43 report to the RAP cleanup criteria results in a revised excavation depth. The proposed revised excavation limits in the B-43 area are depicted on the attached excavation plan, included as Figure 1. As shown, additional excavation is proposed in a hexagonal pattern around the B-43 boring to a depth of 20 feet below grade. This excavation utilizes soil boring locations and data completed by NGC to establish endpoint boundaries. Southeast of this area, an additional excavation in a triangular pattern is proposed to a total depth of 14 feet below grade. This excavation area utilizes a combination of

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NGC and H2M boring data to establish the remedial excavation limits. The previously NYSDEC approved excavation depth in both areas was 12 feet.

The proposed revision to the RAP requires the excavation of an estimated additional 900 cubic yards of contaminated soil. No endpoint sampling is proposed following the additional remedial excavation due to clean endpoint data that is available at depths below the proposed excavation depth.

If you should you have any questions regarding this submittal, please contact me at (631) 756-8000, extension 1623.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Philip J. Schade, P.E.

cc: James Byrne, P.E., Commissioner of Public Works/Town of Oyster Bay
Richard Betz, Commissioner of Parks/Town of Oyster Bay
Phyllis Barry, Public Information Officer/Town of Oyster Bay
Theodore Firetog, Esq.
Gary Litwin/NYSDOH
Peter Scully/NYSDEC
Rosalie Rusinko, Esq./NYSDEC
John Molloy, P.E./H2M
Richard Humann, P.E./H2M

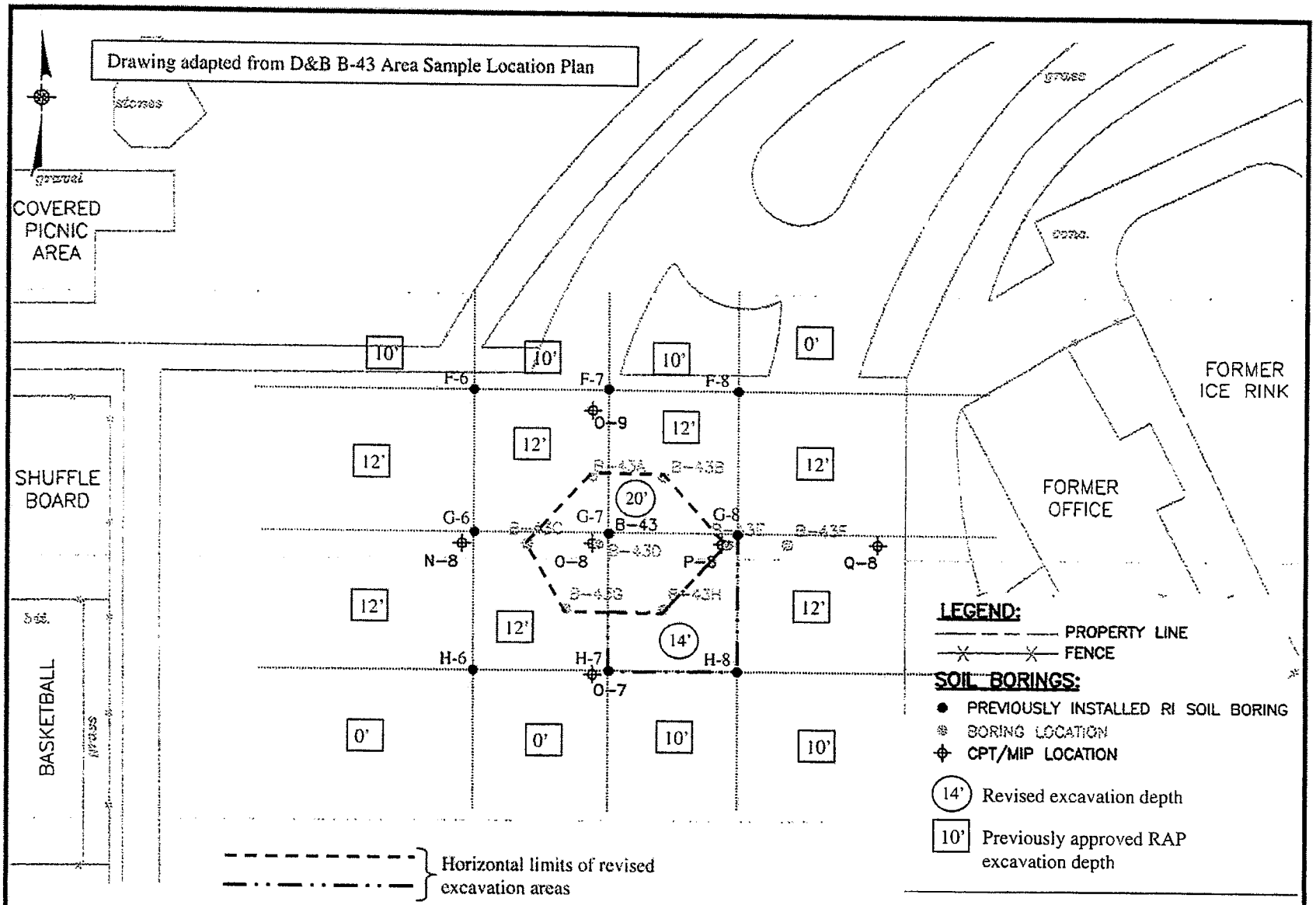

FIGURE 1. G-7/NGC B-43 AREA IRM EXCAVATION PLAN.

H2M GROUP
ENGINEERS • ARCHITECTS • SCIENTISTS • PLANNERS • SURVEYORS

H2MGROUP

ACEC MEMBER SUPPORTING EXCELLENCE IN ENGINEERING

Holzmacher, McLendon & Murrell, P.C. ◣ H2M Associates, Inc.
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575 Broad Hollow Road, Melville, New York 11747
631.756.8000, Fax: 631.694.4122
www.h2m.com

March 26, 2007

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

Re: Town of Oyster Bay, Bethpage Community Park IRM
Remedial Action Plan – IRM Boundary Encroachment
H2M Project No. TOBY 04-02

Dear Mr. Scharf:

As you are aware, the Town of Oyster Bay is actively continuing with soil remediation activities at Bethpage Community Park. Based on encountered field conditions, Holzmacher, McLendon & Murrell, P.C. (H2M) on behalf of the Town of Oyster Bay requests permission from the New York State Department of Environmental Conservation (NYSDEC) to allow for nominal excavation outside the specified boundary of the IRM area, as indicated below.

Significant debris fill areas have been identified within the IRM area. One such location is adjacent to the IRM boundary in the southeastern portion of the IRM area. Significantly contaminated soils have also been identified adjacent to the western boundary of the IRM area near the baseball field and recharge basin. This area has been identified by Arcadis as Grumman's Northeast Sludge Drying Bed. The RAP's Site Operations and Excavation Plan specifies cut backs (i.e., sloping) in the open excavations for stabilization purposes. To ensure proper removal of debris and contaminated soil within the boundary of the IRM, the Town proposes to cut back the excavation area beyond the boundary of the IRM area, only as necessary, to achieve the planned RAP excavation depth in the specified areas. The excavation outside the IRM boundary area will be minimized and only expanded as necessary to achieve the open excavation cut back. Following the excavation, a demarcation barrier (i.e., polysheeting) will be placed to delineate the extent of excavation performed by the Town under the IRM consent order and permit a clear demarcation of the remediated area for any future excavation work to be performed by Northrop Grumman.

In the western portion of the IRM area near the ball field (also indicated as Contract Area 1 in the attached figure), it is estimated that 70 feet of the IRM boundary will require cut back beyond the boundary of the IRM area. This area extends from the corner of the IRM area near the ball field north towards the fencepost located at the southeast corner of the recharge basin. In the debris

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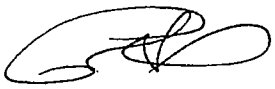
area located in the southeast corner of the IRM area (also identified as Contract Area 8 in the attached figure), it is estimated that 35 feet to the west and 70 feet to the north of the southeast IRM corner will require additional cut back.

Please advise at your earliest convenience as to your approval to implement the above described excavation activity. If you should you have any questions regarding this submittal, please contact me at (631) 756-8000, extension 1623.

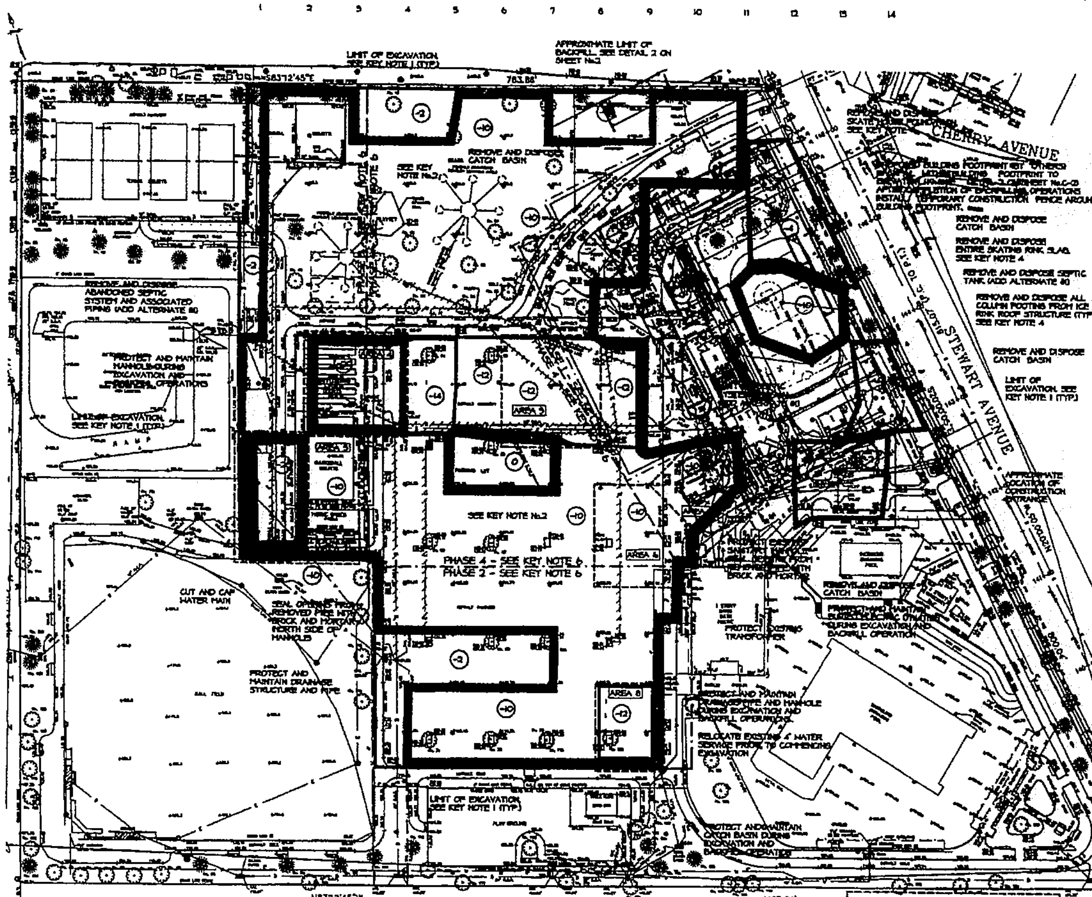
Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

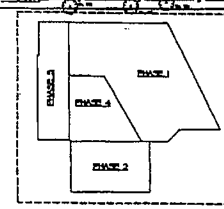


Philip J. Schade, P.E.

cc: James Byrne, P.E., Commissioner of Public Works/Town of Oyster Bay
Richard Betz, Commissioner of Parks/Town of Oyster Bay
Phyllis Barry, Public Information Officer/Town of Oyster Bay
Theodore Firetog, Esq.
Gary Litwin/NYSDOH
Peter Scully/NYSDEC
Rosalie Rusinko, Esq./NYSDEC
John Molloy, P.E./H2M
Richard Humann, P.E./H2M



SITE PLAN
SCALE: 1"=50'-0"



PHASING PLAN
NO SCALE

LEGEND

- SLOPE TRANSITION AREA (SEE KEY NOTE 3 AND DETAIL ON SHEET C2)
- REMOVE AND DISPOSE UTILITY
- EXISTING SOIL BORING LOCATION
- (-10) APPROXIMATE EXCAVATION DEPTH
- ELEVATION OF BOTTOM OF EXCAVATION AT BORING LOCATION
- AREA 1 — SEE KEY NOTE 5

TABLE 1

AREA	DEPTH OF SOIL TO BE SEGREGATED	WASTE CLASSIFICATION
1	-5 TO -20	TSCA REGULATED (PCB > 50 mg/kg)
2	-1 TO -5	RCRA HAZARDOUS*
3	-5 TO -7	TSCA REGULATED (PCB > 50 mg/kg)
4	-7 TO -11	RCRA HAZARDOUS*
5	-7 TO -11	TSCA REGULATED (PCB > 50 mg/kg)
6	-7 TO -10	RCRA HAZARDOUS*
7	-5 TO -9	RCRA HAZARDOUS*
8	-0 TO -12	NON-TSCA REGULATED (5 mg/kg < PCB < 50 mg/kg)*

* ANTICIPATED CLASSIFICATION

SITE PLAN NOTES

1. CONTRACTOR SHALL INSPECT PROJECT SITE PRIOR TO SUBMISSION OF BIDS AND SHALL MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
2. THE CONTRACTOR SHALL NOTIFY THE OWNER AND H2M (TELEPHONE (800) 756-8000) AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF THE WORK. THE SAME NOTICE SHALL BE REQUIRED WHEN RESUMING WORK AFTER ANY STOPPAGE OR DELAY.
3. LOCATION OF ALL UNDERGROUND UTILITIES, ELECTRIC AND TELEPHONE CONDUITS, STORM DRAINS AND UNDERGROUND PIPING SHALL BE MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF UNDERGROUND UTILITIES, GAS MAINS, ELECTRIC AND TELEPHONE CONDUITS. NO EXCAVATION SHALL COMMENCE UNTIL COMPLETE MARK-OUT HAS BEEN PERFORMED.

3A. LOCATION OF ALL UNDERGROUND UTILITIES BOTH PUBLIC AND CUSTOMER OWNED, WERE OBTAINED FROM EITHER OLD MAPS, SURVEYS, DRAWINGS AND RECORDS SUPPLIED BY OTHERS. THE OWNER AND ENGINEER DO NOT GUARANTEE OR ACCEPT RESPONSIBILITY FOR ANY DAMAGE TO SUCH FACILITIES DUE TO DISCREPANCIES IN LOCATION AND SIZE SHOWN ON THE PLANS OR THOSE UTILITIES NOT SHOWN, NOR WILL ANY COMPENSATION BE MADE TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED HIM BY ENCOUNTERING THE AFOREMENTIONED UTILITIES OR FOR THOSE UTILITIES WHICH ARE NOT SHOWN, OR ARE INCORRECTLY SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES.

4. CONTRACTOR SHALL HAND DIG TO LOCATE AND EXPOSE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES MUST BE REPAIRED IMMEDIATELY BY CONTRACTOR AT NO COST TO OWNER.
5. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL SURVEY, LAYOUT, LINES, GRADES AS NEEDED TO PROPERLY COMPLETE THE WORK. NEITHER H2M OR THE OWNER SHALL PERFORM ANY LAYOUT.
6. THE CONTRACTOR SHALL PERFORM DAILY CLEANUP OPERATIONS WHICH INCLUDE REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL, AND DRIVEWAY/ STREET CLEANING TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.
7. DURING ALL NON-WORKING HOURS, THE CONTRACTOR WILL BE REQUIRED TO STORE ALL EQUIPMENT AND MATERIALS WITHIN THE AREA DESIGNATED BY THE ENGINEER AT THE PROJECT SITE.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO REVISION.
9. WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODE REQUIREMENTS, THE CONTRACT AND SUBJECT TO THE APPROVAL OF THE ENGINEER.
10. CONTRACTOR SHALL SECURE PROJECT SITE IN ACCORDANCE WITH APPLICABLE SAFETY STANDARDS.
11. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH OWNER/ENGINEER SO AS TO MINIMIZE INTERRUPTION TO THE OWNER'S OPERATIONS.
12. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF SURROUNDING AREAS DAMAGED DURING COMPLETION OF THIS PROJECT. ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO PRE-EXISTING OR SPECIFIED NEW CONDITIONS.
13. REPLACE ANY CURBS, DRIVEWAY, ETC., SCHEDULED TO REMAIN WHICH ARE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO COST TO OWNER.
14. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND ENTIRE WORK AREA. FENCE IS TO REMAIN AT COMPLETION OF WORK.
15. SURVEY FINAL EXCAVATED DEPTHS AND FINAL BACKFILLED ELEVATIONS. SUBMIT SIX (6) SIGNED AND SEALED COPIES OF BOTH SURVEYS TO THE ENGINEER. SURVEYOR IS TO BE LICENSED IN NEW YORK STATE. THESE SURVEYS WILL BE SUBMITTED TO NYSDEC AS A RECORD OF REMEDIATION.
16. DO NOT STOCK PILE ANY MATERIAL ON PAVED SURFACES TO PREVENT CONTAMINATION OF EXISTING DRAINAGE SYSTEMS.
17. PROVIDE TRUCK SCALE TO WEIGH LOADED TRUCKS DEPARTING SITE. WEIGHT OF LOAD ON TRUCK MEASURED WITH THIS SCALE WILL BE UTILIZED AS A BASIS OF PAYMENT.
18. CONTRACTOR SHALL PROVIDE A DECONTAMINATION STATION FOR DECONTAMINATION OF TRUCKS LEAVING THE SITE IN ACCORDANCE WITH SPECIFICATION SECTION 01915.
19. THE CONTRACTOR IS TO MAKE EVERY EFFORT SO AS NOT TO INTERFERE WITH LOCAL SCHOOL BUS TRAFFIC AND SCHOOL OPERATIONS.
20. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT LOCATION DESIGNATED BY OWNER. SEE DETAIL 4 ON SHEET No. C-2. RESTRICT ALL VEHICULAR ACCESS TO THIS ENTRANCE.
21. BASE MAP SOURCE: SIDNEY B. BOWNE & SON LLP, PROJ. NO. 104006.0, SEPT. 2004
22. THE TOWN OF OYSTER BAY POSSESSES APPROXIMATELY 60000 CUBIC YARDS OF POTENTIAL BACKFILL MATERIAL AT THEIR PUBLIC WORKS FACILITY AT 150 MILLER PLACE SYOSSET. ADD - ALTERNATE #2 FOR THIS PROJECT WILL INCLUDE LOADING AND TRANSPORTING THIS MATERIAL TO THE PROJECT SITE, BLENDING IT WITH ACCEPTABLE FILL MATERIAL ON SITE AND PLACING THE MATERIAL AS BACKFILL. THIS STOCKPILED MATERIAL IS CURRENTLY BEING TESTED BY THE TOWN FOR SUITABILITY AS BACKFILL ON PROJECT. THE RESULTS OF THIS TESTING AND FURTHER DIRECTION WILL BE PROVIDED VIA AN ADDENDUM.
23. HORIZONTAL AND VERTICAL SURVEY CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR UPON AWARD OF THE CONTRACT. ALL CONTROL POINTS WILL BE LOCATED ON THE SITE.

