Frito - Lay

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GF Project No.
47743

REMEDIAL WORK PLAN

202-218 MORGAN AVENUE

BROOKLYN, NEW YORK

NEW YORK STATE BROWNFIELD CLEANUP PROGRAM

SITE NUMBER C224133

PROJECT #47743

August 2011

Gannett Fleming

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NEW YORK STATE PROFESSIONAL ENGINEER'S CERTIFICATION

I, Vincent Frisina, am currently a registered professional engineer licensed by the State of New York. I have primary direct responsibility for implementation of the remedial program for the Frito-Lay 202-218 Morgan Avenue, Brooklyn, New York Site (NYSDEC Brownfields Cleanup Agreement Index No. A2-0622-0709, Site No. C224133).

I certify that the Site description presented in this Remedial Work Plan (RWP) is identical to the Site descriptions presented in the Brownfield Cleanup Agreement for the Frito-Lay 202-218 Morgan Avenue, Brooklyn, New York Site and related amendments.

I certify that this plan includes proposed use restrictions, Institutional Controls, Engineering Controls, and plans for all operation and maintenance requirements applicable to the Site and provision for development of an Environmental Easement to be created and recorded pursuant ECL 71-3605. This RWP requires that all affected local governments, as defined in ECL 71-3603, will be notified that such Easement has been recorded. This RWP requires that a Site Management Plan must be submitted by the Applicant for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, for approval by the Department.

I certify that this RWP has a plan for transport and disposal of all soil, fill, fluids and other material removed from the property under this Plan, and that all transport and disposal will be performed in accordance with all local, State and Federal laws and requirements. All exported material will be taken to facilities licensed to accept this material in full compliance with all Federal, State, and local laws.

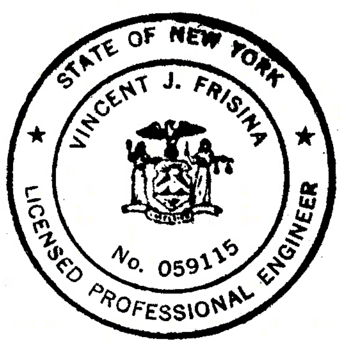
I certify that this RWP has a plan for import of all soils and other material from off-site and that all activities of this type will be in accordance with all local, State and Federal laws and requirements.

I certify that that this RWP has a plan for nuisance control during the remediation and all invasive development work, including a dust, odor and vector suppression plan and that such plan is sufficient to control dust, odors and vectors and will prevent nuisances from occurring.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

______________________	8/22/2011	059115-1
Vincent Frisina, P.E. (Seal and Signature)	Date	Registration No:
Gannett Fleming Engineers, P.C.		State of New York

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.



EXECUTIVE SUMMARY

This Remedial Work Plan (RWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), the Supplemental RI (SRI), and the Second Supplemental RI (SSRI) that were performed at the Frito-Lay site (Site) located at 202-218 Morgan Avenue in Brooklyn, New York. It provides an evaluation of a Track 4 cleanup and other applicable Remedial Action alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements.

This RWP includes all of the components listed in DER-10, Section 5.3 "Remedial Action Work Plan", acts as the design document and the Remedial Action Work Plan (RAWP), and also includes items identified in 6 NYCRR Part 375, Environmental Remediation Programs. This RWP has been prepared in sufficient detail for construction and meets the requirements of 6 NYCRR Part 375-3.8(g)(4) and includes:

1. Project Plans and Specifications;
2. Community Air Monitoring Program;
3. Health and Safety Plans;
4. Quality Assurance/Quality Control Plan;
5. Reporting Requirements;
6. Project Organization; and,
7. Schedule.

The Work Plans for the RI, the SRI, and the SSRI were prepared and submitted to New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) for review and acceptance. On October 9, 2009, NYSDEC accepted the RI

Work Plan for the Site and sampling activities commenced on November 4 through 6 and November 20, 2009. A SRI Work Plan was prepared and submitted to NYSDEC DER for review and acceptance. On August 2, 2010, NYSDEC accepted the SRI Work Plan for the Site and field sampling activities were performed on August 4 through 10, 2010. A SSRI Work Plan was prepared in response to meetings and discussions with EPA regarding TSCA requirements and submitted to NYSDEC DER for informational purposes. On September 21, 2010, NYSDEC stated that they did not have comments to the SSRI Work Plan for the Site and field sampling activities were performed on October 4 through 14, 2010. All work was performed in accordance with NYSDEC Brownfield Cleanup Program (BCP), DER-10 Technical Guidance for Site Investigation and Remediation, the signed BCP Agreement (Index No. A2-0622-0709, Site No. C224133) with Frito-Lay dated August 21, 2009.

The Site was historically used as both a building supply and a brick supply facility, as well as a manufacturing company in the early 1900s. By the 1930s, the Site was a brick and supply company, and by 1965, the Site was a scrap metal yard and included an auto painting business. In 1989, the Site was a garbage transfer station. The most recent use of the Site is a solid waste storage facility and a scrap metal recycling facility. The Site was purchased by Frito-Lay in 2006.

A Phase II Environmental Site Assessment (ESA) was conducted on the Site in December 2007 and January 2008 and the RI was conducted in response to NYSDEC's May 5, 2009 comment letter requesting the collection of additional Site data. The results of the Phase II ESA indicated that volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) are present in the soil with concentrations exceeding the 6 NYCRR Part 375-6 - Soil Cleanup Objectives (SCOs). The groundwater analytical results indicate the presence of aluminum, iron, manganese, methyl tert-butyl ether (MTBE), sodium, thallium, vinyl chloride with concentrations exceeding the Technical and Operational Guidance (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Standards (TOGS standards).