KEY NOTES

1. EXCAVATE AND DISPOSE SOIL WITHIN LIMITS SHOWN. BACKFILL TO 4 INCHES BELOW ORIGINAL ELEVATIONS WITH FILL MATERIAL SPECIFIED IN SECTION 02240.
2. REMOVE AND DISPOSE ALL SURFACE FEATURES WITHIN LIMIT OF EXCAVATION AND NEW BUILDING FOOTPRINT. THIS INCLUDES BUT IS NOT LIMITED TO PAVING, CURBS, TREES, LIGHT POLES, FENCING, WALLS, BENCHES, PLAYGROUND EQUIPMENT.
3. ALL SLOPE TRANSITION AREAS ARE TO BE SLOPED AT 1:1.
4. DEMOLITION AND REMOVAL OF ICE RINK ROOF STRUCTURE AND SKATE HOUSE WILL BE PERFORMED BY OTHERS. REMOVAL OF THE FOUNDATIONS AND ALL OTHER BELOW GRADE STRUCTURES WITHIN THE LIMIT OF EXCAVATION ARE TO BE INCLUDED IN THIS CONTRACT. THIS INCLUDES, BUT IS NOT LIMITED TO ON-GRADE ICE RINK SLABS, COLUMN FOOTINGS, SKATE HOUSE FOUNDATION, FOUNDATIONS, PIPE HEADER TRENCH ENCLOSURES, SLABS, UTILITIES, ETC.
5. IN AREAS DELINEATED BY THIS BORDER ALL SOIL WITHIN THE DEPTHS INDICATED IN TABLE 1 ARE TO BE STOCKPILED SEPARATELY FROM ALL OTHER EXCAVATED SOIL AND FROM EACH OTHER. EACH STOCKPILE IS TO BE TESTED INDIVIDUALLY PRIOR TO DISPOSAL.
6. COMPLETE WORK IN PHASES AS DESIGNATED. COMPLETE EACH PHASE IN ITS ENTIRETY BEFORE COMMENCING THE NEXT PHASE.

H2M GROUP
HOLZMACHER, McLENDON & MURRELL, P.C.
575 Broad Hollow Road, Melville, New York 11747
ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS

MARK	DATE	DESCRIPTION

ISSUE:	
PROJECT NO:	TOBY 0402
DATE:	MAY, 2006
CAD DWG FILE:	FIGURE 5.DWG
XREF DWG FILE:	xr_EXCAVATION.dwg
SCALE:	AS SHOWN
FILE LOCATION:	
DESIGNED BY:	MRM
DRAWN BY:	DP/PB/AK
CHECKED BY:	
REVIEWED BY:	

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
BETHPAGE, NEW YORK

SOIL REMEDIATION
AT BETHPAGE
COMMUNITY PARK

CONTRACT

FINAL BID DOCUMENT

SHEET TITLE: SITE PLAN

SHEET NUMBER: **C-1**

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9022
Website: www.dec.state.ny.us

Alexander P. Grannis
Commissioner

April 26, 2007

Philip Schade
H2M Associates, P.C.
575Broad Hollow Road
Melville, NY 11747

Dear Mr. Schade:

RE: Bethpage Community Park, Town of Oyster Bay
IRM, Northrop Grumman Site 1-30-003A-OU 3,

H2M Group (H2M), on behalf of the Town of Oyster Bay, submitted a March 26, 2007 proposal to allow for nominal excavation outside the boundary area of the Town Interim Remedial Measure (IRM). The New York State Department of Environmental Conservation (NYSDEC) has reviewed this H2M proposal. By means of this letter, finds the H2M proposal acceptable for implementation.

Based on my April 26, 2006 conversation with Paul Lageraaen, P.E. of your staff, this cutback work is expected to begin immediately. Overall, the excavation portion of the IRM work is scheduled to be finished within the next four weeks and backfilling has already started. The goal is to have the eastern portion of the park completely filled in, paved and ready to open the pool for the 2007 summer season.

In the meantime, if you have any questions, please contact me at your earliest convenience.

Sincerely,

Steven M. Scharf

Steven M. Scharf, P.E.
Project Engineer
Remedial Bureau A

cc: J. Swartwout/S. Scharf/File (Via E-mail)
W. Parish, Region 1 (Via E-mail)
M. Russo, Town of Oyster Bay (Via E-mail)
D. Stern, ARCDAIS

H2MGROUP

APPENDIX E

REMEDIAL ACTION PLAN REVISION DOCUMENTATION FOR B-43 AREA

A

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Division of Environmental Remediation
Remedial Bureau A,11th Floor
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Phone: (518) 402-9620 FAX: (518) 402-9022

April 10, 2007

Philip Schade
H2M Group, P.C.
575 Broad Hollow Road
Melville, NY 11747-5076

RE: NYSDEC Site No. 1-30-003A-OU3 Bethpage Community Party Park, Town of Oyster Bay IRM.

Dear Mr. Schade:

The H2M Group, P.C., on behalf of the Town of Oyster Bay (Town), submitted a change to the scope of work for the Town Interim Remedial Measure Remedial Measure (IRM-RAP) in response to the Northrop Grumman B-43Area report. The H2M proposal is to excavate deeper, as per figure 1 of the H2M proposal. This will address the elevated site-related contaminant concentrations identified in areas deeper than the original Town IRM RAP.

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In the mean time, if you have any questions, please contact me at your earliest convenience.

Sincerely,

Steven M. Scharf

Steven M. Scharf, P.E.
Project Engineer
Remedial Bureau A
Division of Environmental Remediation

ec: J. Swartwout/S. Scharf/Daybook
W. Parish, Region 1 (Via E-mail)
J. Nealon, NYSDOH (Via E-mail)
M. Russo, Town of Oyster Bay (Via E-mail)
P. Lageraaen, H2M, Inc. (Via E-mail)
L. Leskovjan, Northrop Grumman (Via E-mail)
J. Cofman, Northrop Grumman (Via E-mail)
D. Stern, ARCADIS (Via E-mail)
M. Hofgren, D&B
(TOB-B43soilplan.wpd)

H2MGROUP

ACEC MEMBER SUPPORTING EXCELLENCE IN ENGINEERING

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H2M Labs, Inc. ◣ H2M Architects & Engineers, Inc.
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February 18, 2007

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

Re: Town of Oyster Bay, Bethpage Community Park IRM
Remedial Action Plan Revision – B-43 Area
H2M Project No. TOBY 04-02

Dear Mr. Scharf:

On behalf of the Town of Oyster Bay, Holzmacher, McLendon & Murrell, P.C. (H2M) provides herein a proposed revision to the New York State Department of Environmental Conservation (NYSDEC)-approved Bethpage Community Park IRM Remedial Action Plan (RAP). This revision has been prepared based on a request by the NYSDEC to revise the RAP to include additional remedial excavation in certain areas based upon the results of the Dvirka & Bartilucci (D&B) B-43 report, as referenced in the NYSDEC letter to the Town of Oyster Bay dated January 23, 2007.

H2M has reviewed the D&B B-43 Report, dated November 9, 2006, which provides a summary of investigative activities in the B-43 area that were conducted under the direction of the NYSDEC and in accordance with Northrop Grumman Corporation's (NGC) NYSDEC-approved Work Plan Addendum No. 5. It is our understanding that the B-43 area designation utilized by D&B and NGC correlates with the boring designation G-7 utilized by H2M and the Town in the IRM Site Investigation.

The NYSDEC-approved IRM RAP, as documented in H2M's Investigation Report and Remedial Action Plan, dated November 2005 (11/2005 IR/RAP), Supplemental Investigation Report, dated December 2005 (12/2005 SIR), and Addendum to the Remedial Action Plan, dated March 2006 (3/2006 Addendum), specified a remedial excavation depth of 12 feet in the B-43/G-7 area. Applying the additional soil sampling data provided in the D&B B-43 report to the RAP cleanup criteria results in a revised excavation depth. The proposed revised excavation limits in the B-43 area are depicted on the attached excavation plan, included as Figure 1. As shown, additional excavation is proposed in a hexagonal pattern around the B-43 boring to a depth of 20 feet below grade. This excavation utilizes soil boring locations and data completed by NGC to establish endpoint boundaries. Southeast of this area, an additional excavation in a triangular pattern is proposed to a total depth of 14 feet below grade. This excavation area utilizes a combination of

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NGC and H2M boring data to establish the remedial excavation limits. The previously NYSDEC approved excavation depth in both areas was 12 feet.

The proposed revision to the RAP requires the excavation of an estimated additional 900 cubic yards of contaminated soil. No endpoint sampling is proposed following the additional remedial excavation due to clean endpoint data that is available at depths below the proposed excavation depth.

If you should you have any questions regarding this submittal, please contact me at (631) 756-8000, extension 1623.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Philip J. Schade, P.E.

cc: James Byrne, P.E., Commissioner of Public Works/Town of Oyster Bay
Richard Betz, Commissioner of Parks/Town of Oyster Bay
Phyllis Barry, Public Information Officer/Town of Oyster Bay
Theodore Firetog, Esq.
Gary Litwin/NYSDOH
Peter Scully/NYSDEC
Rosalie Rusinko, Esq./NYSDEC
John Molloy, P.E./H2M
Richard Humann, P.E./H2M

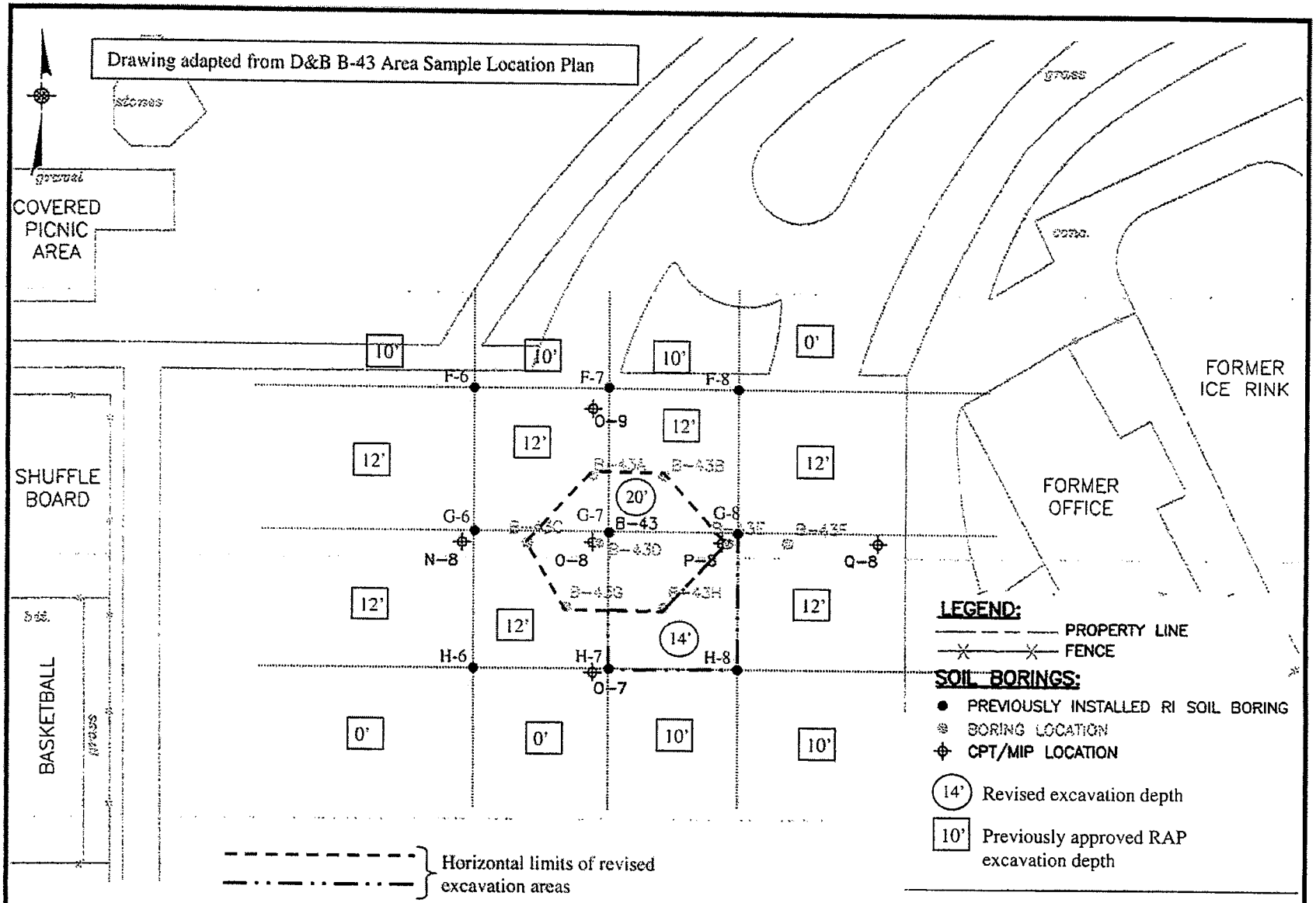

FIGURE 1. G-7/NGC B-43 AREA IRM EXCAVATION PLAN.

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ACEC MEMBER SUPPORTING EXCELLENCE IN ENGINEERING

Holzmacher, McLendon & Murrell, P.C. ◣ H2M Associates, Inc.
H2M Labs, Inc. ◣ H2M Architects & Engineers, Inc.
575 Broad Hollow Road, Melville, New York 11747
631.756.8000, Fax: 631.694.4122
www.h2m.com

March 26, 2007

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

Re: Town of Oyster Bay, Bethpage Community Park IRM
Remedial Action Plan – IRM Boundary Encroachment
H2M Project No. TOBY 04-02

Dear Mr. Scharf:

As you are aware, the Town of Oyster Bay is actively continuing with soil remediation activities at Bethpage Community Park. Based on encountered field conditions, Holzmacher, McLendon & Murrell, P.C. (H2M) on behalf of the Town of Oyster Bay requests permission from the New York State Department of Environmental Conservation (NYSDEC) to allow for nominal excavation outside the specified boundary of the IRM area, as indicated below.

Significant debris fill areas have been identified within the IRM area. One such location is adjacent to the IRM boundary in the southeastern portion of the IRM area. Significantly contaminated soils have also been identified adjacent to the western boundary of the IRM area near the baseball field and recharge basin. This area has been identified by Arcadis as Grumman's Northeast Sludge Drying Bed. The RAP's Site Operations and Excavation Plan specifies cut backs (i.e., sloping) in the open excavations for stabilization purposes. To ensure proper removal of debris and contaminated soil within the boundary of the IRM, the Town proposes to cut back the excavation area beyond the boundary of the IRM area, only as necessary, to achieve the planned RAP excavation depth in the specified areas. The excavation outside the IRM boundary area will be minimized and only expanded as necessary to achieve the open excavation cut back. Following the excavation, a demarcation barrier (i.e., polysheeting) will be placed to delineate the extent of excavation performed by the Town under the IRM consent order and permit a clear demarcation of the remediated area for any future excavation work to be performed by Northrop Grumman.

In the western portion of the IRM area near the ball field (also indicated as Contract Area 1 in the attached figure), it is estimated that 70 feet of the IRM boundary will require cut back beyond the boundary of the IRM area. This area extends from the corner of the IRM area near the ball field north towards the fencepost located at the southeast corner of the recharge basin. In the debris

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area located in the southeast corner of the IRM area (also identified as Contract Area 8 in the attached figure), it is estimated that 35 feet to the west and 70 feet to the north of the southeast IRM corner will require additional cut back.

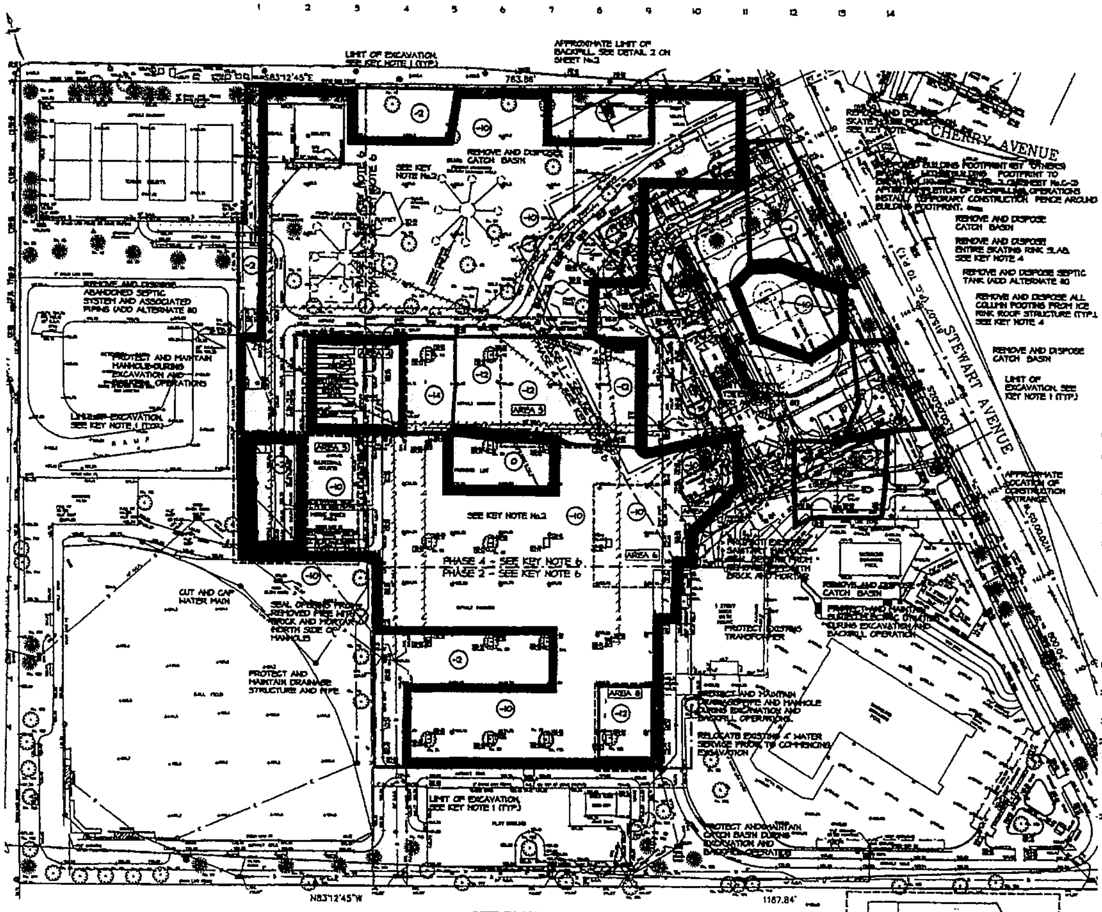
Please advise at your earliest convenience as to your approval to implement the above described excavation activity. If you should you have any questions regarding this submittal, please contact me at (631) 756-8000, extension 1623.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Philip J. Schade, P.E.