The RI sampling program conducted in November 2009 included the collection of: two (2) soil borings along English Kills; thirteen (13) soil borings at various on site locations to complete the 50' x 50' sampling grid; two (2) surface water samples and four (4) sediment samples from the English Kills; three (3) soil gas samples, and eight (8) groundwater monitoring wells samples from six (6) on-site and two (2) off-site upgradient groundwater monitoring wells. The SRI sampling program conducted in August 2010 included the collection of: twenty-seven (27) soil borings advanced at various on site locations to complete the 50' x 50' sampling grid; the first soil sample was collected from equal portions of the soil boring from 0 to 2 ft-bgs and the other half from 2 to 4 ft-bgs and the second soil sample was collected from 4 ft-bgs to just above the water table. All soil samples were analyzed for PCBs and TAL metals.

The soil sample results indicated that arsenic is present in surface and subsurface soils with concentrations exceeding the Part 375 Restricted Use - Protection of Groundwater SCOs, and lead, mercury, PCBs, and SVOCs are present in surface and subsurface soils with concentrations exceeding the Part 375 Restricted Use - Industrial SCOs. SVOCs (carcinogenic polycyclic aromatic hydrocarbons [PAHs]), including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene have been detected with concentrations exceeding the Part 375 Restricted Use - Commercial SCOs, and the Restricted Use - Industrial SCOs. The soil contamination is located throughout the Site to depths of 11 to 12 feet below ground surface (ft-bgs), which is the approximate depth of groundwater beneath the Site. Potentially hazardous levels of lead and PCBs are present in several locations within the Site boundary.

The groundwater results from the previous investigations conducted since 2003 and the November 2009 RI indicated the presence of benzene, DCE, 1,1-DCA, 1,2-DCA, MTBE, and vinyl chloride with concentrations exceeding their respective TOGS standards in several on- and off-site monitoring wells. SVOC concentrations exceeding their respective TOGS standards were not detected in any of the groundwater samples collected since 2003. Concentrations of aluminum, arsenic, iron, magnesium, manganese, nickel, and sodium are also present with concentrations exceeding their TOGS standards in several on- and off-site monitoring wells. The unfiltered samples for aluminum, chromium, iron, lead, manganese, nickel, and sodium were detected at MW-7 and MW-8 (off-site monitoring wells) and may be indicative of a regional or localized groundwater conditions. Arsenic was detected at both the unfiltered and filtered samples with similar concentrations exceeding the TOGS standards which could indicate a localized elevated arsenic groundwater condition at MW-3 and MW-4. Lead was detected in the total (Total) samples, but not in the dissolved (Dissolved) samples, with concentrations exceeding the TOGS standards which could indicate a localized elevated lead groundwater condition upgradient to the Site at MW-7. The lead groundwater concentrations are likely the result of lead containing soil particles being collected as part of the groundwater sample and/or the results of impacts identified in the upgradient monitoring well MW-7. It does not appear that the lead surface and subsurface soil concentrations are impacting on-site groundwater quality, as the upgradient lead groundwater concentrations are higher than the lead concentrations detected in the on-site groundwater samples.

The results of the RI did not indicate the presence of VOCs, SVOCs, and pesticides with concentrations exceeding the applicable NYSDEC Guidance Values for sediments. TAL metal concentrations exceed the Severe Effect Level (SEL) criteria at all four (4) sediment sample locations. PCB concentrations were also detected exceeding HHB and/or WB criteria at all four (4) sediment sample locations. The data collected during the RI sampling program is inconclusive that the Site is responsible for, or attributable to the sediment contamination. The results of the RI did not indicate the presence of VOC, SVOC, PCBs, or pesticides in surface water with concentrations exceeding the applicable NYSDEC Guidance Values. However, a copper concentration was detected exceeding the FS-SW. The soil gas results indicate the presence of VOCs collected from three (3) soil gas sampling points installed at the Site. The most notable soil gas concentrations include acetone, benzene, 2-butanone, carbon disulfide, chloroform, cyclohexane, ethylbenzene, heptane, hexane, toluene, tert-butyl alcohol, tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 2,2,4-trimethylpentane cyclohexane, o-xylene, and m/p-xylene.

The soil sample results collected during the SRI indicated that arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and/or lead, mercury, and PCB concentrations exceeding the Restricted Use - Industrial SCOs are present in surface and subsurface soils in 21 of the 27 soil borings completed. The soil contamination is located throughout the Site to depths of 11 feet below ground surface (ft-bgs), which is the approximate depth of groundwater beneath the Site. Potentially hazardous levels of lead were identified in several soil sample locations collected during the SRI. Potentially hazardous levels or concentrations of PCBs exceeding the Industrial SCOs were not detected at any of the soil samples collected during the SRI.

The results of the TCLP analysis indicated that arsenic concentrations exceeding the Resource Conservation and Recovery Act (RCRA) Hazardous Waste Regulatory Level of 5 mg/L were not present in any of the six (6) samples collected for analysis. The analytical data demonstrated that arsenic contaminated soil concentrations at or below 144 mg/kg have recorded no detection for TCLP analyses in all concurrent sampling pairs (filtered and unfiltered).

Prior to conducting the SSRI sampling program, a meeting was held with United States Environmental Protection Agency (EPA) (Region 2) representatives on August 26, 2010 and on September 23, 2010. The purpose of these meetings was to discuss the PCB soil contamination at the Site, to determine Toxic Substance Control Act (TSCA) requirements for disposal of PCB contaminated soil exceeding 50 mg/kg, to determine EPA's PCB soil delineation requirements, and to discuss EPA's High Occupancy Area (HOA) criteria of 10 milligrams per kilogram (mg/kg) and the Low Occupancy Area (LOA) criteria of 25 mg/kg in relation to the proposed remedial alternatives for the Site. In addition, EPA representatives provided guidance for the preparation of the "Notification for Self-Implementing on-site cleanup and disposal of PCB remediation waste" which must be approved prior to excavation and disposal of PCB contaminated soil with concentrations exceeding the TSCA criteria of 50 mg/kg. The EPA representatives did not have comments to the proposed PCB soil delineation sampling plan that was proposed in the SSRI sampling program.