cc: James Byrne, P.E., Commissioner of Public Works/Town of Oyster Bay
Richard Betz, Commissioner of Parks/Town of Oyster Bay
Phyllis Barry, Public Information Officer/Town of Oyster Bay
Theodore Firetog, Esq.
Gary Litwin/NYSDOH
Peter Scully/NYSDEC
Rosalie Rusinko, Esq./NYSDEC
John Molloy, P.E./H2M
Richard Humann, P.E./H2M



SITE PLAN

SCALE: 1"=50'-0"

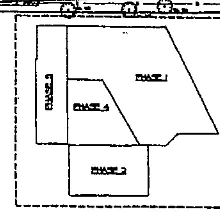
LEGEND

(solid black)	SLOPE TRANSITION AREA (SEE KEY NOTE 3 AND DETAIL ON SHEET C2)
(line)	REMOVE AND DISPOSE UTILITY
•	EXISTING SOIL BORING LOCATION
(-10)	APPROXIMATE EXCAVATION DEPTH
•	ELEVATION OF BOTTOM OF EXCAVATION AT BORING LOCATION
AREA 1	SEE KEY NOTE 5

TABLE 1

AREA	DEPTH OF SOIL TO BE SEGREGATED	WASTE CLASSIFICATION
1	-5 TO -20	TSCA REGULATED (PCB > 50 mg/kg)
2	-1 TO -5	RCRA HAZARDOUS*
3	-5 TO -7	TSCA REGULATED (PCB > 50 mg/kg)
4	-7 TO -11	RCRA HAZARDOUS*
5	-7 TO -11	TSCA REGULATED (PCB > 50 mg/kg)
6	-7 TO -10	RCRA HAZARDOUS*
7	-5 TO -9	RCRA HAZARDOUS*
8	-0 TO -12	NON-TSCA REGULATED (5 mg/kg < PCB < 50 mg/kg)*

* ANTICIPATED CLASSIFICATION



PHASING PLAN

NO SCALE

SITE PLAN NOTES

1. CONTRACTOR SHALL INSPECT PROJECT SITE PRIOR TO SUBMISSION OF BIDS AND SHALL MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
2. THE CONTRACTOR SHALL NOTIFY THE OWNER AND H2M (TELEPHONE (631) 756-8000) AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF THE WORK. THE SAME NOTICE SHALL BE REQUIRED WHEN RESUMING WORK AFTER ANY STOPPAGE OR DELAY.
3. LOCATION OF ALL UNDERGROUND UTILITIES, ELECTRIC AND TELEPHONE CONDUITS, STORM DRAINS AND UNDERGROUND PIPING SHALL BE MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF UNDERGROUND UTILITIES, GAS MAINS, ELECTRIC AND TELEPHONE CONDUITS. NO EXCAVATION SHALL COMMENCE UNTIL COMPLETE MARK-OUT HAS BEEN PERFORMED.

3A. LOCATION OF ALL UNDERGROUND UTILITIES BOTH PUBLIC AND CUSTOMER OWNED, WERE OBTAINED FROM EITHER OLD MAPS, SURVEYS, DRAWINGS AND RECORDS SUPPLIED BY OTHERS. THE OWNER AND ENGINEER DO NOT GUARANTEE OR ACCEPT RESPONSIBILITY FOR ANY DAMAGE TO SUCH FACILITIES DUE TO DISCREPANCIES IN LOCATION AND SIZE SHOWN ON THE PLANS OR THOSE UTILITIES NOT SHOWN, NOR WILL ANY COMPENSATION BE MADE TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED HIM BY ENCOUNTERING THE AFOREMENTIONED UTILITIES OR FOR THOSE UTILITIES WHICH ARE NOT SHOWN, OR ARE INCORRECTLY SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES.

4. CONTRACTOR SHALL HAND DIG TO LOCATE AND EXPOSE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES MUST BE REPAIRED IMMEDIATELY BY CONTRACTOR AT NO COST TO OWNER.
5. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL SURVEY, LAYOUT, LINES, GRADES, AS REQD. TO PROPERLY COMPLETE THE WORK. NEITHER H2M OR THE OWNER SHALL PERFORM ANY LAYOUT.
6. THE CONTRACTOR SHALL PERFORM DAILY CLEANUP OPERATIONS WHICH INCLUDE REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL, AND DRIVEWAY/ STREET CLEANING TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.
7. DURING ALL NON-WORKING HOURS, THE CONTRACTOR WILL BE REQUIRED TO STORE ALL EQUIPMENT AND MATERIALS WITHIN THE AREA DESIGNATED BY THE ENGINEER AT THE PROJECT SITE.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO REVISION.
9. WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODE REQUIREMENTS, THE CONTRACT AND SUBJECT TO THE APPROVAL OF THE ENGINEER.
10. CONTRACTOR SHALL SECURE PROJECT SITE IN ACCORDANCE WITH APPLICABLE SAFETY STANDARDS.
11. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH OWNER/ENGINEER SO AS TO MINIMIZE INTERRUPTION TO THE OWNERS OPERATIONS.
12. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF SURROUNDING AREAS DAMAGED DURING COMPLETION OF THIS PROJECT. ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO PRE-EXISTING OR SPECIFIED H2M CONDITIONS.
13. REPLACE ANY CURBS, DRIVEWAY, ETC., SCHEDULED TO REMAIN WHICH ARE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO COST TO OWNER.
14. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND ENTIRE WORK AREA. FENCE IS TO REMAIN AT COMPLETION OF WORK.
15. SURVEY FINAL EXCAVATED DEPTHS AND FINAL BACKFILLED ELEVATIONS. SUBMIT SIX (6) SIGNED AND SEALED COPIES OF BOTH SURVEYS TO THE ENGINEER. SURVEYOR IS TO BE LICENSED IN NEW YORK STATE. THESE SURVEYS WILL BE SUBMITTED TO NYSDEC AS A RECORD OF REMEDIATION.
16. DO NOT STOCK PILE ANY MATERIAL ON PAVED SURFACES TO PREVENT CONTAMINATION OF EXISTING DRAINAGE SYSTEMS.
17. PROVIDE TRUCK SCALE TO WEIGH LOADED TRUCKS DEPARTING SITE. WEIGHT OF LOAD ON TRUCK MEASURED WITH THIS SCALE WILL BE UTILIZED AS A BASIS OF PAYMENT.
18. CONTRACTOR SHALL PROVIDE A DECONTAMINATION STATION FOR DECONTAMINATION OF TRUCKS LEAVING THE SITE IN ACCORDANCE WITH SPECIFICATION SECTION 01165.
19. THE CONTRACTOR IS TO MAKE EVERY EFFORT SO AS NOT TO INTERFERE WITH LOCAL SCHOOL BUS TRAFFIC AND SCHOOL OPERATIONS.
20. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT LOCATION DESIGNATED BY OWNER. SEE DETAIL 4 ON SHEET No. C-2. RESTRICT ALL VEHICULAR ACCESS TO THIS ENTRANCE.
21. BASE MAP SOURCE SIDNEY B. BOWNE & SON LLP, PROJ. NO. 8140998, SEPT. 2004
22. THE TOWN OF OYSTER BAY POSSESSES APPROXIMATELY 60,000 CUBIC YARDS OF POTENTIAL BACKFILL MATERIAL AT THEIR PUBLIC WORKS FACILITY AT 150 MILLER PLACE SYOSSET. ADD - ALTERNATE #3 FOR THIS PROJECT WILL INCLUDE LOADING AND TRANSPORTING THIS MATERIAL TO THE PROJECT SITE, BLENDING IT WITH ACCEPTABLE FILL MATERIAL ON SITE AND PLACING THE MATERIAL AS BACKFILL. THIS STOCKPILED MATERIAL IS CURRENTLY BEING TESTED BY THE TOWN FOR SUITABILITY AS BACKFILL ON PROJECT. THE RESULTS OF THIS TESTING AND FURTHER DIRECTION WILL BE PROVIDED VIA AN ADDENDUM.
23. HORIZONTAL AND VERTICAL SURVEY CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR UPON AWARD OF THE CONTRACT. ALL CONTROL POINTS WILL BE LOCATED ON THE SITE.

KEY NOTES

1. EXCAVATE AND DISPOSE SOIL WITHIN LIMITS SHOWN. BACKFILL TO 6 INCHES BELOW ORIGINAL ELEVATIONS WITH FILL MATERIAL SPECIFIED IN SECTION 02214.
2. REMOVE AND DISPOSE ALL SURFACE FEATURES WITHIN LIMIT OF EXCAVATION AND NEW BUILDING FOOTPRINT. THIS INCLUDES BUT IS NOT LIMITED TO PAVING, CURBS, TREES, LIGHT POLES, FENCING, WALLS, BENCHES, PLAYGROUND EQUIPMENT.
3. ALL SLOPE TRANSITION AREAS ARE TO BE SLOPED AT 1H.
4. DEMOLITION AND REMOVAL OF ICE RINK ROOF STRUCTURE AND SKATE HOUSE WILL BE PERFORMED BY OTHERS. REMOVAL OF THE FOUNDATIONS AND ALL OTHER BELOW GRADE STRUCTURES WITHIN THE LIMIT OF EXCAVATION ARE TO BE INCLUDED IN THIS CONTRACT. THIS INCLUDES, BUT IS NOT LIMITED TO ON-GRADE ICE RINK SLABS, COLUMN FOOTINGS, SKATE HOUSE FOUNDATION, FOUNDATIONS, PIPE HEADER TRENCH ENCLOSURES, SLABS, UTILITIES, ETC.
5. IN AREAS DELINEATED BY THIS BORDER ALL SOIL WITHIN THE DEPTHS INDICATED IN TABLE 1 ARE TO BE STOCKPILED SEPARATELY FROM ALL OTHER EXCAVATED SOIL AND FROM EACH OTHER. EACH STOCKPILE IS TO BE TESTED INDIVIDUALLY PRIOR TO DISPOSAL.
6. COMPLETE WORK IN PHASES AS DESIGNATED. COMPLETE EACH PHASE IN ITS ENTIRETY BEFORE COMMENCING THE NEXT PHASE.

H2M GROUP

HOLZMACHER, McLENDON & MURRELL, P.C.

575 Broad Hollow Road, Melville, New York 11747

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS

MARK	DATE	DESCRIPTION

ISSUE:	
PROJECT NO:	TOBY 0402
DATE:	MAY, 2006
CAD DWG FILE:	FIGURE 5.DWG
XREF DWG FILE:	xr_EXCAVATION.dwg
SCALE:	AS SHOWN
FILE LOCATION:	
DESIGNED BY:	MRM
DRAWN BY:	DP/PB/AK
CHECKED BY:	
REVIEWED BY:	

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
BETHPAGE, NEW YORK

SOIL REMEDIATION AT BETHPAGE COMMUNITY PARK

CONTRACT

FINAL BID DOCUMENT

SHEET TITLE: SITE PLAN

SHEET NUMBER: **C-1**

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9022
Website: www.dec.state.ny.us

Alexander P. Grannis
Commissioner

April 26, 2007

Philip Schade
H2M Associates, P.C.
575Broad Hollow Road
Melville, NY 11747

Dear Mr. Schade:

RE: Bethpage Community Park, Town of Oyster Bay
IRM, Northrop Grumman Site 1-30-003A-OU 3,

H2M Group (H2M), on behalf of the Town of Oyster Bay, submitted a March 26, 2007 proposal to allow for nominal excavation outside the boundary area of the Town Interim Remedial Measure (IRM). The New York State Department of Environmental Conservation (NYSDEC) has reviewed this H2M proposal. By means of this letter, finds the H2M proposal acceptable for implementation.

Based on my April 26, 2006 conversation with Paul Lageraaen, P.E. of your staff, this cutback work is expected to begin immediately. Overall, the excavation portion of the IRM work is scheduled to be finished within the next four weeks and backfilling has already started. The goal is to have the eastern portion of the park completely filled in, paved and ready to open the pool for the 2007 summer season.

In the meantime, if you have any questions, please contact me at your earliest convenience.

Sincerely,

Steven M. Scharf

Steven M. Scharf, P.E.
Project Engineer
Remedial Bureau A

cc: J. Swartwout/S. Scharf/File (Via E-mail)
W. Parish, Region 1 (Via E-mail)
M. Russo, Town of Oyster Bay (Via E-mail)
D. Stern, ARCDAIS

H2MGROUP

APPENDIX F

COMPACT DISC (CD) WITH BACKFILL SAMPLING DOCUMENTATION AND NYSDEC APPROVALS

H2MGROUP

APPENDIX G

COMMUNITY AIR MONITORING PLAN (CAMP)

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

REMEDIAL ACTION –
COMMUNITY AIR MONITORING PLAN

NOVEMBER 1, 2006

Prepared For:

Town of Oyster Bay
Department of Public Works

H2MGROUP

HOLZMACHER, McLENDON & MURRELL, P.C.
575 Broad Hollow Road
Melville, New York 11747-5076

Engineers • Architects • Scientists • Planners • Surveyors

H2MGROUP

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

COMMUNITY AIR MONITORING PLAN

NOVEMBER 1, 2006

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TABLES

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H2MGROUP

TOWN OF OYSTER BAY
BETHPAGE COMMUNITY PARK
INTERIM REMEDIAL MEASURE - CONSTRUCTION AREA

COMMUNITY AIR MONITORING PLAN

NOVEMBER 1, 2006

1.0 OBJECTIVE

The intent and objective of environmental/ambient air monitoring during this project is to monitor air quality during soil excavation activities at Bethpage Community Park, Bethpage, New York in order to provide a measure of protection for the community from potential airborne contaminant releases as a result of remedial work activities. Air monitoring for Volatile Organic Compounds (VOCs) and particulates (particulate matter less than 10 microns in size) (PM-10) will be conducted at one fixed location and two transient locations downwind of the soil handling and excavation areas to monitor possible contaminant migration. Environmental air monitoring and observations of visible emissions during excavation activities will be performed according to methods contained in this plan.

2.0 AIR MONITORING METHODOLOGY

2.1 Air Monitoring Locations / Wind Rose Analysis

For the duration of the remedial work at Bethpage Community Park, air monitoring will be performed for VOCs and particulates. The monitoring network will comprise three (3) stations operating simultaneously. The monitoring stations will include one downwind monitoring station in a fixed position and two downwind transient stations. The location of the fixed station is based on a review of historical wind conditions. The transient monitoring stations will be moved depending on current site wind conditions and site construction activities.

In addition to the monitoring stations, an on-site weather station will be utilized in an upwind location to record weather conditions including wind speed, wind direction and

ambient air temperature. All monitoring stations and the weather station will continuously collect data and log one and 15-minute averages through remote telemetry to a central computing station.

An analysis of historical wind data was performed to identify the prevailing wind direction that is likely to be expected during the site remedial work at Bethpage Community Park. Climatic wind data for the United States, as compiled by the National Climatic Data Center (NCDC, http://www.ncdc.noaa.gov), was reviewed. The climatic wind data is reported by the NCDC for the period 1930 through 1996 for many cities across the United States and is summarized on a monthly basis. Prevailing wind direction, mean wind speed and peak gusts are provided. Climatic data recorded at Long Island's MacArthur Airport in Islip, NY was used to evaluate anticipated wind conditions at Bethpage Community Park. Climatic data for Long Island was also available for LaGuardia and John F. Kennedy (JFK) Airports. However, the climatic data from Islip was deemed to be more pertinent to Bethpage Community Park considering the geographical similarities between Bethpage and Islip. Bethpage and Islip are both situated more geographically central to Long Island and are less influenced by shore wind conditions. LaGuardia is situated on the northern shore of Long Island whereas JFK is situated on the south shore.

A copy of the NCDC Climatic Wind Data for the United States in tabular form is provided in Appendix A. A wind rose analysis summarizing the most recent ten-year period, based on the NCDC data, is also provided in Appendix A. A summary of the climatic data for Islip is provided in Table 2.1.1.

Table 2.1.1. Climatic Wind Data for Islip for the Period 1930-1996.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wind Speed	10	10	11	11	9	9	8	8	8	9	10	10
Prevailing Wind Direction	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	SW	SW	SW

* Data Provided by the National Climatic Data Center, Asheville, NC (http://www.ncdc.noaa.gov).

In Table 2.1.1., prevailing wind direction indicates the direction from which the wind is blowing. As shown, the prevailing wind direction at Bethpage Community Park is anticipated to varying depending on the month of the year. Based on this historical climatic data, the fixed air monitoring location will be moved on a monthly basis during the remedial project. For example, during the months of November and December, the air monitoring station will be positioned to the Northeast (NE) of the ongoing remedial excavation at the property boundary based on a prevailing wind direction from the Southwest. Likewise, for January through June, the fixed air monitoring station will be positioned East Southeast (ESE) of the ongoing remedial excavation at the property boundary based on a prevailing wind direction from the West Northwest.

2.2 Daily Monitoring Guidelines

Air monitoring will be performed continually at the site for the duration of the remediation project whenever site activity involves ground intrusive activity, which as outlined in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (attached as Appendix A), is defined to include, but not limited to soil/waste excavation and handling, trenching or test pits and the installation of soil borings or monitoring wells. Monitoring at additional times may be conducted if deemed appropriate given the site conditions. For the remedial project at Bethpage Community Park, intrusive activity shall include site clearing (i.e., overburden removal), soil excavation, soil handling or any activity with the potential to emit VOCs or PM-10. During non-operational hours, air monitoring will not be performed. However, any

excavated or stockpiled soils during these hours will be covered with poly sheeting to minimize or prevent VOC or dust generation. Operational hours were site activity may occur are anticipated to be between 7:00 AM and 7:30 PM.

Prior to each days work, the anticipated daily site activity will be evaluated to identify areas of high emission potential, i.e., areas of excavation, soil handling, etc. In addition, a daily wind direction evaluation will be made to identify the current wind direction. This will be accomplished by use of the on-site weather station. The daily weather forecast for Bethpage provided by the National Weather Service (www.erh.noaa.gov) will also be checked. Once wind direction and areas of high emission potential have been established, the two transient monitoring stations will be positioned and the collection of real-time readings for VOCs and particulates will be initiated. Site work will commence only after air monitoring has been initiated at all monitoring stations.

Once excavation work begins, the work areas will be visually evaluated for dust emissions and suppression measures being applied by the excavation contractor. Site observations and notes regarding the daily air monitoring program will be documented on preprinted log sheets. This is in addition to the computerized regular data logging of VOC and particulate levels.

Periodically throughout the day, the location of excavation work or the general wind direction may change, as recorded by the on-site weather station. Accordingly, the location of the transient air monitoring stations will be adjusted to compensate for the change in location of site activity or when a consistent change of approximately 15 to 30 minutes duration is noted in the daily wind direction. The transient monitoring stations will be positioned downwind of the site activity within approximately 10 feet of the property boundary. If the daily wind direction corresponds with the prevailing wind direction determined by the wind rose analysis, the transient monitoring stations will be adjusted to be closer to the site activity rather than have multiple monitoring stations in close proximity to one another.

2.3 Air Sampling Equipment and Calibration

Air Monitoring for VOCs and particulates will be performed to provide sufficient coverage of intrusive activities that have the potential to emit volatile organics or dust. As identified in Section 2.1., the monitoring network will comprise three (3) stations operating simultaneously. The monitoring stations will include one downwind monitoring station in a fixed position and two downwind transient stations near the property boundary. Each monitoring station will comprise real-time air monitoring instruments. The specific air monitoring equipment is summarized in Table 2.3.1.

Table 2.3.1. Air Monitoring Equipment

Analyte	Sampling Equipment	Duration	Comments
VOCs	MiniRAE 2000 PID	Continuously during site activity	Real Time Analysis
Particulates/Dust (PM-10)	TSI DustTRAK Aerosol Monitor	Continuously during site activity	Real Time Analysis

As shown in Table 2.3.1, each air monitoring station will include a MiniRAE 2000 PhotoIonization Detector (PID) and TSI DustTRAK Aerosol Monitor for particulates. A separate upwind monitoring station will include a Davis Vantage Pro2 Weather Station to record wind speed, wind direction, rainfall, temperature and humidity. All monitoring instruments will be connected with radiofrequency (RF) transmitters (Campbell Scientific CR206). An RF receiver will be located in the on-site field office trailer connected with a computer running Campbell Scientific LoggerNet 3.3 software for datalogging. The data collected for VOCs and particulates will include a one-minute running average to evaluate immediate emission conditions and 15-minute running averages for comparison to appropriate action levels.

Data for VOC and particulate concentrations recorded at the monitoring stations will be continuously transmitted to the on-site computer and saved electronically. Input from the

monitoring stations will also be viewed as a real-time graphical depiction on a computer screen within the site office trailer. Visual alarms will be programmed into the datalogging software to provide an alert when minimum thresholds for VOCs or particulates concentrations are encountered. Action levels and response actions are discussed in Section 3.1. Monitoring the one-minute averages along with the 15-minutes averages will enable a quick response to implement or increase dust suppression actions to minimize the likelihood for a 15-minutes average excursion for dust.

To ensure quality measurements from the monitoring instruments, a regular calibration schedule will be maintained in accordance with the manufacturer's recommendations for the MiniRAE 2000 PID and TSI DustTRAK. A summary of the calibration schedule and requirements is provided in Table 2.3.2.

Table 2.3.2. Air Monitoring Equipment Calibration Schedule

Sampling Equipment	Calibration Requirements
MiniRAE 2000 PID	Factory Service: Once per year. General Calibration (zero air and calibration gas): Once per day or more, as needed. 10.6 eV Lamp: Clean once every three months for normal use or monthly for heavy use. PID Sensor: Clean sensor pins when cleaning lamp or if inaccurate readings after calibration. Sampling Pump: Factory calibration/cleaning once per year.
TSI DustTRAK Aerosol Monitor	Factory Service: Once per year. General Calibration (zero air): Once per day or more, as needed. Replace Internal Filters: Once per 700 hours at 1,000 $\mu g/m^3$ concentration. Clean Nozzle: Once per 350 hours at 1,000 $\mu g/m^3$ concentration. Check Flow Rate (1.7 L/min): Once per month. Sampling Pump: Factory calibration and cleaning once every two years.

3.0 AIR MONITORING DATA EVALUATION

3.1 Air Quality Action Levels and Responses

Action levels for VOC concentrations will be based on the NYSDOH Generic Community Air Monitoring Plan. The initial threshold for VOC action is 5 parts per million (ppm). If the ambient air concentration of total VOCs at the downwind monitoring location exceeds

5 ppm for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases below 5 ppm, work activities can resume with continued monitoring.

If total VOC levels at the downwind monitoring location persist at levels in excess of 5 ppm but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After this, work activities can resume provided that the total VOC concentration downwind of work area is below 5 ppm for the 15-minute average. If the VOC level is above 25 ppm at the downwind monitoring location, activities will be shut down.

If the 15-minute average VOC concentration is recorded above the initial threshold of 5 ppm and persists above this threshold for greater than 15 consecutive minutes, then contaminant specific monitoring will be performed as soon as possible. Air sampling equipment will be maintained on-site during the course of the project. A vacuum "summa" canister sample will be collected in accordance with EPA Method TO-15 over an extended period (i.e., up to 8 hours) at the downwind property boundary monitoring location. This sample will be analyzed for the target compound list of volatile organics.

Particulate (PM-10) concentrations will also be compared to Action levels and responded to, as outlined in the (NYSDOH) Generic Community Air Monitoring Plan. The initial threshold for particulate/dust action is 100 micrograms per cubic meter (ug/m^3). If the downwind particulate level is 100 ug/m^3 for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed in accordance with the Dust Control Plan prepared for this project. Work may continue with dust suppression techniques provided that downwind particulate levels do not exceed 150 ug/m^3 and provided that no visible dust is migrating form the work area.

If dust suppression techniques have been employed and downwind particulate levels are greater than 150 ug/m^3, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are

successful in reducing the downwind particulate concentration to less than 150 ug/m^3 and in preventing visible dust migration.

All daily written logs, and one and 15-minute averages that are to be electronically datalogged will be maintained for review by New York State Department of Environmental Conservation (NYSDEC) and NYSDOH personnel.

3.2 Notification

The NYSDEC will be promptly notified prior to any modification of the CAMP and of any corrective actions required for CAMP compliance, and VOC and particulate monitoring. The NYSDEC will also be notified if contaminant-specific monitoring is performed in response to an exceedence of the VOC threshold identified above.

3.3 Quality Assurance

All data from the monitoring equipment including one and 15-minutes averages of VOC and particulate concentrations will be downloaded and saved on a minimum daily basis. Electronic files will be maintained on-site and copies will be transferred to H2M's computer server through the internet. Hand written daily logs will also be completed on preprinted log forms documenting the field calibration of each unit, the background conditions at the start of each day (i.e., temperature, wind direction, precipitation), and positioning of the monitoring stations. Should an instrumentation failure occur, the equipment will be repaired or replacement equipment will be procured as soon as possible. Rental equipment may be used in the interim until a permanent fix can be implemented. If a failure occurs in the automated datalogging system, VOC and particulate concentrations will be manually recorded from each monitoring station on preprinted log forms. A full-time environmental professional will be on-site during all air monitoring operational hours to ensure compliance with the CAMP.

To ensure quality measurements from the VOC and dust monitoring equipment, a regular calibration schedule will be maintained, as discussed in Section 2.3. The TSI DustTRAK

particulate monitors used as part of this air monitoring program are laser photometers that provide effective, real-time mass measurements. Photometers are precision instruments that use light-scattering technology and respond linearly to mass concentrations across their detection range, which is typically 0.001 to 100 mg/m^3. Photometers provide a real-time measurement of the particulate mass concentration in air. This is especially important during an active remedial project so that immediate response actions can be implemented when elevated dust or particulate concentrations are detected.

For quality assurance purposes, confirmation measurements of particulates (PM-10) will be made on a weekly basis utilizing a gravimetric technique. In this manner, a filter sample will be collected using a sampling pump in immediate proximity to the fixed monitoring station and analyzed in accordance with NIOSH Method 0500. The filter sampling results will be compared and correlated with the air monitoring results from the real-time particulate monitor.

H2MGROUP

APPENDIX A

NATIONAL CLIMATIC DATA CENTER (NCDC) –
CLIMATIC WIND DATA FOR THE UNITED STATES AND WIND ROSE

NATIONAL CLIMATIC DATA CENTER
151 PATTON AVENUE ROOM 120
ASHEVILLE, NC 28801-5001
(NCDC)
PHONE : (828) 271-4800 INTERNET : orders@ncdc.noaa.gov
FACSIMILE : (828) 271-4876 WEB site : http://www.ncdc.noaa.gov

November 1998

CLIMATIC WIND DATA FOR THE UNITED STATES

The climatic wind data contained in this summary was extracted from the NCDC's Local Climatological Data publication, Navy & Air Force climatic briefs, and other sources. Locations are not all inclusive and wind data may be available for sites not listed in this summary. The total period of this summary is 1930-1996. The period of record (POR) for which wind data is summarized varies for individual sites and may begin and end at any time during the 1930-1996 period. All available wind data is provided regardless of POR or source. Updated data for many sites can be obtained from post 1996 Local Climatological Data annual publications.
In the table, prevailing wind directions (DIR) are given in compass points; mean wind speeds (SPD) and peak gust (PGU) are in miles per hour (mph). When peak gust (PGU) wind velocities are not available, fastest-mile or 5-second winds may be substituted. This will be indicated by a $ for fastest-mile and # for 5-second winds preceding PGU (ie: $PGU = fastest-mile winds). Wind types may be combined to reflect the highest reported wind. When appropriate wind data is not available, an N/A will appear in lieu of data.
Conversion tables of miles per hour to knots and compass points to degrees are provided at the end of this wind table.

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		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA														
Birmingham	DIR	N	N	N	N	N	N	N	N	N	S	S	S	N
	SPD	8	9	9	9	7	6	6	6	7	6	7	8	7
	$PGU	49	59	65	56	65	56	57	50	50	43	52	41	65
Huntsville	DIR	ESE	ESE	ESE	N	N	N	ESE	ESE	ESE	S	S	S	ESE
	SPD	9	10	10	9	8	7	6	6	7	7	8	9	8
	#PGU	43	43	40	48	45	56	64	45	46	55	43	48	64
Mobile	DIR	N	N	N	N	SE	SE	SE	SE	S	S	S	S	S
	SPD	10	11	11	10	9	6	7	7	8	8	9	10	9
	#PGU	45	61	55	46	62	60	64	53	60	59	48	43	64
Montgomery	DIR	NW	NW	NW	NW	NW	NW	S	S	S	S	S	S	WNW
	SPD	8	8	8	7	6	6	6	5	6	6	7	7	7
	PGU	43	66	54	60	60	60	55	59	41	73	56	48	73
Ozark/	DIR	NW	N	S	S	S	W	W	E	ENE	E	NNW	NW	E
Ft Rucker	SPD	6	6	7	6	5	3	3	3	3	5	5	6	5
	PGU	46	64	74	61	71	60	58	60	82	48	52	44	82
ALASKA														
Anchorage	DIR	N	N	N	S	SSE	SSE	SSE	SSE	SSE	N	N	N	N
	SPD	6	7	7	7	8	8	7	7	7	7	7	6	7
	PGU	64	61	75	44	43	46	40	44	48	55	55	55	75
Barrow	DIR	ENE	ENE	ENE	ENE	ENE	E	E	E	ENE	ENE	ENE	ENE	ENE
	SPD	12	11	11	12	12	12	12	12	13	13	12	12	12
	PGU	58	74	56	47	41	43	55	47	66	54	53	61	74
Cold Bay	DIR	SSE	SE	SE	NNW	SSE	SSE	SSE	SSE	SSE	NNW	NNW	SSE	SSE
	SPD	18	18	17	17	16	16	16	16	17	17	18	18	17
	PGU	85	83	76	85	72	69	58	81	95	87	75	85	95

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Fairbanks	DIR	N	N	N	N	N	SW	SW	SW	N	N	N	N	N
	SPD	3	4	5	6	8	7	7	6	6	5	4	3	5
	PGU	47	49	46	40	44	48	63	54	51	40	46	38	63
Juneau	DIR	ESE	ESE	ESE	ESE	ESE	ESE	E	E	ESE	ESE	ESE	ESE	ESE
	SPD	8	8	8	9	8	8	8	8	8	9	9	9	8
	PGU	40	44	40	40	40	32	32	38	120	49	58	55	120
Kodiak	DIR	NW	NW	NW	NW	NW	E	ENE	NW	NW	NW	WNW	WNW	NW
	SPD	13	13	12	12	10	9	8	8	10	12	13	13	11
	PGU	75	83	82	67	59	52	52	67	78	70	82	83	83
Nome	DIR	E	NE	E	N	N	WSW	WSW	SW	N	N	N	E	N
	SPD	11	11	10	10	10	10	10	10	11	11	12	10	11
	PGU	59	66	59	52	46	35	39	56	52	59	59	53	66
ARIZONA														
Flagstaff	DIR	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW
	SPD	6	6	6	7	7	6	5	4	5	5	6	6	6
	#PGU	45	34	49	41	41	44	36	36	34	36	33	40	49
Phoenix	DIR	E	E	E	E	E	E	E	E	W	W	W	W	E
	SPD	5	6	7	7	7	7	7	7	6	6	5	5	6
	#PGU	39	29	38	46	36	33	52	46	43	40	34	32	52
Tucson	DIR	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	SE	SE	SE	SE
	SPD	8	8	8	9	9	9	8	8	8	8	8	8	8
	PGU	55	48	53	55	55	47	66	76	71	49	46	47	76
Winslow	DIR	SE	SE	WSW	SW	SW	SW	WSW	SW	SW	SE	SE	SE	SE
	SPD	7	9	11	11	11	11	9	8	8	8	7	7	9
	PGU	56	63	58	56	53	52	59	43	40	49	46	52	63
Yuma	DIR	N	N	WNW	W	WNW	SSE	SSE	SSE	SSE	N	N	N	N
	SPD	7	7	8	8	8	9	10	9	7	7	7	7	8
	$PGU	41	50	43	47	38	42	61	60	57	47	47	47	61
ARKANSAS														
Blytheville	DIR	N	N	S	S	S	S	S	S	N	N	S	N	S
	SPD	9	9	9	9	7	7	5	6	6	6	8	8	7
	PGU	58	68	87	82	61	61	58	48	54	46	60	76	87
Fort Smith	DIR	E	E	E	E	E	E	E	E	E	E	E	E	E
	SPD	8	9	10	9	8	7	6	6	7	7	8	8	8
	#PGU	51	41	40	53	52	67	51	33	49	47	41	56	67
Little Rock	DIR	WSW	WSW	S	S	S	SW	SW	S	NE	S	S	WSW	S
	SPD	8	9	9	9	8	7	7	6	7	7	8	8	8
	$PGU	44	57	56	65	61	60	56	54	50	58	49	48	65
N. Little Rock	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	$PGU	25	25	28	30	30	21	30	28	24	24	27	25	30
CALIFORNIA														
Alameda NAS	DIR	NNW	W	W	W	W	W	W	W	W	W	W	NNW	W
	SPD	7	7	8	9	9	9	9	9	8	7	6	6	8
	PGU	69	68	58	53	53	49	40	40	48	63	70	71	71

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Barstow/ Daggett/San Bernardino	DIR	W	W	W	W	W	W	W	W	W	W	W	W	W
	SPD	8	9	13	14	14	14	13	12	10	10	9	8	10
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bakersfield	DIR	ESE	ESE	ESE	ESE	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW
	SPD	5	6	7	7	8	8	7	7	6	6	5	5	6
	PGU	35	44	38	40	40	41	25	30	35	38	35	46	46
Bishop	DIR	N	N	N	N	N	N	N	N	N	N	S	S	N
	SPD	8	8	10	11	9	9	8	8	8	9	8	7	9
	PGU	60	63	58	62	62	54	60	70	47	52	66	68	70
Camp Pendleton MCAS	DIR	W	W	W	W	SSW	WSW	SSW	WSW	WSW	W	W	WSW	W
	SPD	5	5	6	7	7	7	7	6	6	5	5	5	6
	PGU	46	45	43	51	32	26	23	30	33	35	40	46	51
China Lake NAS	DIR	SW	S	SSW	SSW	W	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW
	SPD	5	6	7	8	8	7	7	6	6	5	5	3	6
	PGU	77	79	81	74	82	68	60	58	69	68	71	71	82
Edwards AFB	DIR	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	5	6	8	9	10	9	9	8	7	6	6	5	7
	PGU	60	67	74	60	62	59	59	61	75	75	55	57	75
Eureka	DIR	SE	SE	N	N	N	N	N	NW	N	N	SE	SE	N
	SPD	7	7	8	8	8	7	7	6	6	6	6	6	7
	PGU	70	60	72	53	60	51	45	45	49	52	62	62	72
Fairfield/ Travis AFB	DIR	N	N	WSW	WSW	WSW	SW	SW	WSW	SW	SW	N	N	SW
	SPD	6	7	7	8	12	14	14	14	10	7	6	6	9
	PGU	69	75	67	61	53	54	53	52	54	59	62	62	75
Fresno	DIR	ESE	ESE	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	ESE	WNW
	SPD	5	6	7	7	8	8	7	7	6	5	5	5	6
	PGU	43	40	49	46	43	40	28	28	29	39	54	45	54
Long Beach	DIR	WNW	WNW	W	S	S	S	S	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	6	6	7	7	7	7	7	7	6	6	6	5	6
	PGU	43	40	49	46	43	40	28	28	29	38	54	45	44
Los Angeles IAP	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW
	SPD	7	7	8	9	8	8	8	8	7	7	7	7	8
	PGU	51	57	62	59	49	40	31	33	39	46	60	49	62
Los Angeles City Office	DIR	NE	W	W	W	W	W	W	W	W	W	W	NE	W
	SPD	7	7	7	7	6	6	5	5	5	6	6	7	6
	$PGU	49	40	47	40	39	32	21	24	27	48	42	44	49
Marysville/ Beal AFB	DIR	SSE	SSE	SSE	SSE	SSE	S	S	S	S	NNW	SSE	NNW	SSE
	SPD	5	5	6	6	6	6	5	5	5	3	5	5	5
	PGU	59	62	51	53	43	44	38	35	48	53	64	67	67
Monterey/ Fort Ord	DIR	SE	SW	W	W	W	W	W	W	W	W	SW	SE	W
	SPD	5	5	7	8	9	8	8	7	6	6	5	5	7
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mountain View/ Moffett NAS	DIR	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
	SPD	5	5	6	6	7	7	7	7	5	5	5	3	6
	PGU	64	64	51	49	44	46	38	39	38	55	53	62	64
Palmdale	DIR	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	8	9	12	13	13	13	12	10	9	8	8	8	10
	PGU	46	63	46	46	46	46	46	46	38	46	46	46	63