The SSRI sampling program included the collection of: thirty-eight (38) soil borings advanced at various on site locations to further delineate PCBs concentrations exceeding either 10 or 25 milligrams per kilogram (mg/kg) within individual 50’ x 50’ sampling grids by subdividing the sampling grid into four (4) 25’ x 25’ sampling grids for the collection of delineation samples. The purpose of this sampling program was to assess whether PCBs have impacted the entire 50’ x 50’ sampling grid or individual 25’ x 25’ sampling grids to adequately assess the quantity of soil requiring excavation and disposal. Additional soil samples were collected for arsenic and lead to further evaluate the leaching potential of these compounds in relation to their total concentrations.

The soil sample results collected during the SSRI indicated arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and/or lead and PCB concentrations exceeding the Restricted Use - Industrial SCOs in 18 of the 38 soil borings completed. The soil contamination is located throughout the Site to depths of 11 ft-bgs, which is the approximate depth of groundwater beneath the Site. Potentially hazardous levels of lead were detected at one (1) soil sample location collected during the SSRI. Potentially hazardous levels or concentrations of PCBs exceeding the Industrial SCOs were detected at one (1) soil sample location collected during the SSRI.

The primary Remedial Action Objectives (RAOs) are to remediate the 202-218 Morgan Avenue Site to the extent practicable and to:

- allow the Site to be used in an restricted industrial manner;
- at a minimum, eliminate or mitigate all significant threats to the public health and the environment;
- prevent human exposure, through direct contact, ingestion, or inhalation to contaminated soil and groundwater that presents an unacceptable risk; and,
- prevent erosion and off-site migration of soils contaminated with concentrations posing unacceptable risk.

A remedial alternative analysis for soil was performed to assess potential remedial actions to address soil concentrations exceeding the Unrestricted Use SCOs, Restricted Use - Commercial SCOs, and Restricted Use - Industrial SCOs. In addition, a remedial alternative analysis was performed to assess the potential remedial actions to address the arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and the lead, mercury, PCB, and SVOC concentrations exceeding the Restricted Use - Industrial SCOs. The following remedial alternatives were further assessed to determine applicability for the Site.

1. No Action, No remediation
2. Soil Excavation - Exceeding Unrestricted Use SCOs
3. Soil Excavation - Exceeding Restricted Use - Commercial SCOs
4. Soil Excavation - Exceeding Restricted Use - Industrial SCOs
5. Soil Excavation, "Hot Spot" Excavation Areas - Exceeding Site-Specific RAOs for arsenic, lead, and mercury, and Restricted Use - Industrial SCOs for PCBs
6. Ex-Situ Treatment (Solidification/Stabilization)
7. Asphalt Cover System

The remedial strategy for the Site will be consistent with Track 4 cleanup, as specified in 6 NYCRR §375-6.8(b), as the basis for site soil cleanup for the chemicals of concern (COC) identified at this Site. The SCOs for the major contaminants of concern (COCs) found in the Site soils are 16 mg/kg for arsenic, 3,900 mg/kg for lead, 5.7 mg/kg for mercury, and 25 mg/kg for PCBs. Where concentrations of contaminants in soil exceed the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for lead, mercury, PCBs, and SVOCs a combination of soil removal and an "engineered cover system" will be implemented to prevent exposures in accordance with restricted use. Soil contamination exceeding the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs lead, mercury, and PCBs that are expected to remain on-site and below an approved "engineered cover system" are referred to as "remaining contamination." The major COCs expected to remain on-site as "remaining contamination" are arsenic, lead, mercury, and SVOCs which have been evaluated to determine their potential to migrate to other environmental media. The proposed "engineered cover system" would also provide protection for human health exposure from carcinogenic PAHs in surface soil.

The development of site-specific remedial action objectives (RAOs) for the Site evaluated whether specific metal contaminants detected in the on-site groundwater monitoring well samples are the result of impacts from surface and/or subsurface soil concentration. Three (3) predominant soil contaminants (arsenic, lead, and mercury) with concentrations above the Restricted Use - Protection of Groundwater and/or Industrial SCOs were evaluated to assess whether elevated metal surface and/or subsurface soil concentrations have the potential to impact groundwater quality beneath the Site.

The results of the TCLP analysis indicated that arsenic concentrations exceeding the RCRA Hazardous Waste Regulatory Level of 5 mg/L were not present in any of the 10 samples collected for analysis. The analytical data further demonstrates that arsenic contaminated soil at concentrations at or below 144 mg/kg have recorded no detection for TCLP analyses in all concurrent sampling pairs (total and TCLP analyses). Based on these findings, evidence does not suggest that remaining contamination levels of arsenic will migrate to other media nor do they pose a significant threat to public health or the environment. A RAO of 100 mg/kg has been established for arsenic based on economic analyses of the overall remedy. Therefore, in accordance with this strategy, arsenic contaminated soils in excess of 100 mg/kg will be defined as "Hot Spots" and will be removed for off-site disposal.

The results of the TCLP analysis indicated that lead concentrations exceeding the RCRA Hazardous Waste Regulatory Level of 5 mg/L were present at one (1) of the 11 samples collected for analysis. Although, lead contamination in soil appears to be leaching, the results of the dissolved groundwater analysis indicated non-detect for lead. Evidence does suggest that remaining contamination levels of lead could migrate to groundwater but does not appear to pose a significant threat to public health or the environment, as documented in the dissolved groundwater analytical results. However, lead concentrations exceeding 10,000 mg/kg have shown TCLP concentrations exceeding 1 mg/L. Therefore, a RAO of 10,000 mg/kg has been established for lead based on economic analyses of the overall remedy and based on the evidence that the dissolved groundwater analytical results are not exceeding the TOGS standard for lead of 25 µg/L. Therefore, in accordance with this strategy, lead contaminated soils in excess of 10,000 mg/kg will be defined as "Hot Spots" and will be removed for off-site disposal.