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Pt. Mugu NAS	DIR	NE	W	W	W	W	W	W	W	W	W	W	NE	W
	SPD	6	6	6	6	6	5	5	5	5	5	5	6	6
	PGU	70	56	54	58	51	40	38	29	46	49	64	67	70
Red Bluff	DIR	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	NW	NW	NW	SSE
	SPD	9	9	10	10	9	9	8	8	8	8	8	8	9
	PGU	47	55	60	47	45	41	39	35	43	48	54	49	60
Redding	DIR	N	N	N	N	S	S	S	S	S	S	NNW	NNW	N
	SPD	7	7	8	7	8	8	7	7	6	7	6	7	7
	PGU	70	64	74	47	54	60	36	46	44	66	58	85	85
Riverside/	DIR	NNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NNW	NNW
March AFB	SPD	3	3	3	5	5	5	5	5	3	3	3	3	3
	PGU	53	52	55	46	44	45	49	41	45	47	51	56	56
Sacramento	DIR	SE	SE	SE	SE	SE	SE	SE	SE	SE	SW	SW	SW	SE
	SPD	7	8	9	9	9	10	9	9	8	7	6	7	8
	$PGU	60	51	66	45	74	47	36	38	42	68	70	70	74
San Diego	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	6	7	8	8	8	8	8	7	7	7	6	6	7
	PGU	64	46	44	40	40	35	30	29	35	32	37	44	64
San Clemente	DIR	WNW	WNW	WNW	W	W	W	W	W	W	W	W	W	W
	SPD	7	7	9	8	8	8	7	7	7	7	7	6	7
	PGU	47	53	51	52	49	36	32	32	33	47	46	53	53
San	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
Francisco AP	SPD	8	9	11	13	14	14	14	13	12	10	8	8	11
	PGU	61	69	64	54	58	51	52	45	44	58	60	74	74
San Nicholas	DIR	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	9	10	13	13	12	12	10	10	9	9	9	8	10
	PGU	60	74	62	64	64	60	52	47	54	58	60	63	74
Santa Ana/	DIR	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW
El Toro	SPD	3	5	5	5	5	5	5	3	3	3	3	3	3
MCAS	PGU	66	61	48	52	46	33	31	36	46	46	63	68	68
Santa	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barbara	SPD	5	6	7	8	7	7	7	6	6	6	5	5	6
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Santa Maria	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	W	WNW	WNW	WNW
	SPD	6	7	8	9	9	8	7	6	6	6	6	6	7
	PGU	54	58	53	47	45	45	41	35	38	37	38	52	58
Stockton	DIR	SE	SE	WNW	WNW	W	W	WNW	WNW	WNW	WNW	SE	SE	WNW
	SPD	7	6	8	8	9	9	8	8	7	6	6	6	7
	PGU	46	40	39	35	35	35	29	30	33	37	40	44	46
COLORADO														
Alamosa	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	5	7	8	9	9	9	7	6	6	6	6	5	7
	#PGU	49	46	52	61	57	49	57	44	43	48	55	45	61
Colorado	DIR	N	N	N	N	N	N	N	N	N	N	N	N	N
Springs	SPD	10	10	11	12	11	10	9	9	9	10	10	10	10
	#PGU	55	53	47	68	49	53	57	55	55	70	57	59	70

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Denver	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	10	10	11	10	10	9	9	9	10	9	10	10
	PGU	55	52	59	62	60	60	55	52	56	51	49	51	62
Grand Junction	DIR	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE
	SPD	6	7	8	9	10	10	9	9	9	8	7	6	8
	PGU	41	59	53	78	62	74	64	74	64	57	49	45	78
Pueblo	DIR	W	W	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE
	SPD	7	8	10	11	10	9	9	8	8	7	7	8	8
	#PGU	53	48	56	55	49	54	60	52	48	55	44	49	60
CONNECTICUT														
Bridgeport	DIR	W	W	NW	NW	NW	NW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	13	13	13	13	11	10	10	10	11	12	12	12	12
	PGU	61	61	69	63	51	48	59	68	49	56	61	64	69
Hartford	DIR	NW	NW	NW	NW	NW	NW	N	N	N	S	S	S	NW
	SPD	9	10	10	10	9	8	7	7	7	8	9	9	9
	PGU	58	63	62	60	51	53	89	55	66	72	64	55	89
DELAWARE														
Dover AFB	DIR	WNW	NNW	NNW	WNW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NNW	SSW
	SPD	8	8	9	8	7	6	6	5	6	6	7	8	7
	PGU	68	79	85	59	62	67	71	60	69	59	59	70	85
Wilmington	DIR	WNW	NW	WNW	WNW	WNW	S	S	S	WNW	NW	NW	WNW	WNW
	SPD	10	10	11	11	9	8	7	7	8	8	9	9	9
	#PGU	49	54	56	53	51	31	55	38	38	41	47	40	56
DISTRICT OF COLUMBIA														
Washington National AP	DIR	NNW	NW	NNW	S	S	S	S	S	S	S	S	NW	S
	SPD	10	11	11	11	10	9	9	8	9	9	10	10	10
	PGU	51	49	55	48	60	59	63	53	54	58	59	56	63
Washington Dulles IAP	DIR	NW	NW	NW	NW	NW	NW	NW	NW	S	S	S	S	NW
	SPD	8	9	9	9	7	7	6	6	6	7	8	8	7
	PGU	52	53	58	48	59	78	56	46	43	44	56	56	78
FLORIDA														
Apalachicola	DIR	N	N	SE	SE	SE	SW	W	SW	NE	NE	N	N	N
	SPD	8	9	9	9	8	7	6	6	8	8	8	8	8
	PGU	41	49	41	43	61	38	41	68	68	44	85	47	85
Daytona Bch	DIR	N	N	ESE	ESE	ESE	E	ESE	ESE	ENE	ENE	NW	WNW	ESE
	SPD	9	10	10	10	9	8	7	7	8	9	9	9	9
	PGU	52	58	77	49	69	67	67	68	48	56	47	43	77
Cocoa Beach/ Patrick AFB	DIR	NNW	N	SE	E	E	E	E	E	E	E	N	NNW	E
	SPD	8	9	9	9	8	7	6	6	7	9	8	8	8
	PGU	52	58	48	52	62	97	69	69	74	74	68	49	97
Fort Myers	DIR	E	E	SW	E	E	E	ESE	E	E	NE	NE	NE	E
	SPD	8	9	9	9	8	7	7	7	7	8	8	8	8
	PGU	40	39	46	39	40	46	45	44	92	45	31	35	92
Gainesville	DIR	WNW	WNW	W	W	W	W	W	W	ESE	ESE	E	E	W
	SPD	7	8	8	8	7	6	6	6	6	7	7	6	7
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Jacksonville	DIR	WNW	NW	WSW	ESE	SE	WSW	SW	SW	ENE	NE	NE	NW	WSW
	SPD	8	9	9	9	8	8	7	7	8	8	8	8	8
	PGU	55	62	66	67	56	58	69	61	55	47	46	45	69
Key West	DIR	NE	NE	NE	NE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE
	SPD	12	12	12	12	11	10	10	9	10	11	12	12	11
	PGU	58	52	75	63	52	51	51	56	58	67	69	48	75
Miami	DIR	NNW	NNW	ESE	ESE	ESE	ESE	ESE	ESE	E	ENE	E	NNW	ESE
	SPD	10	10	11	11	10	8	8	8	8	9	10	9	9
	PGU	45	61	59	55	46	58	56	115	62	47	49	46	115
Orlando	DIR	N	N	N	N	N	N	N	N	S	S	S	S	N
	SPD	8	9	9	9	8	7	6	6	7	8	8	8	8
	PGU	48	51	62	53	68	62	74	62	56	40	41	43	74
Panama City/	DIR	N	N	SSE	S	S	WSW	WSW	E	ENE	N	N	N	N
Tyndall AFB	SPD	7	7	8	7	6	6	6	5	6	6	6	7	6
	PGU	54	60	59	63	60	69	64	78	79	49	69	53	79
Pensacola	DIR	N	N	N	N	N	N	ESE	ESE	ESE	SE	SE	SE	N
NAS	SPD	10	11	11	12	10	10	8	7	9	9	9	10	10
	PGU	35	35	35	35	32	32	35	35	53	35	35	34	53
Tallahassee	DIR	N	N	S	S	S	N	S	N	ENE	N	N	N	N
	SPD	7	7	8	7	6	5	5	5	6	6	6	6	6
	PGU	44	51	53	48	41	76	67	64	83	58	68	36	83
Tampa	DIR	ENE	ENE	ENE	ENE	E	E	E	E	E	E	W	W	E
	SPD	9	9	10	9	9	8	7	7	8	8	8	8	8
	PGU	44	46	58	49	51	61	60	48	45	53	60	37	61
Vero Beach	DIR	N	N	ESE	SE	ESE	ESE	ESE	ESE	ENE	ENE	ESE	NW	ESE
	SPD	9	9	10	10	9	8	7	7	7	9	9	8	8
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W. Palm Bch	DIR	NW	NW	NW	NW	SE	SE	SE	SE	ESE	ESE	ESE	ESE	ESE
	SPD	10	11	11	11	10	8	8	8	9	10	11	10	10
	#PGU	46	40	43	38	39	53	32	41	52	45	46	48	53
GEORGIA														
Albany NAS	DIR	NW	NW	SSW	SSW	SSW	SW	SSW	ENE	ENE	NE	NE	NW	ENE
	SPD	7	8	8	7	6	6	6	5	6	6	6	6	6
	PGU	54	55	64	89	62	61	55	72	44	49	56	45	89
Athens	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WSW	WSW	WSW	WSW	WNW
	SPD	8	9	9	8	7	7	6	6	7	7	8	8	7
	PGU	55	54	83	60	52	58	78	56	55	47	59	45	83
Atlanta	DIR	NW	NW	NW	WNW	NW	W	W	E	E	E	NW	NW	NW
	SPD	10	11	11	10	9	8	8	7	8	9	9	10	9
	PGU	55	68	61	61	72	60	77	63	45	56	56	47	77
Augusta	DIR	W	WNW	WNW	S	SE	SE	WSW	SE	NE	NNW	WNW	WNW	WSW
	SPD	7	8	8	7	6	6	6	5	5	6	6	6	6
	#PGU	44	43	48	43	52	49	45	33	38	52	49	40	52
Brunswick/	DIR	WNW	W	W	SSE	SSE	SSE	SSW	SSE	NE	NNE	NNE	NNE	SW
Glynco NAS	SPD	7	8	8	7	7	7	6	6	6	6	6	6	7
	PGU	48	48	56	64	61	49	62	64	61	45	60	41	64

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Columbus	DIR	ENE	ENE	NW	NW	WNW	WNW	S	S	E	E	ENE	ENE	ENE
	SPD	7	8	8	7	7	6	6	6	6	7	7	7	7
	#PGU	53	37	44	40	46	62	39	40	38	52	40	33	62
Macon	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WSW	ENE	ENE	ENE	WNW	WNW	WNW
	SPD	8	9	9	9	7	7	7	7	6	7	7	7	8
	#PGU	46	44	43	72	64	36	41	51	39	45	54	33	72
Savannah	DIR	W	W	WNW	WNW	S	S	S	S	S	S	SW	SW	W
	SPD	9	9	9	9	8	8	7	7	7	8	8	8	8
	PGU	51	49	68	53	68	66	63	58	54	61	62	48	68
Valdosta/	DIR	WNW	NNW	SSW	WSW	E	WSW	SSW	WSW	NNE	NNE	ENE	NNE	ENE
Moody AFB	SPD	5	6	6	5	5	3	3	3	3	5	5	5	5
	PGU	51	56	55	60	59	75	51	55	53	51	63	45	75
HAWAII														
Barbers PT	DIR	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
NAS	SPD	9	9	10	10	9	9	10	9	9	9	9	9	9
	PGU	69	59	59	45	44	45	43	52	48	41	70	52	70
Kaneohe Bay	DIR	E	E	E	E	E	E	ENE	ENE	E	E	E	E	E
MCAS	SPD	8	9	12	10	10	10	10	10	9	9	9	8	9
	PGU	96	75	59	60	47	41	46	53	40	54	92	64	96
Hilo	DIR	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW
	SPD	8	8	8	8	8	7	7	7	7	7	7	7	7
	PGU	47	55	40	40	41	32	36	36	37	33	36	45	55
Honolulu	DIR	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
	SPD	10	10	11	12	12	13	13	13	11	11	11	10	11
	PGU	41	46	51	41	39	35	40	36	49	35	40	46	51
Kahului	DIR	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
	SPD	13	14	14	15	17	17	18	17	16	13	14	13	15
	PGU	54	46	52	49	44	47	46	45	44	46	51	54	54
Lihue	DIR	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
	SPD	11	12	13	13	13	13	14	13	12	12	12	12	12
	PGU	66	59	54	47	40	39	41	38	115	40	51	53	115
Pearl Harbor/	DIR	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE
Hickam AFB	SPD	9	10	12	13	12	13	14	13	12	12	10	10	12
	PGU	52	53	49	47	40	43	51	41	38	40	81	49	81
Wahiawa/	DIR	NW	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Wheeler AFB	SPD	7	7	8	7	8	8	8	8	7	7	6	7	7
	PGU	46	38	46	31	31	31	38	38	31	31	31	31	46
IDAHO														
Boise	DIR	ESE	ESE	ESE	ESE	ESE	ESE	NW	NW	NW	NW	NW	NW	ESE
	SPD	8	9	10	10	9	9	8	8	8	8	8	8	9
	PGU	59	45	53	58	49	54	71	54	49	47	54	47	71
Lewiston	DIR	S	E	E	WNW	WNW	WNW	WNW	WNW	WNW	E	E	S	WNW
	SPD	6	7	6	7	6	6	6	5	5	5	6	6	6
	PGU	72	64	60	58	54	54	59	51	59	59	59	63	72
Pocatello	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	10	11	11	12	11	10	9	9	9	10	11	10	10
	PGU	68	60	64	66	61	70	66	68	51	51	58	58	70

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ILLINOIS														
Chicago	DIR	W	W	W	NE	NE	NE	SW	SW	S	S	S	W	S
O'Hare	SPD	12	12	12	12	11	9	9	8	9	10	11	11	11
	PGU	58	54	84	69	55	63	54	64	58	57	62	53	84
Chicago	DIR	W	W	W	W	SSW	SW	SW	SW	S	S	SSW	W	W
Midway AP	SPD	12	12	12	12	10	10	8	8	9	10	11	11	10
	$PGU	50	51	54	50	54	50	46	54	48	45	60	50	60
Moline	DIR	WNW	WNW	WNW	WNW	S	S	S	S	S	S	WNW	WNW	WNW
	SPD	11	11	12	12	10	9	8	7	8	9	11	11	10
	PGU	59	54	69	69	60	59	52	81	49	61	52	56	81
Peoria	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	11	11	12	12	10	9	8	7	8	9	11	11	10
	PGU	53	53	68	69	61	63	67	54	75	56	62	59	75
Rantoul/	DIR	W	WNW	W	S	S	S	SW	S	S	S	S	S	S
Chanute AFB	SPD	12	12	12	13	10	9	7	7	8	9	10	10	10
	PGU	70	60	71	87	62	78	54	79	60	58	62	58	87
Rockford	DIR	WNW	WNW	WNW	WNW	WNW	S	S	S	S	S	S	S	S
	SPD	11	11	12	12	10	9	8	8	8	9	10	10	10
	PGU	51	54	54	58	81	54	92	58	58	52	59	62	92
Springfield	DIR	WNW	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	13	12	13	13	11	10	8	8	9	10	13	12	11
	PGU	51	51	71	63	67	59	60	69	54	53	58	60	71
INDIANA														
Columbus/	DIR	S	S	S	S	S	SSW	SSW	SSW	S	S	S	S	S
Bakalar AFB	SPD	9	9	10	10	8	7	6	6	7	7	9	9	8
	PGU	38	54	46	46	38	46	38	38	31	46	46	38	54
Evansville	DIR	NW	NW	NW	S	SSW	SW	WSW	SW	S	S	S	NW	S
	SPD	9	9	10	10	8	7	6	6	6	7	9	9	8
	#PGU	51	64	61	62	69	74	56	44	55	48	70	56	74
Fort Wayne	DIR	W	W	W	W	SW	SW	SW	SW	SW	SW	W	W	SW
	SPD	11	11	12	12	10	9	8	7	8	9	11	11	10
	PGU	58	56	59	60	59	58	54	59	46	63	58	58	63
Indianapolis	DIR	WSW	WSW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW
	SPD	11	11	12	12	10	9	8	7	8	9	11	11	10
	#PGU	61	53	62	74	62	62	55	70	46	49	67	64	74
Peru/	DIR	W	W	W	W	N	S	W	S	S	S	W	W	W
Grissom AFB	SPD	12	10	10	10	8	7	6	5	6	8	9	10	8
	PGU	68	64	62	69	60	60	64	74	58	51	60	64	74
South Bend	DIR	SW	SW	SW	SW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW
	SPD	12	11	12	12	10	9	8	8	9	10	11	11	10
	PGU	59	58	54	66	86	71	66	92	63	59	74	54	92
IOWA														
Des Moines	DIR	NW	NW	NW	NW	S	S	S	S	S	S	NW	NW	S
	SPD	12	11	13	13	11	10	9	9	10	10	12	11	11
	PGU	55	62	58	66	54	58	83	63	54	60	62	55	83
Dubuque	DIR	S	S	NW	S	S	S	S	S	S	S	S	S	S
	SPD	11	13	13	12	10	9	9	8	9	11	11	11	11
	PGU	58	52	62	68	74	55	74	62	58	54	55	56	74