The on-site and upgradient groundwater sample results indicate that mercury concentrations detected from the on-site monitoring wells do not contain dissolved mercury concentrations above the TOGS standard and are likely the result of mercury containing soil particles being collected as part of the groundwater sample and/or the results of impacts identified in the upgradient monitoring wells MW-7 and MW-8. From these data and analyses, it is concluded that mercury concentrations in Site soils, up to the RAO of 15 mg/kg, left on-site and below an approved engineered cover system are not likely to represent source levels of contamination to other media, are not considered a significant threat to public health or the environment, and is therefore in compliance with the remedial objectives of the BCP. Therefore, in accordance with this strategy, mercury contaminated soils in excess of 15 mg/kg will be defined as "Hot Spots" and will be removed for off-site disposal.

The results of this evaluation indicated that arsenic is not leaching into groundwater at concentrations below 144 mg/kg, mercury soil concentrations exceeding 15 mg/kg are not leaching or impacting groundwater quality, lead soil concentrations exceeding 10,000 mg/kg will be excavated for off-site disposal to reduce any contribution to the localized groundwater contamination will be excavated for off-site disposal. Therefore, site-specific RAOs for arsenic (100 mg/kg), for lead (10,000 mg/kg), and for mercury (15 mg/kg) have been proposed in lieu of the Restricted Use - Protection of Groundwater SCO for arsenic and the Restricted Use - Industrial SCOs for lead and mercury. Soil excavation and off-site disposal will occur where arsenic concentrations exceed the site specific RAO of 100 mg/kg, lead concentrations exceed the site specific RAO of 10,000 mg/kg, and mercury concentrations exceed the site specific RAO of 15 mg/kg.

SVOCs, predominately present in the form of (PAHs, which are constituents of common road asphalt and inorganic compounds. SVOCs were not detected at concentrations exceeding their respective TOGS standards in any of the groundwater samples collected since 2003. Therefore, SVOCs are likely immobile at the Site and do not pose a significant threat to human health and the environment, if left in-place covered by an engineered cover system. The proposed "engineered cover system" would also provide protection for human health exposure from carcinogenic PAHs in surface soil.

The placement of an engineered cover system (asphalt cover) will be required as part of Alternative No. 5 for the entire Site. The engineered cover system will eliminate exposure where arsenic concentrations remain above the Part 375 Restricted Use - Protection of Groundwater SCO of 16 mg/kg, remaining lead concentrations remain above the Part 375 Restricted Use - Industrial SCOs of 3,900 mg/kg, mercury concentrations remain above the Part 375 Restricted Use - Industrial SCOs of 5.7 mg/kg, and SVOC concentrations remain above the Part 375 Restricted Use - Industrial SCOs are located at the Site.

In addition, the proposed remedial actions for soil will also excavate PCB concentrations which exceed the United Sates Environmental Protection Agency's (EPA's) High Occupancy Area criteria of 10 milligrams per kilogram (mg/kg) in areas where the proposed warehouse expansion will be located. These soil sample locations have been identified as SB-7, SB-9, SB-9-3, and SB-19 (grids E1 and E3). There were no other soils sample locations within the proposed footprint of the future warehouse expansion which exceed the EPA's HOA criteria of 10 mg/kg for PCBs. Therefore, in accordance with this strategy, PCB contaminated soils in excess of 25 mg/kg (and which exceed the EPA's HOA criteria of 10 mg/kg within the proposed footprint of the future warehouse expansion) will be defined as "Hot Spots" and will be removed for off-site disposal.

The following remedial alternative was proposed for the Site.

1. Implementation of Alternatives No. 5 (Hot Spot Excavation, Site-Specific RAOs for arsenic, lead, and mercury, and Restricted Use - Industrial SCOs for PCBs) and an engineered cover system (asphalt cover system) at the Site is the recommendation of Frito-Lay and GF.
2. Contaminated soil excavation and removal is proposed in 24 individual areas within the Site boundaries that contain concentrations of arsenic, lead, and mercury concentrations exceeding the site-specific RAOs, and PCBs exceeding the Restricted Use - Industrial SCOs. These areas include soil borings (sampling grid) SB-1 (B,1), SB-6 (D3,3), SB-7 (E1,1), SB-8 (E3,4), SB-8-1 (E2,4), SB-8-2 (E4,4), SB-9 (E1,3), SB-9-3 (E4,3), SB-16 (H3,4), SB-16-1 (H4,4), SB-17 (H4,3), SB-17-1 (H2,3), SB-17-2 (H3,3), SB-19 (E4,1), SB-20 (G1,2), SB-22 (F3,4), SB-23 (D1,5), SB-23-4 (C2,5), SB-24 (D3,2), SB-27 (B2,5), SB-28 (A,3), SB-29 (A,1), SB-32 (A,2), and SB-102 (J,5). Soil boring locations SB-8 (E3,4), SB-8-2 (E4,4), SB-17 (H4,3), SB-20 (G1,2), SB-22 (F3,4), SB-23-4 (C2,5), SB-24 (D3,2), and SB-27 (B2,5) contain potentially hazardous concentrations of lead (exceeding the 5 mg/L RCRA hazardous waste criteria based on TCLP analytical results) and/or PCBs (exceeding the TSCA criteria of 50 mg/kg) will require special handling, management and off-site disposal/treatment (Figure 4-4). Soil boring locations SB-7 (E1,1), SB-9 (E1,3), SB-9-3 (E4,3), and SB-19 (E4,1) contain PCB concentrations exceed the EPA's HOA criteria of 10 mg/kg and will be excavated for off-site disposal as part of the proposed remedial action for soil.
3. Approximately, 1,400 cubic yards of potentially hazardous PCBs exceeding the TSCA criteria of 50 mg/kg and/or lead (exceeding the RCRA hazardous waste criteria of 5 mg/L based on TCLP analytical results) soils and 4,800 cubic yards of arsenic exceeding the site-specific RAO of 100 mg/kg, of lead exceeding the site-specific RAO of 10,000 mg/kg, of mercury exceeding the site-specific RAO of 15 mg/kg, and of PCBs exceeding the Restricted Use - Industrial SCO of 25 mg/kg and exceeding the EPA's HOA criteria of 10 mg/kg in the proposed future warehouse location will be excavated for off-site disposal/treatment.

4. The placement of 6-inch asphalt (plus 6 inches of sub base) engineered cover system will eliminate the potential that trespassers, construction workers, future workers, and visitors will come into contact with soil containing concentrations that exceed Restricted Use - Protection of Groundwater SCOs for arsenic and/or Restricted Use - Industrial SCOs for SVOCs and TAL Metals, even at low levels.
5. Inspection of the asphalt engineered cover system will be conducted annually in the spring after all snow has melted or has been plowed/cleared from the site. If during the inspection the engineered cover system is determined to be damaged, appropriate actions will be taken to repair, replace or reseal the damaged area.
6. The use of land use or Institutional Controls (environmental easement) will ensure that construction workers can work safely at the Site in the future by establishing specific health and safety requirements for all future excavations at the Site as long as soil containing concentrations that exceed Unrestricted Use SCOs are present at any depth.

The use of land-use or ICs controls (environmental easement) will ensure that construction workers can work safely at the Site in the future by establishing specific health and safety requirements for all future excavations at the Site as long as soil concentrations exceeding Part 375 SCOs are present at any depth and compliance with the Site Management Plan (SMP). Institutional and Engineering controls will also be required to evaluate potential soil vapor exposure impacts and mitigation at time of redevelopment. Land-use controls will be implemented to limit the future use of the Site to manufacturing and to restrict handling of soil during future development.

The proposed remedial action for on-site soil, Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs (Alternative No. 5), will also include the following proposed remedial actions for the Site.

- Monitored Natural Attenuation for groundwater
- Soil Vapor Mitigation for soil vapors

The results of the RI, as well as the groundwater results from the previous investigations conducted since 2003 indicate the presence of benzene, DCE, 1,1-DCA, 1,2-DCA, MTBE, and vinyl chloride at concentrations above their respective TOGS standards in several on- and off-site monitoring wells. Concentrations of aluminum, arsenic, iron, magnesium, manganese, nickel, and sodium are also present at concentrations above their TOGS standards in several on- and off-site monitoring wells.

Groundwater has been sampled and monitored for 8 years at this Site. Groundwater contaminant “hot spots” (low concentrations of VOCs) have been identified and remain persistent on-site. No soil contaminant sources have been attributed to these groundwater “hot spots” and no sensitive receptors have been identified in the downgradient groundwater flow direction. However, VOC contamination in groundwater may provide a source for soil vapor contamination. The proposed remedial action for groundwater contamination is monitored natural attenuation with land use restrictions (environmental easement) to prohibit groundwater use at the Site. Considering the declining/stable condition of VOC concentrations in groundwater, monitored natural attenuation is considered the most appropriate and cost-effective remedial action for the Site.

Groundwater monitoring activities to assess natural attenuation will be detailed in the SMP and will continue as determined by NYSDEC until VOC and TAL metal concentrations are detected below TOGS standards or become asymptotic over multiple rounds of monitoring. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC or a plume appears, additional source investigation, treatment or removal and/or control may be required.

The results of the RI did not indicate the presence of VOCs, SVOCs, and pesticides at concentrations above the applicable NYSDEC Guidance Values for sediments. TAL metal concentrations exceed the SEL criteria at all four (4) sediment sample locations. PCB concentrations were also detected above HHB and/or WB criteria at all four (4) sediment sample locations. The data collected during the RI sampling program is inconclusive that the Site is responsible for, or attributable to the sediment contamination. A more extensive sediment sampling program would need to be implemented to make this determination. Therefore, a remedial action for sediments is not proposed for the Site.

The results of the RI did not indicate the presence of VOC, SVOC, PCBs, or pesticides in surface water at concentrations above the applicable NYSDEC Guidance Values. However, a copper concentration was detected above the FS-SW. Based on the surface water results collected during the November 2009 sampling event, there do not appear to be surface water impacts from the Site. Therefore, a remedial action for surface water is not proposed for the Site.

The soil gas results indicate the presence of VOCs collected from three (3) soil gas sampling points installed at the Site. The most notable soil gas concentrations include acetone, benzene, 2-butanone, carbon disulfide, chloroform, cyclohexane, ethylbenzene, heptane, hexane, toluene, tert-butyl alcohol, tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 2,2,4-trimethylpentane cyclohexane, o-xylene, and m/p-xylene.

Limited on-site soil vapor sampling and analyses has detected groundwater related contaminants in the soil vapor. Vapor mitigation engineering controls may be required as a result of investigative sampling and analyses or may be installed as a preemptive measure during redevelopment in accordance with the SMP. At the time of redevelopment, an evaluation will be conducted to assess the potential for soil vapor intrusion which may require the installation of mitigative measures for all structures constructed at the Site.

Mercury monitoring in ambient air will be conducted during remedial activities to assess the potential for fugitive mercury vapor concentration in air. Mercury vapor data will be logged in the in a separate CAMP log book during the remedial activities. If the perimeter limit is exceeded, remedial activities will be immediately halted and subsequently re-evaluated.