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Sioux City	DIR	NW	NW	NW	NW	NW	SSE	SSE	SE	SE	NW	NW	NW	NW
	SPD	11	11	12	13	12	11	9	9	10	11	11	11	11
	#PGU	63	58	68	69	60	60	67	60	60	61	58	69	69
Waterloo	DIR	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW
	SPD	12	11	12	12	11	10	8	8	9	10	11	11	11
	PGU	58	58	54	63	74	83	64	51	49	55	59	53	83
KANSAS														
Concordia	DIR	N	N	N	N	N	N	S	S	S	S	S	S	S
	SPD	12	12	14	14	12	11	11	11	12	12	12	12	12
	#PGU	60	52	54	64	45	62	67	47	51	57	48	45	67
Dodge City	DIR	NNW	NNW	NNW	N	N	N	S	S	S	S	S	S	S
	SPD	11	11	12	12	11	11	10	10	11	10	11	11	11
	#PGU	66	57	48	61	54	70	79	75	59	54	53	49	79
Goodland	DIR	W	NNW	NNW	NNW	SSE	SSE	SSE	SSE	S	NNW	NNW	NNW	SSE
	SPD	13	13	14	14	14	13	12	11	12	12	12	12	13
	#PGU	64	51	53	54	96	51	71	92	46	60	56	62	96
Topeka	DIR	N	N	N	N	N	N	N	N	N	N	N	N	N
	SPD	10	10	12	12	10	10	9	8	9	9	10	10	10
	#PGU	49	47	43	47	51	66	62	65	40	52	45	41	66
Wichita	DIR	N	N	N	N	N	N	N	N	S	S	S	S	N
	SPD	10	10	11	11	9	9	9	8	9	9	10	10	9
	#PGU	59	49	49	58	53	59	101	63	46	53	54	44	101
KENTUCKY														
Ft. Campbell	DIR	N	N	N	S	S	S	SSW	S	S	S	S	S	S
	SPD	7	6	7	7	5	5	3	3	3	5	6	7	6
	PGU	58	53	64	58	58	62	58	74	53	46	61	52	74
Jackson	DIR	SW	SW	S	S	S	S	S	S	S	S	S	S	S
	SPD	8	8	8	8	7	6	6	6	6	7	8	8	7
	PGU	55	60	53	58	49	60	55	46	39	48	51	60	60
Lexington	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	11	11	11	11	9	8	7	7	8	8	10	10	9
	PGU	53	56	49	61	59	64	56	51	40	44	53	54	64
Louisville	DIR	WNW	WNW	WNW	WNW	NW	NW	S	S	S	S	S	S	S
	SPD	10	10	10	10	8	7	7	6	7	7	9	9	8
	#PGU	43	47	43	45	53	39	44	49	32	41	48	38	53
Paducah	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	9	10	10	8	7	6	6	6	7	9	9	8
	#PGU	51	54	60	64	84	58	59	51	52	52	63	58	84
LOUISIANA														
Alexandria/ England AFB	DIR	NNW	NNW	S	S	S	S	S	SSE	NNE	SSE	SSE	SSE	SSE
	SPD	5	6	6	5	3	3	2	2	3	3	5	5	3
	PGU	60	51	64	67	72	83	51	54	55	48	60	51	83
Baton Rouge	DIR	N	N	N	N	ESE	ESE	S	S	ESE	ESE	S	S	ESE
	SPD	9	9	9	9	8	7	6	6	7	7	8	8	8
	#PGU	37	32	49	36	37	46	40	32	34	41	35	31	49
Lake Charles	DIR	N	N	S	S	S	S	S	S	NE	NE	N	N	S
	SPD	10	10	10	10	9	8	7	6	7	8	9	10	9
	PGU	49	62	58	70	55	61	49	56	58	49	69	46	70

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
New Orleans	DIR	ENE	ENE	N	N	S	S	S	S	S	S	S	S	S
	SPD	9	10	10	10	8	7	6	6	7	8	9	9	8
	PGU	48	49	53	62	60	63	51	66	58	49	44	48	66
Shreveport	DIR	S	S	S	S	S	S	S	S	SE	SE	S	S	S
	SPD	9	10	10	10	9	8	7	7	7	7	9	9	9
	PGU	54	54	58	81	83	66	66	56	54	51	63	64	83
MAINE														
Bangor IAP	DIR	NW	NW	NW	S	S	S	S	S	S	S	N	NW	S
	SPD	9	9	9	9	8	8	7	7	7	8	8	8	8
	PGU	52	44	54	49	53	48	39	39	53	54	64	56	64
Caribou	DIR	NW	NW	NW	NW	NW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	12	12	13	12	11	10	10	9	10	11	11	12	11
	PGU	30	28	29	32	37	35	32	24	25	29	33	39	39
Portland	DIR	W	W	W	W	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW
	SPD	9	9	10	10	9	8	8	8	8	9	9	9	9
	#PGU	53	56	44	47	44	39	38	40	41	47	72	43	72
MARYLAND														
Baltimore	DIR	WNW	NW	WNW	WNW	W	WNW	W	W	S	NW	WNW	WNW	WNW
	SPD	10	10	11	11	9	8	8	8	8	9	9	9	9
	PGU	53	51	58	54	55	46	68	55	45	47	64	77	77
Camp Springs	DIR	NW	NW	NW	NW	S	S	S	S	S	N	NW	NW	NW
	SPD	8	9	9	9	7	7	6	5	6	7	8	9	7
	PGU	69	71	79	71	79	74	85	69	68	54	62	66	85
Patuxent	DIR	NNW	NW	NNW	NW	SSE	S	S	S	S	NNW	NNW	NNW	NNW
River NAS	SPD	8	8	8	9	7	7	6	6	6	7	7	8	7
	PGU	71	70	71	72	89	81	82	79	67	126	63	67	126
MASSACHUSETTS														
Boston	DIR	WNW	WNW	WNW	WNW	SSW	WSW	WSW	WSW	WSW	WNW	WNW	WNW	WNW
	SPD	14	14	14	14	12	12	11	11	11	12	13	14	13
	PGU	67	58	81	55	56	68	60	64	76	59	63	78	81
Chicope Fls/	DIR	WNW	WNW	WNW	WNW	S	S	S	S	S	N	WNW	N	S
Westover AFB	SPD	7	7	8	8	7	6	6	5	5	6	6	7	6
	PGU	70	64	72	70	69	68	55	71	69	56	79	62	79
Falmouth/	DIR	W	NW	WNW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW
Otis AFB	SPD	10	10	12	10	9	8	8	8	8	8	9	10	9
	PGU	69	68	72	67	62	47	53	52	84	59	63	62	84
Fort Devens	DIR	WNW	NNW	NNW	NNW	N	WNW	SSW	SSW	SSW	WNW	WNW	WNW	WNW
	SPD	5	5	6	6	5	3	3	3	3	3	5	5	5
	PGU	56	48	49	60	46	49	49	46	54	44	47	51	60
Milton/	DIR	W	NW	NW	NW	S	S	SW	SW	SW	NW	W	W	NW
Blue Hill	SPD	17	17	17	17	15	14	13	13	14	15	16	17	15
	PGU	91	81	109	84	69	74	86	78	115	71	78	79	115
Worcester	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	12	13	13	12	11	10	9	9	10	10	11	12	11
	PGU	62	66	66	64	61	58	68	69	71	62	62	62	71

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
MICHIGAN														
Alpena	DIR	WNW	WNW	WNW	ESE	ESE	ESE	WNW	WSW	WSW	S	WSW	WSW	WNW
	SPD	9	9	9	10	9	8	7	7	8	8	9	9	9
	PGU	44	54	47	52	53	58	51	60	45	47	53	54	60
Detroit	DIR	WSW	SW	WNW	SW	NE	SW	SW	SW	SW	SW	WSW	SW	SW
	SPD	12	12	12	12	10	9	9	8	9	10	11	11	10
	PGU	66	51	60	64	58	56	59	47	54	56	58	59	66
Flint	DIR	W	W	WNW	WSW	WSW	SSW	SW	SSW	SSW	S	SW	SW	WSW
	SPD	11	11	11	11	10	9	8	8	9	10	11	11	10
	PGU	52	54	69	68	54	76	69	71	53	67	55	52	76
Grand Rapids	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	S	S	WSW	S	WSW
	SPD	12	11	11	11	10	9	8	8	8	9	11	11	10
	PGU	55	55	56	63	68	63	51	61	52	60	55	56	68
Houton Lake	DIR	W	W	W	W	NW	NW	NW	NW	W	W	W	W	W
	SPD	10	9	10	10	9	8	8	7	8	9	10	9	9
	PGU	46	48	55	54	60	58	58	59	46	54	59	55	60
Lansing	DIR	SW	W	W	W	W	W	W	W	S	SW	SW	SW	W
	SPD	12	12	12	12	10	9	9	8	9	10	12	12	11
	PGU	55	51	61	70	59	67	60	62	47	58	53	54	70
Marquette	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	$PGU	44	31	40	44	34	38	35	37	35	38	31	35	44
Muskegon	DIR	WNW	WNW	E	E	SW	SW	SW	SSW	ESE	ESE	SE	WNW	WNW
	SPD	12	11	12	12	10	9	9	9	9	10	12	12	11
	PGU	53	67	59	61	54	55	58	63	51	55	56	55	67
Oscoda/	DIR	SSW	SSW	WNW	WNW	ENE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW
Wurtsmith	SPD	8	8	8	8	7	6	6	5	6	7	8	8	7
AFB	PGU	74	61	58	67	59	83	74	55	61	59	60	66	83
KI Sawyer	DIR	SSW	N	N	N	N	S	SSW	SSW	S	S	SSW	SSW	S
AFB	SPD	9	8	9	9	8	7	6	7	7	8	9	9	8
	PGU	67	64	61	68	69	62	64	49	51	62	66	56	69
Sault Ste.	DIR	ESE	NW	NW	NW	WNW	WNW	WNW	WNW	NW	ESE	ESE	ESE	WNW
Marie	SPD	9	9	10	10	9	8	8	7	8	9	10	9	9
	PGU	56	56	59	58	55	52	54	56	54	61	61	58	61
MINNESOTA														
Duluth	DIR	WNW	NW	E	E	E	ESE	WNW	ESE	WNW	WNW	WNW	NW	WNW
	SPD	12	12	12	13	12	11	10	10	11	12	12	12	11
	PGU	56	47	71	60	59	69	64	46	60	70	55	49	71
International	DIR	WNW	WNW	WNW	WNW	WNW	WNW	ENE	ENE	S	S	S	S	WNW
Falls	SPD	9	9	9	10	9	8	7	7	8	9	10	9	9
	PGU	53	45	52	51	58	56	62	67	46	46	47	41	67
Minneapolis/	DIR	NW	NW	NW	N	ESE	ESE	S	S	S	NW	NW	NW	NW
St. Paul	SPD	11	10	11	12	11	11	10	9	10	11	11	10	11
	PGU	67	55	60	61	67	53	62	71	52	57	66	48	71
Rochester	DIR	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	13	13	13	14	12	11	10	10	11	12	13	13	12
	PGU	69	55	68	85	74	69	71	64	64	62	67	56	85

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
St. Cloud	DIR	NW	NW	NW	NW	S	S	S	S	S	NW	NW	NW	NW
	SPD	8	8	9	10	9	8	7	7	7	9	9	8	8
	PGU	58	48	46	78	51	74	55	53	45	54	53	53	78
MISSISSIPPI														
Biloxi/	DIR	N	N	SSE	SSE	SSE	SSW	SSW	N	NNE	NNE	N	N	N
Keesler AFB	SPD	7	7	7	7	6	6	5	5	5	5	6	7	6
	PGU	69	62	58	70	68	67	64	128	98	59	54	53	128
Jackson	DIR	N	N	N	N	NNW	NNW	NNW	NNW	S	S	S	S	NNW
	SPD	8	8	9	8	7	6	6	5	6	6	7	8	7
	#PGU	40	34	40	54	33	47	41	40	36	34	33	46	54
Meridian	DIR	S	S	S	S	S	S	S	S	N	N	S	S	S
	SPD	7	8	8	7	6	5	5	5	5	5	7	7	6
	#PGU	53	55	64	66	47	64	66	56	38	45	54	68	68
Tupelo	DIR	N	N	N	N	S	S	S	S	S	S	S	S	S
	SPD	7	8	8	8	7	6	6	5	6	6	7	7	7
	#PGU	53	39	39	36	43	40	54	34	43	45	38	31	54
MISSOURI														
Columbia	DIR	WNW	WNW	WNW	S	S	S	S	S	S	S	S	WNW	S
	SPD	11	11	12	12	9	9	8	8	9	10	11	11	10
	PGU	53	63	66	69	58	95	64	62	54	59	51	55	95
Kansas City	DIR	SSW	SSW	S	S	S	S	S	S	S	S	S	S	S
	SPD	11	11	12	12	10	10	9	9	10	11	11	11	11
	PGU	58	56	63	62	59	67	75	54	63	60	52	55	75
St. Louis	DIR	WNW	WNW	WNW	WNW	S	S	S	S	S	SSE	WNW	WNW	WNW
	SPD	11	11	12	11	9	9	8	7	8	9	10	10	10
	PGU	53	66	66	71	62	60	72	53	49	58	64	55	72
Springfield	DIR	SSE	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE
	SPD	12	12	13	12	10	10	9	9	9	10	11	11	11
	PGU	48	52	52	53	49	61	72	59	49	48	53	48	72
MONTANA														
Billings	DIR	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	13	12	11	11	11	10	9	9	10	11	12	13	11
	PGU	59	62	62	59	60	54	71	69	61	64	58	70	71
Glasgow	DIR	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE
	SPD	10	10	11	12	12	11	10	11	11	11	10	10	11
	#PGU	37	51	53	67	48	53	55	55	44	46	49	62	67
Great Falls	DIR	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	SW	SW	SW
	SPD	15	14	13	13	11	11	10	10	11	13	15	15	13
	#PGU	53	48	52	57	39	51	49	47	36	49	54	59	59
Havre	DIR	SW	SW	SW	SW	E	SW	SW	W	E	SW	SW	SW	SW
	SPD	10	10	10	11	10	10	9	9	9	10	10	10	10
	$PGU	47	58	52	59	54	63	71	59	52	52	54	48	71
Helena	DIR	W	ENE	W	W	W	ENE	W	ENE	W	ENE	W	W	ENE
	SPD	7	7	8	9	9	9	8	7	7	7	7	7	8
	#PGU	48	45	45	40	51	57	53	51	47	54	47	57	57
Kalispell	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	4	5	6	7	7	7	6	6	6	5	5	5	6
	#PGU	39	36	36	40	34	38	32	44	32	40	36	57	57

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Missoula	DIR	ESE	WNW	WNW	NW	WNW	WNW	NW	WNW	WNW	NW	WNW	ESE	WNW
	SPD	5	6	7	8	7	7	7	7	6	5	5	5	6
	PGU	56	45	55	63	56	67	59	61	53	61	47	76	76
NEBRASKA														
Grand Island	DIR	N	N	N	N	N	N	N	N	S	S	S	S	S
	SPD	12	12	13	14	13	12	11	10	11	11	12	12	12
	#PGU	64	59	61	60	80	77	72	66	46	61	51	49	80
Lincoln	DIR	N	N	N	N	N	N	N	N	N	N	N	N	N
	SPD	9	9	11	12	10	9	9	8	9	9	9	9	9
	#PGU	53	52	52	47	83	56	71	53	56	57	40	49	83
Norfolk	DIR	NNW	NNW	NNW	NNW	S	S	S	S	S	NNW	NNW	NW	S
	SPD	12	12	14	14	12	11	10	10	11	11	12	12	12
	PGU	60	56	63	66	54	59	78	82	71	56	55	60	82
N. Platte	DIR	WNW	WNW	NW	NW	N	N	N	N	SSE	SSE	S	S	NW
	SPD	9	10	12	13	12	10	10	9	10	10	10	9	10
	PGU	64	55	64	76	72	64	68	74	58	68	60	56	76
Omaha(Eppley)	DIR	NNW	NNW	N	N	NNW	NNW	SSE	SSE	S	S	S	S	SSE
	SPD	11	11	12	13	11	10	9	9	9	10	11	11	11
	$PGU	57	57	73	65	73	72	109	66	47	62	56	52	109
ScottsBluff	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	ESE	ESE	WNW
	SPD	11	11	13	13	12	11	9	9	9	10	11	11	11
	PGU	68	62	59	63	63	70	68	66	54	60	61	66	70
Valentine	DIR	NW	NNW	NNW	NNW	S	SSE	SSE	S	S	WNW	WNW	WNW	NW
	SPD	9	9	10	10	10	10	9	8	10	9	9	9	9
	#PGU	53	63	52	60	41	45	39	60	51	55	37	51	63
NEVADA														
Elko	DIR	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	5	6	7	7	7	7	6	6	5	5	5	5	6
	PGU	40	39	41	48	55	61	37	35	58	35	40	50	61
Ely	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	10	11	11	10	10	10	10	10	9	9	9	10
	#PGU	47	48	49	52	46	48	61	43	49	34	38	46	61
Las Vegas	DIR	WSW	WSW	WSW	SW	SW	S	S	S	WSW	WSW	WSW	WSW	WSW
	SPD	7	9	11	11	12	11	11	10	9	8	8	7	9
	PGU	54	67	82	69	72	59	71	90	49	61	68	54	90
Reno	DIR	S	S	S	S	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	6	6	8	8	8	8	7	7	6	5	5	6	7
	PGU	90	66	71	64	70	67	67	58	54	81	70	75	90
Winnemucca	DIR	S	S	S	S	S	S	S	S	W	W	W	W	S
	SPD	7	8	9	9	9	9	8	8	8	7	7	7	8
	#PGU	53	46	47	46	39	44	51	58	53	54	52	63	63
Tonopah	DIR	WNW	WNW	WNW	WNW	WNW	S	S	S	S	WNW	WNW	WNW	WNW
	SPD	6	8	9	9	9	8	8	6	6	6	7	6	7
	PGU	48	58	62	56	56	56	53	52	54	51	63	60	63

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
NEW HAMPSHIRE														
Concord	DIR	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	7	8	8	8	7	6	6	5	5	6	7	7	7
	PGU	52	60	49	61	52	59	53	45	52	48	53	58	61
Mount Washington	DIR	W	W	W	W	W	W	W	W	W	W	W	W	W
	SPD	46	45	42	36	30	28	26	25	29	34	40	46	35
	PGU	173	166	180	231	164	136	110	142	174	161	163	178	231
Portsmouth/ Pease AFB	DIR	W	W	W	W	W	W	W	W	W	W	W	W	W
	SPD	8	8	8	8	7	6	6	6	6	6	7	8	7
	PGU	64	66	60	56	56	46	61	58	75	59	63	62	75
NEW JERSEY														
Atlantic City AP	DIR	WNW	WNW	WNW	S	S	S	S	S	S	NW	WNW	WNW	WNW
	SPD	11	11	12	12	10	9	8	8	8	9	10	11	10
	PGU	54	53	66	53	55	64	81	46	69	56	63	58	81
Atlantic City State Marina	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PGU	58	60	87	63	52	64	52	67	78	77	64	67	87
Trenton	DIR	NW	NW	NW	S	S	S	S	S	S	N	NW	NW	S
	SPD	10	10	11	10	9	8	8	8	8	8	9	9	9
	$PGU	57	51	49	47	40	43	46	43	56	60	64	52	64
McGuire AFB	DIR	WNW	WNW	WNW	WNW	WSW	WSW	WSW	SSW	WSW	WSW	WNW	WNW	WNW
	SPD	8	8	8	8	6	6	5	5	5	6	7	8	7
	PGU	56	61	62	64	71	82	78	81	76	87	84	64	87
Newark	DIR	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	11	11	12	11	10	10	9	9	9	10	10	11	10
	PGU	54	60	62	58	58	83	69	68	67	53	63	60	83
NEW MEXICO														
Alamagordo/ Holloman AFB	DIR	N	SSE	SSE	WSW	S	S	SSE	S	S	S	SSE	SSE	SSE
	SPD	5	5	6	6	6	6	5	5	5	3	5	3	5
	PGU	77	56	59	77	79	63	66	69	52	58	67	56	79
Albuquerque	DIR	N	N	N	SW	S	E	E	E	ESE	N	N	N	N
	SPD	8	9	10	11	10	10	9	8	8	8	8	8	9
	PGU	70	63	77	64	70	68	72	63	61	55	63	71	77
Clayton	DIR	W	W	W	SW	SW	SW	SW	SW	SSW	SW	W	SW	SW
	SPD	12	12	13	15	13	12	11	11	12	12	13	13	12
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clovis/ Cannon AFB	DIR	W	W	W	W	W	S	S	SSE	SSW	WSW	W	W	W
	SPD	9	9	9	10	9	8	7	6	7	8	9	9	8
	PGU	69	70	84	68	75	74	76	79	81	74	68	77	84
Roswell AFB	DIR	S	S	S	S	S	SSE	SE	SE	S	SSE	S	S	S
	SPD	6	8	9	9	9	9	8	7	7	7	7	6	8
	PGU	58	62	75	62	66	71	60	64	69	58	54	60	75
NEW YORK														
Albany	DIR	WNW	WNW	WNW	WNW	S	S	S	S	S	S	S	WNW	S
	SPD	10	10	11	10	9	8	8	7	8	8	9	9	9
	PGU	58	56	53	56	49	59	77	73	47	56	58	56	77