1.0 INTRODUCTION

Frito-Lay entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) on August 21, 2009, to investigate and remediate a 2.85-acre property located at 202-218 Morgan Avenue in Brooklyn, Kings County, New York. Frito-Lay is a Participant in the Brownfield Cleanup Program. Industrial use is proposed for the property. When completed, the Site will provide parking for Frito-Lay operations that are primarily located north of the Site on Morgan Avenue. Frito-Lay entered into the BCP by signing the BCP Agreement with NYSDEC on August 21, 2009.

This Remedial Work Plan (RWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), the Supplemental RI (SRI), and the Second Supplemental RI (SSRI). It provides an evaluation of a Track 4 cleanup and other applicable Remedial Action alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have determined that this Site does pose a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

This RWP includes all of the components listed in DER-10, Section 5.3 “Remedial Action Work Plan”, acts as the design document and the Remedial Action Work Plan (RAWP), and also includes items identified in 6 NYCRR Part 375, Environmental Remediation Programs. This RWP has been prepared in sufficient detail for construction and meets the requirements of 6 NYCRR Part 375-3.8(g)(4) and includes:

1. Project Plans and Specifications;
2. Community Air Monitoring Program;

3. Health and Safety Plans;
4. Quality Assurance/Quality Control Plan;
5. Reporting Requirements;
6. Project Organization; and,
7. Schedule.

1.1 Site Location and Description

The Site is located in the County of Kings, Brooklyn, New York and is identified as Block 2942 and Lot 105, 111, and 102 on the Borough of Brooklyn Tax Map, Section 10. A United States Geological Survey (USGS) topographical quadrangle (Figure 1-1) shows the Site location. The Site is situated on an approximately 2.85 acre area bounded by Block 2942, Lot 101 to the north, English Kills Basin and Block 2942, Lot 101 to the south, English Kills to the east, and Morgan Avenue to the west (see Figure 1-2). The Site, for the purposes of this report, is actually 2.57 acres includes the land that enclosed by the wall along Morgan Avenue and the chain-link fence that surrounds the remaining portion of the Site. The remaining 0.28 acres of land is located under water below the basin that is located at the southern portion of the Site. A boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419. The 2.85-acre property is fully described in Appendix A, Metes and Bounds Survey.

1.2 Geological Conditions

The Site lies approximately 13 feet above mean sea level. The general topographic gradient at the Site is generally flat. Depth to groundwater at the subject property is approximately 9 feet below ground surface (ft-bgs) to 15 ft-bgs. Since the Site is vacant, surface runoff is directed by the natural topography of the land and percolates through site soil down to the water table. The nearest water body is English Kills located adjacent to the east side of the Site. Groundwater elevation contour data shows that the regional inferred groundwater flow direction is to the east towards English Kills with on-site flow radiating from northeast to southeast across the Site towards English Kills.

According to maps and reports published by the United States Geologic Survey (USGS) and others, the subject property is underlain by unconsolidated Cretaceous to Quaternary age sand and gravel deposits that comprise Long Island's groundwater system. These hydrogeologic units consist of alternating interbedded lenses of gravel, sand, silt, and clay, which form a layered sequence of aquifers and confining units that dip gently to the south and east. Based on the soil samples collected by GF, the underlying soil at the Site consists of fine to coarse grained sand with some gravel and urban fill as defined by the Unified Soil Classification System (USCS).

1.3 Site History

The Site was historically used as both a building supply and a brick supply facility, as well as a manufacturing company in the early 1900s. By the 1930s, the Site was a brick and supply company, and by 1965, the Site was a scrap metal yard and included an auto painting business. In 1989, the Site was a garbage transfer station. The most recent use of the Site is a solid waste storage facility and a scrap metal recycling facility. The Site was purchased by Frito-Lay in 2006.

1.4 Sanborn Maps

Sanborn® Fire Insurance Maps dated 1888, 1907, 1933, 1951, 1965, 1979, and 1989 were reviewed for the Site to assess prior site usage. The following is a summary of the subject and surrounding properties as depicted on the Sanborn Maps:

1888 The Site is shown undeveloped. The surrounding neighborhood is mostly undeveloped as well.

1907 Two construction supply companies, *American Building Supply Co.* and *Empire Brick and Supply Co.* are shown on the Site. *Warren Manufacturing Co.* is also shown on the Site. *Warren Manufacturing Co.* is also shown to the west across Morgan Avenue as a paper manufacturer. *Fries Coal Co.* and *Eastern Bermudez Asphalt Co.* are shown adjacent to the south of the Site. Multiple industrial properties are shown in the surrounding neighborhood.

<u>1933</u> *Empire Brick and Supply Co.* occupies the majority of the Site. *American Building Supply Co.* and *Warren Manufacturing Co.* are no longer shown. The asphalt company is no longer shown to the south. *Fries Coal Co.* is now *Burns Bros. Coal Co. Crown Dyeing and Bleaching Co.* is shown to the west of the Site across Morgan Avenue. Three gasoline tanks are shown in the properties at the southeast corner of Morgan Avenue and Grand Street. These tanks are not within the inferred groundwater flow path of the Site.

<u>1951</u> The Site is unchanged. The coal company to the south is now labeled *Premium Coal & Oil Co. Inc.* and includes bulk fuel oil storage. 1,359,000-gallons of storage capacity are stated in the fuel oil storage area. These heating oil tanks are within the inferred downgradient groundwater flow path of the Site. *Crown Dyeing and Bleaching Co. is* no longer shown and the property has been divided into a wood shop and a *Chromium Plating* business. This chromium plating business is within the inferred upgradient groundwater flow path of the Site.

<u>1965</u> The construction supply company is no longer present at the Site. The Site appears mostly vacant and is labeled *scrap metal*. An auto painting business is also shown in the Site. An additional scrap metal yard is shown adjacent to the north of the Site. Premium *Coal & Oil Co. Inc.* has an additional 660,000 gallons of fuel oil storage shown. In addition to the chromium plating business, multiple machine shops, metal finishing shops, foundries, and electrical equipment manufacturing businesses are shown in the neighborhood to the west of the Site.