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Binghamton	DIR	WNW	WNW	WNW	WNW	NW	SW	SW	SW	S	S	NW	WNW	WNW
	SPD	11	11	11	11	10	9	8	8	9	9	11	11	10
	PGU	51	52	52	52	54	59	74	51	48	46	62	48	74
Buffalo	DIR	W	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	W	W	WSW
	SPD	14	13	13	12	11	11	10	10	10	11	12	13	12
	PGU	71	55	72	74	61	59	53	71	62	61	12	66	74
Islip	DIR	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	SW	SW	SW	WNW
	SPD	10	10	11	11	9	9	8	8	8	9	10	10	9
	PGU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Newburgh/	DIR	W	W	WNW	W	WSW	WSW	WSW	WSW	WSW	W	W	W	W
Stewart AFB	SPD	10	10	12	10	9	8	7	7	7	8	9	10	9
	PGU	71	71	72	63	76	97	79	68	70	86	97	66	97
NY Central	DIR	NW	NW	NW	NW	SW	SW	SW	SW	SW	W	W	NW	NW
Park	SPD	9	9	10	9	7	7	7	6	7	8	7	8	8
	PGU	52	51	63	46	44	41	46	43	52	46	58	64	64
NY JFK	DIR	NW	NW	NW	S	S	S	S	S	S	WSW	NW	NW	S
	SPD	13	13	14	13	12	11	10	10	10	11	12	13	12
	PGU	52	60	61	52	71	49	54	47	58	49	67	60	71
NY LaGuardia	DIR	NW	NW	NW	NW	S	S	S	S	NE	WNW	WNW	NW	NE
	SPD	14	14	14	13	12	11	11	11	11	12	13	14	13
	PGU	59	59	71	63	56	56	49	72	64	64	76	77	77
Niagara	DIR	W	WSW	SW	SW	SW	SW	SW	SW	SW	W	W	W	SW
Falls IAP	SPD	13	12	12	10	9	9	9	8	9	9	12	12	10
	PGU	67	59	69	59	64	48	55	48	44	45	64	52	69
Plattsburgh	DIR	W	WSW	SW	SW	SW	SW	SW	SW	SW	W	W	W	SW
AFB	SPD	13	12	12	10	9	9	9	8	9	9	12	12	10
	PGU	67	59	69	59	64	48	55	48	44	45	64	52	69
Rochester	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	12	12	12	12	10	9	9	8	9	9	11	11	10
	PGU	63	52	68	67	64	52	51	62	51	56	67	53	68
Rome/	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	ESE	ESE	ESE	WNW	ESE	WNW
Griffiss AFB	SPD	7	7	7	7	6	5	5	3	5	6	7	7	6
	PGU	68	67	76	64	69	84	59	64	69	76	60	56	84
Syracuse	DIR	WSW	WSW	WSW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WSW
	SPD	11	11	11	11	9	8	8	8	8	9	10	10	9
	#PGU	54	49	49	44	44	39	37	47	44	43	51	46	54
Suffolk Co	DIR	NW	NW	NNW	SW	SW	SW	SW	SW	SW	SW	W	W	SW
AFB	SPD	10	10	10	10	9	9	8	8	9	9	9	9	9
	PGU	58	61	60	58	43	40	44	40	76	48	62	61	76
NORTH CAROLINA														
Asheville	DIR	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
	SPD	10	10	9	9	7	6	6	6	6	7	8	9	8
	PGU	55	54	64	51	44	52	60	43	37	58	49	49	64
Cape	DIR	N	N	N	NNE	NNE	NNE	NNE	NNE	NNE	SW	SW	SW	NNE
Hatteras	SPD	12	12	12	12	11	11	10	10	11	11	12	11	11
	PGU	59	58	63	60	46	55	45	98	87	66	78	60	98
Charlotte	DIR	SW	SW	S	SW	SW	S	SW	S	NE	NE	SW	SW	SW
	SPD	8	8	9	9	8	7	7	7	7	7	7	8	8
	PGU	49	53	60	56	52	52	52	77	87	40	51	47	87

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Cherry Point MCAS	DIR	N	N	S	SSW	SSW	SSW	SSW	SSW	NNE	NNE	N	N	SSW
	SPD	6	7	7	7	6	6	5	5	5	6	6	6	6
	PGU	58	66	68	81	64	81	66	104	107	86	59	68	107
Fayetteville Pope AFB	DIR	WSW	WSW	W	SW	SW	WSW	SW	SW	NE	N	N	WSW	SW
	SPD	5	6	6	6	5	5	3	3	3	3	5	5	5
	PGU	77	64	68	55	62	59	64	64	53	70	59	55	77
Goldsboro/ Seymour Johnson AFB	DIR	N	N	N	SW	S	S	S	S	NNE	N	N	W	N
	SPD	6	7	7	7	6	5	5	5	5	5	5	6	6
	PGU	72	75	64	64	52	52	60	59	46	66	54	69	75
Greensboro	DIR	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	NNE	NNE	SSW	SSW	SSW
	SPD	8	9	9	9	8	7	7	6	7	7	8	7	8
	PGU	63	48	43	46	59	51	59	39	54	60	53	47	63
Raleigh	DIR	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	8	9	9	9	8	7	7	6	7	7	8	7	8
	#PGU	51	62	52	56	64	48	45	61	67	40	41	45	67
Wilmington	DIR	N	N	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	9	9	10	10	9	8	8	7	8	8	8	8	8
	PGU	49	49	70	53	54	64	78	41	74	52	59	49	78
NORTH DAKOTA														
Bismarck	DIR	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	10	10	11	12	11	10	9	9	10	10	10	10	10
	PGU	69	62	64	56	69	58	61	62	84	55	56	63	84
Fargo	DIR	N	SSE	N	N	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE
	SPD	13	13	13	14	13	12	11	11	12	13	13	12	12
	PGU	60	59	53	53	62	66	70	60	62	61	53	61	70
Grand Forks	DIR	N	N	N	N	N	N	S	N	N	N	N	N	N
	SPD	10	10	10	10	9	9	8	8	9	10	10	10	9
	PGU	62	66	72	71	63	53	62	62	68	63	63	59	72
Minot AFB	DIR	NW	NW	NW	N	N	W	W	W	W	WNW	NW	NW	NW
	SPD	12	12	10	10	9	9	8	8	9	10	9	10	9
	PGU	74	81	61	71	66	71	77	85	62	63	63	67	85
Williston	DIR	SSW	SSW	SSW	SSW	N	N	N	N	N	N	N	N	N
	SPD	10	10	10	11	11	10	9	10	10	10	9	9	10
	PGU	62	54	58	62	62	69	70	59	60	60	53	63	70
OHIO														
Akron/Canton	DIR	WSW	WSW	W	SW	S	SW	SW	SW	S	S	WSW	WSW	SW
	SPD	12	11	11	11	9	8	8	8	8	9	11	12	10
	PGU	54	53	60	60	56	60	68	60	52	51	63	58	68
Cincinnati	DIR	SSW	SSW	SSW	SSW	SW	SSW	SW	SW	SSW	SSW	SSW	SSW	SSW
	SPD	11	10	11	11	9	8	7	7	7	8	10	10	9
	PGU	51	55	64	61	53	60	51	47	45	45	56	59	64
Cleveland	DIR	WSW	SW	SSW	N	N	SW	SW	SW	SW	SSW	WSW	WSW	SW
	SPD	12	12	12	12	10	9	9	8	9	10	12	12	11
	PGU	55	58	63	69	54	56	67	49	45	52	59	63	69
Columbus	DIR	W	W	W	N	S	S	S	S	S	S	S	S	S
	SPD	10	9	10	10	8	7	6	6	6	7	9	9	8
	PGU	51	51	53	52	52	40	47	59	38	39	53	55	59

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Dayton	DIR	W	SSW	WNW	S	SW	SSW	WSW	SW	S	S	SSW	S	SSW
	SPD	11	11	12	11	10	9	8	7	8	9	11	11	10
	PGU	49	52	67	62	60	60	58	51	48	43	55	62	67
Mansfield	DIR	WSW	WSW	WSW	WSW	W	W	SW	SW	SW	SW	SSW	SSW	WSW
	SPD	14	13	13	12	10	10	9	8	9	10	12	13	11
	#PGU	59	58	62	68	55	68	64	68	48	52	69	64	69
Toledo	DIR	WSW	WSW	ENE	ENE	ENE	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW
	SPD	11	11	11	11	10	9	8	8	7	8	10	10	10
	PGU	62	52	64	59	58	55	66	75	54	49	55	56	75
Youngstown	DIR	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	SSW	SW	SW	WSW
	SPD	12	11	11	11	9	8	8	7	8	9	11	11	10
	PGU	51	54	58	64	56	58	66	44	52	49	53	58	66
OKLAHOMA														
Altus AFB	DIR	N	NNE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	N	N	SSE
	SPD	8	9	9	9	8	7	7	6	7	7	8	7	8
	PGU	76	94	64	69	92	78	76	71	69	52	64	76	94
Burns Flat/ Clinton	DIR	S	N	S	S	S	S	S	S	S	S	S	S	S
	SPD	12	12	14	14	14	12	9	9	10	10	10	12	12
	PGU	52	62	68	68	70	60	67	54	60	47	51	56	70
Enid/Vance AFB	DIR	N	N	S	S	S	S	S	S	S	S	S	N	S
	SPD	10	12	12	12	9	10	9	9	9	10	9	10	10
	PGU	61	62	61	86	81	90	86	81	71	83	66	67	90
Oklahoma City	DIR	N	N	N	N	S	S	SSE	SSE	SSE	SSE	S	S	S
	SPD	13	14	15	15	13	12	11	11	12	12	13	13	13
	#PGU	53	47	62	47	57	51	49	52	40	51	56	47	62
Tulsa	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	11	12	12	11	10	9	9	9	10	11	10	10
	#PGU	47	46	45	63	44	55	55	41	40	46	44	41	63
OREGON														
Astoria	DIR	E	E	E	E	ESE	ESE	ESE	ESE	WNW	WNW	NW	NW	ESE
	SPD	9	9	9	9	8	9	9	8	7	7	9	9	8
	#PGU	50	54	58	61	44	45	30	28	29	67	56	67	67
Burns	DIR	E	E	E	E	NW	NW	NW	NW	NW	NW	WNW	WNW	NW
	SPD	6	N/A	8	N/A	9	7	N/A	7	6	6	6	6	N/A
	PGU	46	50	62	47	52	47	45	58	44	48	71	74	74
Eugene	DIR	S	S	S	S	S	S	S	S	N	N	N	N	S
	SPD	8	8	8	8	8	8	8	8	8	7	8	8	8
	PGU	58	48	45	44	45	41	51	39	36	52	51	56	58
Klamath Falls Kingsey Fld	DIR	SSE	SSE	SSE	WSW	WNW	NNW	NNW	NNW	NNW	NNW	SSE	SSE	NNW
	SPD	6	7	8	8	8	7	7	6	6	5	6	6	7
	PGU	54	60	60	54	60	43	41	52	41	66	56	61	66
Medford	DIR	N	N	NW	WNW	WNW	WNW	WNW	WNW	WNW	N	N	N	WNW
	SPD	4	5	5	6	6	6	6	5	5	4	4	4	5
	PGU	47	45	53	48	39	53	46	36	36	35	52	56	56
Pendleton	DIR	SSE	SSE	SSE	SSE	W	W	W	W	W	W	W	W	W
	SPD	7	8	9	10	9	9	9	8	8	7	8	7	8
	PGU	76	53	74	61	60	59	62	55	56	56	58	62	76

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Portland	DIR	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE
	SPD	10	9	8	8	7	7	8	7	7	7	9	10	8
	PGU	63	61	59	51	46	40	32	31	44	52	52	71	71
Salem	DIR	S	S	S	S	S	N	N	N	N	S	S	S	S
	SPD	8	8	8	7	7	7	7	6	6	6	8	8	7
	PGU	61	49	52	41	45	36	36	32	39	47	58	68	68
PENNSYLVANIA														
Allentown	DIR	W	W	WNW	WSW	SW	WSW	SW	WSW	SW	WSW	WSW	W	WSW
	SPD	10	11	11	11	9	8	7	7	7	8	9	10	9
	PGU	54	60	55	68	51	58	66	48	60	63	78	62	78
Avoca/	DIR	SW	SW	NW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW
Wilkes-Barre	SPD	9	9	10	9	8	8	7	7	7	8	8	9	8
Scranton	PGU	74	53	61	64	64	58	58	51	54	52	61	64	74
Erie	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	13	12	12	11	10	9	9	9	10	11	13	13	11
	PGU	55	62	64	55	54	52	69	53	61	61	69	60	69
Middletown/	DIR	NW	NW	NW	NW	NW	NW	NW	WNW	NW	NW	NW	NNW	NW
Harrisburg	SPD	8	8	9	8	7	6	5	5	5	5	7	7	7
	PGU	44	31	37	35	47	58	25	46	27	30	29	46	58
Philadelphia	DIR	WNW	WNW	WNW	WNW	WNW	WNW	SW	SW	SW	SW	SW	SW	SW
	SPD	10	11	11	11	10	9	8	8	8	9	10	10	10
	PGU	59	51	69	49	67	54	60	47	53	63	61	63	69
Pittsburgh	DIR	W	W	W	W	W	W	WSW	WSW	WSW	WSW	SW	SW	W
	SPD	11	11	11	11	9	8	7	7	8	8	10	10	9
	PGU	54	59	60	60	61	63	83	56	48	49	62	55	83
Williamsport	DIR	W	W	W	W	WNW	WNW	W	W	W	W	W	W	W
	SPD	9	9	9	9	8	7	7	6	6	7	8	8	8
	PGU	54	49	60	60	51	56	58	61	54	45	63	64	64
RHODE ISLAND														
Providence	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	11	11	12	12	11	10	9	9	9	9	10	11	10
	#PGU	60	61	60	58	49	54	51	63	81	58	61	64	81
Quonset Pt	DIR	WNW	WNW	WNW	S	S	S	SW	SW	SW	SW	WNW	WNW	SW
NAS	SPD	10	10	12	12	10	9	8	8	8	9	9	10	9
	PGU	75	68	84	72	67	56	56	98	107	61	85	75	107
SOUTH CAROLINA														
Beaufort	DIR	W	W	S	S	S	S	S	S	N	N	N	W	S
MCAS	SPD	6	6	7	6	5	5	5	5	5	5	5	6	6
	PGU	52	69	53	67	63	61	53	63	137	47	53	49	137
Charleston	DIR	NNE	NE	SSW	S	S	S	S	S	NNE	NNE	NNE	NNE	SSW
AP	SPD	9	10	10	10	8	8	8	7	8	8	8	8	9
	PGU	53	48	69	48	49	55	59	64	98	47	59	44	98
Charleston	DIR	W	N	W	W	S	S	SSW	S	N	N	N	W	W
City Office	SPD	8	8	8	8	8	7	7	6	7	7	7	7	7
	PGU	44	54	44	44	55	81	67	38	43	40	38	47	81

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Columbia	DIR	WSW	WSW	SW	SW	WSW	SW	SW	SW	NE	NE	WSW	WSW	WSW
	SPD	7	8	8	8	7	7	6	6	6	6	6	7	7
	PGU	54	69	69	61	59	78	64	56	70	54	51	49	78
Greenville/ Spartanburg	DIR	SW	SW	SW	SW	NE	NE	NE	NE	NE	NE	NE	NE	SW
	SPD	8	9	9	9	8	7	7	6	7	7	8	8	8
	PGU	49	47	59	71	53	60	66	58	45	48	53	41	71
Myrtle Beach AFB	DIR	N	N	N	S	S	S	SSW	S	NNE	N	N	N	N
	SPD	5	6	7	6	6	6	5	3	5	5	5	5	6
	PGU	54	104	60	47	59	58	60	47	76	43	48	54	104
SOUTH DAKOTA														
Aberdeen	DIR	S	S	S	S	S	S	S	S	N	N	N	N	N
	SPD	13	13	14	15	13	12	11	11	11	12	12	12	12
	#PGU	61	66	55	53	56	43	56	44	44	60	45	55	66
Huron	DIR	NW	NW	NNW	NNW	NW	NW	N	N	SSE	SSE	SSE	SSE	SSE
	SPD	12	11	13	13	13	11	11	11	11	11	12	11	12
	PGU	56	62	55	64	60	63	82	76	54	52	58	60	82
Rapid City	DIR	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
	SPD	11	11	13	13	12	11	10	10	11	11	11	11	11
	PGU	68	70	66	67	61	67	72	69	70	73	63	71	73
Sioux Falls	DIR	NW	NW	WNW	WNW	NNW	NNW	N	N	S	S	S	S	S
	SPD	11	11	12	13	12	11	10	10	10	11	12	11	11
	PGU	67	58	56	64	53	71	66	47	53	61	58	53	71
TENNESSEE														
Bristol	DIR	WSW	W	WSW	WSW	WSW	WSW	WSW	ENE	ENE	ENE	WSW	WSW	WSW
	SPD	6	7	7	7	5	5	4	4	4	5	6	6	6
	PGU	55	49	52	63	46	59	54	48	54	49	53	48	63
Chattanooga	DIR	N	N	S	S	S	S	S	S	S	N	S	S	S
	SPD	7	7	8	7	6	5	5	4	5	5	6	6	6
	PGU	41	48	45	53	54	56	46	51	51	43	54	41	56
Knoxville	DIR	WSW	WSW	WSW	SW	WSW	SW	WSW	WSW	NE	NE	NE	WSW	WSW
	SPD	8	8	9	9	7	6	6	6	6	6	7	7	7
	PGU	53	53	53	76	48	58	52	86	39	59	64	58	86
Memphis	DIR	N	N	S	SSW	S	SSW	SW	SSW	N	SSE	S	S	S
	SPD	10	10	11	10	9	8	8	7	8	8	9	10	9
	PGU	40	49	49	69	48	71	45	69	43	59	51	49	71
Nashville	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	9	9	10	9	8	7	7	6	6	7	8	9	8
	PGU	48	47	56	67	55	52	58	70	47	48	60	54	70
Oak Ridge	DIR	SW	ENE	SW	SW	SW	SW	SW	E	E	E	E	SW	SW
	SPD	5	5	5	6	4	4	4	4	4	3	4	4	4
	PGU	42	31	34	50	29	31	26	35	39	41	51	39	51
TEXAS														
Abilene	DIR	N	N	S	S	SSE	S	S	S	S	S	S	S	S
	SPD	12	13	14	14	13	13	11	10	11	11	12	12	12
	PGU	51	52	61	56	76	64	63	52	68	58	49	59	76
Amarillo	DIR	SW	SW	SW	N	N	N	SSW	SSW	SSW	S	S	S	SW
	SPD	13	14	15	15	14	14	12	11	12	13	13	13	13
	#PGU	54	55	51	62	49	68	53	53	52	61	52	57	68