<u>1979</u> Although the structure still remains at the Site, it is no longer labeled an auto painting business. No other significant changes are shown.

<u>1989</u> The scrap metal yard adjacent to the north of the Site is now labeled a garbage transfer station. Only one gas tank is shown on the properties at the southeast corner of Morgan Avenue and Grand Street. No other significant changes are shown.

In summary, the Sanborn® maps indicate that the Site has been developed since at least 1907 and has been used as a solid waste transfer station since the 1960's. Surrounding property usage has been primarily industrial and commercial.

1.5 Past Uses and Ownership

Based on available information the previous owners and names, last known addresses, and telephone numbers, if available, for the Site includes the following:

Gloria Development Corporation
Ken K. Tu, President
181 4th Avenue
Brooklyn, NY 11217
Telephone number not available

DSI CARTING CORP
Last known addresses and telephone numbers are unknown

Newtown Metal Corporation
Last known addresses and telephone numbers are unknown

Empire Brick and Supply Co.
Last known addresses and telephone numbers are unknown

American Building Supply Co.
Last known addresses and telephone numbers are unknown

Warren Manufacturing Co.
Last known addresses and telephone numbers are unknown

1.6 Description of the Surrounding Properties

The Site is located in a predominantly manufacturing zone district in this section of Brooklyn. Manufacturing land use is located to the north, south, east (beyond the English Kills) and to the west. The closest school is St. Nicholas Elementary which is located at 287 Powers Street approximately 0.4 miles northwest of the Site. The closest hospital is the Woodhull Hospital which is located at 760 Broadway in Brooklyn which is located approximately 1.5 miles northwest of the Site. There is residential land use approximately 0.25 miles to the west beyond the manufacturing zone district. The only surface water body located in this section of Brooklyn is the English Kills which borders the Site to the east. There are no known wetlands in the immediate vicinity of the Site and the only sensitive receptor is the English Kills. Past historical uses of surrounding properties include a chromium-plating business, multiple machine shops, metal finishing shops, foundries, and electrical equipment manufacturing.

1.7 Contemplated Redevelopment Plan

The Remedial Action to be performed under the RWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is currently proposed to be developed for employee parking and may eventually include expanding the adjacent storage warehouse and using the remainder of the Site for employee or operations-related parking, see Figure 1-3. The proposed remedial actions for soil will also remediate PCB concentrations which exceed the United Sates Environmental Protection Agency's (EPA's) High Occupancy Areas (HOA) criteria of 10 milligrams per kilogram (mg/kg) in areas where the proposed warehouse expansion will be located. The cleanup level for bulk PCB remediation waste in high occupancy areas is 10 mg/kg will also be covered with an engineered cover system. However, the remedial action contemplated under this RWP may be implemented independent of the proposed redevelopment plan.

2.0 ENVIRONMENTAL/REMEDIAL INVESTIGATIONS

2.1 Phase I and Phase II Reports

The table below summarizes the environmental and remedial investigations performed at the Site between 2003 and 2009.

Work Performed	Environmental Consultant	Date
Subsurface Investigation	Gannett Fleming	October 2003
Phase I Environmental Site Assessment	Gannett Fleming	December 2006
Surface Pile Characterization Work Plan	Gannett Fleming	January 2007
Phase II Environmental Site Assessment	Gannett Fleming	March 2008
Remedial Investigation	Gannett Fleming	November 2009
Supplemental Remedial Investigation	Gannett Fleming	August 2010
Second Supplemental Remedial Delineation	Gannett Fleming	October 2010

The scope of work and findings from each investigation are briefly summarized below. Based on GF's review of these reports, the data appear to be suitable for their intended use, unless qualified or otherwise noted.

A review of available records indicates that several environmental assessments/investigations and/or work plans have been completed since 2003. There is no information available that indicate environmental-types of investigations have occurred at the Site prior to 2003.

2.1.1 Historical Site Investigation and Remediation Activities

In October 2003, Gannett Fleming Engineers, P.C. (GF) performed a Subsurface Investigation at 202-218 Morgan Avenue in Brooklyn, New York. The subsurface investigation was performed to assess the environmental quality of the Site prior to the potential purchase by Steel Quattro, LLC. The subsurface investigation included the collection and analysis of eight soil borehole samples, five surficial soil samples, and four groundwater samples.

These analytical results were originally compared to NYSDEC TAGM recommended soil cleanup objective (RSCOs). Based upon the analysis of surface and subsurface soil samples collected as compared to RSCOs, semi-volatile organic compounds (SVOC) and metal impacts were prevalent throughout most of the Site. SVOC impacts appeared to be greatest to the east of the building located near the middle of the Site. Elevated lead and mercury concentrations appeared to be ubiquitous. Polychlorinated biphenyl (PCB) surface soil impacts were encountered throughout the Site, as well as subsurface soil impacts east of the building. Elevated volatile organic compound (VOC) concentrations, including chlorinated compounds were encountered in surface and subsurface soils collected between the lean-to and the building. Several drums were observed in this area which potentially may represent an on-site VOC Hot Spot.

The 2003 soil sample results were compared to Brownfields Cleanup Objectives (BCO) Restricted Use for Protection of Groundwater (Restricted Use - PG) and BCO for Protection of Public Health-Commercial (Restricted Use - Commercial).