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Austin	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	10	11	10	9	9	8	8	8	8	9	9	9
	PGU	52	55	56	51	63	54	44	47	81	46	49	63	81
Brownsville	DIR	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	SSE	SSE	SSE	SSE	NNW
	SPD	11	12	13	14	13	12	12	10	9	10	11	11	11
	#PGU	47	38	44	43	45	36	37	36	55	40	44	39	55
Corpus	DIR	N	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	N	SE
Christi	SPD	12	13	14	14	13	12	12	11	10	11	12	12	12
	PGU	52	60	54	67	60	61	49	48	61	53	60	54	67
Dallas/	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
Ft. Worth	SPD	11	12	13	12	11	11	10	9	10	10	11	11	11
	PGU	66	54	53	66	71	58	54	81	51	63	68	55	81
Del Rio	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	9	10	11	11	11	11	11	10	9	9	9	8	10
	$PGU	37	37	52	37	48	38	38	60	47	46	43	43	60
El Paso	DIR	NNE	W	W	W	W	SE	ESE	N	S	N	NNE	N	N
	SPD	8	9	11	11	10	9	8	8	8	8	8	8	9
	#PGU	86	60	69	66	55	69	63	48	62	53	54	61	86
Galveston	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	12	12	12	12	12	11	10	9	10	10	11	11	11
	$PGU	53	60	50	68	66	62	68	91	100	66	72	50	100
Houston	DIR	N	N	N	N	SE	SE	SE	SE	SE	SE	SE	SE	SE
	SPD	8	9	9	9	8	8	7	6	7	7	8	8	8
	PGU	44	61	51	56	52	68	52	78	44	58	46	56	78
Laredo AFB	DIR	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
	SPD	9	10	12	13	14	14	14	13	10	10	9	9	12
	PGU	46	46	46	54	46	46	46	46	46	38	46	38	54
Lubbock	DIR	SW	WSW	S	S	S	S	S	S	S	S	S	WSW	S
	SPD	13	14	15	15	15	14	12	10	11	12	13	13	13
	PGU	59	64	77	71	74	85	72	59	58	52	63	64	85
Midland/	DIR	S	S	S	S	S	SSE	SSE	SSE	SSE	S	S	S	S
Odessa	SPD	10	11	13	13	13	12	11	10	10	10	10	10	11
	PGU	59	55	74	67	74	71	82	63	82	69	59	47	82
Port Arthur	DIR	N	N	N	N	N	N	N	N	S	S	S	S	N
	SPD	11	11	11	12	10	9	7	7	8	9	10	10	10
	PGU	56	54	53	59	62	76	69	55	58	47	54	51	76
San Angelo	DIR	SSW	SSW	S	S	S	S	S	S	S	S	S	SSW	S
	SPD	10	11	12	12	12	11	10	9	9	9	10	10	10
	#PGU	55	59	61	67	76	71	56	67	52	68	74	53	76
San Antonio	DIR	N	N	SE	SE	SE	SE	SSE	SSE	SE	SSE	N	N	SSE
	SPD	9	9	10	10	10	10	9	8	8	8	8	8	9
	#PGU	51	56	64	47	55	51	54	49	71	44	52	48	71
Sherman	DIR	S	S	SSE	SSE	SSE	SSE	S	SSE	SSE	SSE	S	S	SSE
	SPD	12	12	13	13	12	10	9	9	9	9	10	10	10
	PGU	84	81	71	74	62	71	71	58	60	48	83	62	84
Waco	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	12	12	13	13	12	11	11	10	10	10	11	11	11
	#PGU	47	39	44	43	58	53	45	45	55	44	48	40	58

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Wichita Falls	DIR	N	N	N	N	S	S	S	S	SE	SE	S	S	S
	SPD	11	12	13	13	12	12	11	10	10	11	11	11	11
	#PGU	51	62	52	53	56	55	74	52	64	52	63	52	74
UTAH														
Salt Lake City	DIR	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE
	SPD	8	8	10	9	9	10	10	10	9	8	8	8	9
	PGU	59	54	59	54	69	58	63	67	61	63	54	49	69
Wendover AFB	DIR	ENE	ENE	WNW	WNW	WNW	E	ESE	ESE	ESE	ESE	W	ENE	E
	SPD	5	6	7	8	8	8	7	7	6	5	5	5	6
	PGU	49	51	59	51	67	59	51	68	49	52	59	52	68
VERMONT														
Burlington	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	10	10	10	10	9	9	8	8	9	9	10	10	9
	PGU	51	54	54	44	54	45	60	41	52	51	62	51	62
VIRGINIA														
Hampton/ Langley AFB	DIR	N	N	N	SSW	SSW	SSW	SW	SW	N	N	SSW	N	SSW
	SPD	9	9	10	9	8	8	7	7	8	8	8	9	8
	PGU	70	64	76	71	79	64	56	78	70	96	63	66	96
Lynchburg	DIR	SW	W	SW	SW	SW	SW	SW	SW	N	NE	SW	SW	SW
	SPD	8	8	8	9	7	7	6	6	6	7	7	7	7
	PGU	48	46	56	53	59	74	64	46	44	48	64	47	74
Norfolk	DIR	N	N	NE	S	S	SSW	SW	SW	NE	NE	SW	N	SW
	SPD	11	12	12	12	10	10	9	9	10	10	11	11	11
	PGU	69	56	66	56	66	69	63	63	67	69	55	53	69
Quantico MCAS	DIR	NW	NW	NW	S	S	S	S	S	NW	NW	NW	NW	NW
	SPD	7	7	8	8	7	6	6	6	6	6	6	6	7
	PGU	61	62	58	45	75	60	55	58	53	71	48	55	75
Richmond	DIR	N	N	N	S	S	S	S	S	N	N	N	N	S
	SPD	8	9	9	9	8	8	7	7	7	7	8	8	8
	PGU	48	48	67	49	79	53	61	48	49	49	54	49	79
Roanoke	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
	SPD	9	10	10	10	8	7	7	6	6	7	8	9	8
	PGU	56	59	52	77	59	72	45	39	54	44	55	53	77
WASHINGTON														
Everett/ Paine Fld	DIR	SE	SSE	SSE	SSE	N	N	N	N	N	SE	SE	SE	SSE
	SPD	8	8	8	8	7	7	7	7	7	7	7	8	7
	PGU	51	62	46	55	46	40	35	30	39	81	51	46	81
Olympia	DIR	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW
	SPD	7	7	7	7	7	7	6	6	6	6	7	7	7
	PGU	58	43	51	43	38	38	32	37	38	45	47	66	66
Quillayute	DIR	NE	NE	NE	NE	S	S	S	S	WNW	WNW	WNW	WNW	S
	SPD	7	7	6	6	6	6	5	5	5	5	6	6	6
	PGU	55	56	46	40	41	44	26	48	36	44	54	58	58
Seattle/ Tacoma	DIR	S	S	S	SSW	SSW	SSW	SSW	SSW	N	S	S	S	S
	SPD	10	10	10	10	9	9	8	8	8	9	9	10	9
	PGU	64	46	46	44	39	33	29	38	39	45	52	60	64

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Seattle City Office	DIR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	PGU	51	49	54	44	46	37	39	33	33	41	63	46	63
Spokane	DIR	NE	NE	ENE	ENE	SW	SW	SW	SW	SW	SW	SW	SW	SW
	SPD	9	9	10	10	9	9	9	8	8	8	9	8	9
	PGU	56	51	52	62	53	49	51	47	47	62	56	63	63
Walla Walla	DIR	S	S	S	S	S	S	S	S	S	S	S	S	S
	SPD	5	6	6	6	6	6	5	5	5	5	5	5	5
	$PGU	49	47	62	41	37	37	36	35	51	54	67	47	67
Whidbey Island NAS	DIR	ESE	SE	SSE	W	W	W	W	W	W	SE	ESE	SE	W
	SPD	7	8	8	7	6	6	5	5	5	6	8	8	6
	PGU	69	67	62	61	54	45	53	51	59	70	70	69	70
Yakima	DIR	W	W	W	W	W	W	W	W	W	W	W	W	W
	SPD	6	6	8	9	8	8	8	8	7	7	6	5	7
	PGU	55	56	51	52	69	51	59	44	55	54	58	61	69
WEST VIRGINIA														
Beckley	DIR	WNW	WNW	SE	WNW	SE	WSW	WSW	SE	SE	SE	SE	SE	SE
	SPD	10	10	10	10	8	7	7	7	7	8	9	10	9
	PGU	51	62	48	48	56	53	51	46	48	43	60	53	62
Charleston	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	7	7	8	7	6	5	5	4	5	5	6	7	6
	#PGU	46	32	38	43	41	37	46	21	30	39	37	29	46
Elkins	DIR	WNW	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW
	SPD	7	8	8	8	6	5	4	4	4	5	7	8	6
	PGU	56	49	48	69	60	69	47	46	44	46	59	52	69
Huntington	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW
	SPD	8	8	8	8	6	6	5	5	5	6	7	8	7
	PGU	51	53	54	52	55	56	56	49	41	44	55	51	56
WISCONSIN														
Green Bay	DIR	W	W	SSW	SSW	NNE	NNE	NNE	NNE	NNE	NNE	SSW	SSW	SSW
	SPD	11	10	11	11	10	9	8	8	9	10	11	10	10
	PGU	46	46	55	49	81	49	56	54	47	44	49	53	81
La Crosse	DIR	NW	NW	NW	S	S	S	S	S	S	S	S	S	S
	SPD	9	9	10	11	10	9	8	7	8	9	10	9	9
	PGU	45	37	40	53	58	63	52	63	40	39	46	43	63
Madison	DIR	WNW	WNW	WNW	S	S	S	S	S	S	S	S	WNW	S
	SPD	11	10	11	12	10	9	8	8	9	10	11	10	10
	PGU	46	62	67	63	63	70	83	64	64	62	52	58	83
Milwaukee	DIR	WNW	WNW	WNW	N	NNE	NNE	SW	SW	SSW	SSW	WNW	WNW	WSW
	SPD	13	12	13	13	12	10	10	10	10	11	12	12	12
	PGU	54	46	77	64	54	56	81	69	58	53	56	59	81
WYOMING														
Casper	DIR	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW
	SPD	17	15	14	12	12	11	10	10	11	12	15	16	13
	PGU	67	64	63	64	64	64	62	62	63	62	60	66	67

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Cheyenne	DIR	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW
	SPD	15	15	15	14	13	11	10	10	11	12	14	15	13
	PGU	77	70	75	64	71	84	79	61	62	71	76	74	84
Lander	DIR	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
	SPD	5	5	7	8	8	8	7	7	7	6	6	6	7
	PGU	86	69	63	83	67	63	66	67	64	53	59	66	86
Sheridan	DIR	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
	SPD	8	8	9	10	9	8	7	7	8	8	8	8	8
	PGU	71	69	68	69	63	54	59	58	67	64	73	69	73

****

CONVERSION TABLE OF MILES PER HOUR (MPH) TO KNOTS (KTS)

MPH	0	1	2	3	4	5	6	7	8	9
MPH	KTS	KTS	KTS	KTS	KTS	KTS	KTS	KTS	KTS	KTS
0	0	1	2	3	3	4	5	6	7	8
10	9	10	10	11	12	13	14	15	16	17
20	17	18	19	20	21	22	23	23	24	25
30	26	27	28	29	30	30	31	32	33	34
40	35	36	36	37	38	39	40	41	42	43
50	43	44	45	46	47	48	49	50	50	51
60	52	53	54	55	56	56	57	58	59	60
70	61	62	63	63	64	65	66	67	68	60
80	70	70	71	72	73	74	75	76	76	77
90	78	79	80	81	82	83	83	84	85	86

(eg: 25 mph = 22 kts)

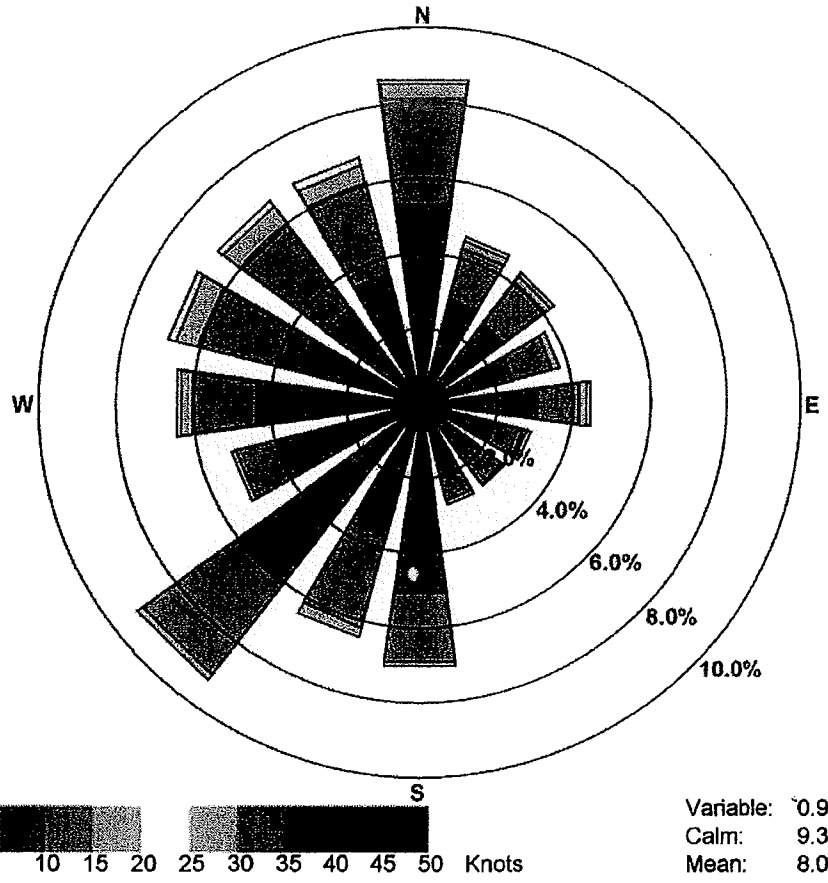
CONVERSION TABLE OF COMPASS POINTS (16) TO WHOLE DEGREES

N = 35-01 **E** = 08-10 **S** = 17-19 **W** = 26-28
NNE = 02-03 **ESE** = 11-12 **SSW** = 20-21 **WNW** = 29-30
NE = 04-05 **SE** = 13-14 **SW** = 22-23 **NW** = 31-32
ENE = 06-07 **SSE** = 15-16 **WSW** = 24-25 **NNW** = 33-34

Print This Graph

ISLIP LONG ISL MACARTHUR AP

10-year summary



Variable: 0.9%
Calm: 9.3%
Mean: 8.0 KT

Zoom In | Zoom Out | Print

Graph Help

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APPENDIX B

NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH) –

GENERIC COMMUNITY AIR MONITORING PLAN

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

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APPENDIX H

COMPACT DISC (CD) WITH AIR MONITORING DATA

APPENDIX I

COMPACT DISC (CD) QA AIR SAMPLING REPORTS

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APPENDIX J

IRM REMEDIAL ACTION PLAN APPROVAL LETTER DATED MAY 4, 2006.

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, 11th Floor
625 Broadway, Albany, New York 12233-7015
Phone: (518) 402-9620 FAX: (518) 402-9022

Denise M. Sheehan
Commissioner

May 4, 2006

Philip Schade
H2M Group, P.C.
575 Broad Hollow Road
Melville, NY 11747-5076

RE: Bethpage Community Party Park Revised IRM Remedial Action Plan

Dear Mr. Schade:

H2M, on behalf of the Town of Oyster Bay (Town), has submitted the report entitled "Addendum to the Remedial Action Plan, March 2006". This addendum report was submitted in response to New York State Department of Environmental Conservation (NYSDEC) February 10, 2006 comment letter on the "Investigation Report & Remedial Action Plan" and the "December 2005 Supplemental Investigation Report" for the Bethpage Community Park Interim Remedial Measure (IRM) construction area. This IRM sampling program was undertaken by the Town to enable the construction of a new ice rink facility in the Bethpage Community Park in what has been termed "The IRM Construction Area".

All the IRM reports have been reviewed by the NYSDEC, the New York State Department of Health (NYSDOH) and the Nassau County Department of Health (NCDH). The NYSDEC accepts the Remedial Action Plan (RAP) selected by the Town, with the following comments and requirements:

1. The level of remedial effort for Alternative 4 is beyond what the NYSDEC would require given the analytical results generated as a part of the IRM program. The Town was recently advised of this fact by the NYSDEC. The Town, nonetheless, has determined to implement Alternative 4. Accordingly, the NYSDEC will approve that remedial alternative, as it is protective of public health and the environment.

2. Subsequent to the initiation of the IRM field work by H2M Inc., the location of the proposed ice rink has been altered significantly from the originally proposed location. The new location is mostly over the existing ice rink and is overall, a more appropriate location given the information generated by the RAP. The new area is generally much lower in site related impacts to soils and requires much less remedial work in preparation for ice rink construction. The Consent Order may need to be amended to change the boundary specified for the IRM Construction Area.

3. Prior to the start of construction, the Town needs to submit the following reports to the NYSDEC for approval:
    a. Community Health and Safety Plan,
    b. Truck Transportation Plan,
    c. Soils Excavation Plan,
    d. Dust Suppression Plan,
    e. Decontamination Plan,
    f. Community Air Monitoring Plan, and
    g. Fill Management Plan.

4. The Town's selected remedial action plan and the reports listed above should be presented to and discussed with the public at a public availability session or a public information meeting prior to starting the construction. Steve Scharf will contact you and the town to coordinate the meeting.

If you have any questions, please feel free to contact Steven Scharf, P.E. at (518) 402-9620.

Sincerely,

Chittibabu Vasudevan, Ph.D, P.E.
Director, Remedial Bureau A
Division of Environmental Remediation

cc: R. Rusinko, DEC (Via e-mail)
J. Byrne, P.E., Town of Oyster Bay (Via E-mail)
R. Betz, Town of Oyster Bay (Via E-mail)
M. Russo, Town of Oyster Bay (Via E-mail)
P. Barry, Town of Oyster Bay (Via E-mail)
T. Firetog, Esq (Via E-mail)