2.1.2 Surficial Soil Sample Analytical Results - 2003

Surficial soil sample results reported VOCs consisting of 1,2-dichloroethene, acetone, tetrachloroethene, trichloroethene, and vinyl chloride with concentrations exceeding the Restricted Use - PG SCOs, but below Restricted Use - Commercial SCOs. VOCs were detected at SS-3 acetone was detected at a concentration of 260 micrograms per kilogram (µg/kg) which exceeds the Restricted Use - PG SCO of 50 µg/kg, 1,2-dichloroethene (DCE) was detected at a concentration of 290 µg/kg which exceeds the Restricted Use - PG SCO of 190 µg/kg, tetrachloroethene (PCE) was detected at a concentration of 29,000 µg/kg which exceeds the Restricted Use - PG SCO of 1,300 µg/kg, trichloroethene (TCE) was detected at a concentration of 1,500 µg/kg which exceeds the Restricted Use - PG SCOs of 470 µg/kg, and vinyl chloride was detected at a concentration of 310 µg/kg which exceeds the Restricted Use - PG SCO of 20 µg/kg. These results are presented in the September 2009 RIWP.

Surficial soil sample results reported concentrations of benzo(a)pyrene and dibenzo(a,h)anthracene exceeding Restricted Use - Commercial SCOs at SS-1, SS-2, SS-3, and SS-4. Benzo(a)pyrene was detected with concentrations ranging from 4,500 µg/kg (SS-1) to 1,500 µg/kg (SS-3). Dibenz(a,h)anthracene was detected with concentrations ranging from of 1,300 µg/kg (SS-1) to 620 µg/kg (SS-3). These reported concentrations are exceeding the Restricted Use - Commercial SCOs of 1,000 µg/kg for benzo(a)pyrene and 560 µg/kg dibenzo(a,h)anthracene. These results are presented in the September 2009 RIWP.

Surficial soil sample results reported concentrations of benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene exceeding the Restricted Use - PG SCO at SS-1, SS-2, SS-3, and SS-4. Benzo(a)anthracene was detected with concentrations ranging from 4,300 µg/kg (SS-2) to 1,600 µg/kg (SS-3). Benzo(b)fluoranthene was detected with concentrations ranging from 4,000 µg/kg (SS-1) to 1,900 µg/kg (SS-3). Benzo(k)fluoranthene was detected with concentrations ranging from 4,000 µg/kg (SS-1) to 1,900 µg/kg (SS-3). Chrysene was detected with concentrations ranging from 4,200 µg/kg (SS-2) to 1,800 µg/kg (SS-3). These reported concentrations exceed the Restricted Use - PG SCOs of 1,000 µg/kg for benzo(a)anthracene and chrysene and 1,700 µg/kg for benzo(b)fluoranthene and benzo(k)fluoranthene. These results are presented in the September 2009 RIWP.

Surficial soil sample results reported concentration of PCBs exceeding the Restricted Use - Commercial SCOs at SS-1, SS-2, SS-3, SS-4 and SS-5. Aroclor 1242 was detected at SS-3, SS-4, and SS-5 with concentrations ranging from 8,500 µg/kg (SS-3) to 190,000 µg/kg (SS-5). Aroclor 1254 was detected at SS-2 with a concentration of 2,900 µg/kg. Aroclor 1260 was detected at SS-1 with a concentration of 11,000 µg/kg. These PCB concentrations exceed the Restricted Use - Commercial SCO of 1,000 µg/kg for Aroclor 1242, 1254, and 1260 and exceeding the Restricted Use - PG SCO of 3,200 µg/kg for Aroclor 1242 and 1260. These results are presented in the September 2009 RIWP.

Surficial soil samples results reported concentrations of arsenic, barium, cadmium, lead, and mercury exceeding Restricted Use - Commercial SCOs. Arsenic was detected at SS-1 and SS-4 with concentrations ranging from 26 mg/kg (SS-1) to 34 mg/kg (SS-4). Barium was detected at SS-1, SS-2, SS-3, SS-4, and SS-5 with concentrations ranging from 400 mg/kg (SS-2) to 820 mg/kg (SS-1). Cadmium was detected at SS-1, SS-3, SS-4, and SS-5 with concentrations ranging from 15 mg/kg (SS-3) to 54 mg/kg (SS-5). Lead was detected at SS-1, SS-3, SS-4, and SS-5 with concentrations ranging from 1,000 mg/kg (SS-3) to 50,000 mg/kg (SS-1). Mercury was detected at SS-1, SS-3, SS-4, and SS-5 with concentrations ranging from 2.8 mg/kg (SS-4) to 20 mg/kg (SS-1). These concentrations exceed the Restricted Use - Commercial SCO of 16 mg/kg for arsenic, 400 mg/kg for barium, 9.3 mg/kg for cadmium, 1,000 mg/kg for lead), and 2.8 mg/kg for mercury. These results are presented in the September 2009 RIWP.

Surficial soil samples results reported concentrations of arsenic, barium, cadmium, chromium, lead, mercury, and selenium exceeding Restricted Use - PG SCOs. Arsenic was detected at SS-1 and SS-4 with concentrations ranging from 26 milligrams per kilogram (mg/kg) (SS-1) to 34 mg/kg (SS-4). Barium was detected at SS-1 with a concentration of 820 mg/kg. Cadmium was detected at SS-1, SS-3, SS-4, and SS-5 with concentrations ranging from 15 mg/kg (SS-3) to 54 mg/kg (SS-5). Chromium was detected at SS-1, SS-2, SS-3, SS-4, and SS-5 with concentrations ranging from 38 mg/kg (SS-2) to 200 mg/kg (SS-5). Lead was detected at SS-1, SS-2, SS-3, SS-4, and SS-5 with concentrations ranging from 740 mg/kg (SS-2) to 50,000 mg/kg (SS-1). Mercury was detected at SS-1, SS-2, SS-3, SS-4, and SS-5 with concentrations ranging from 1.2 mg/kg (SS-2) to 20 mg/kg (SS-1). Selenium was detected at SS-1, SS-2, SS-3, and SS-4 with concentrations ranging from 4.2 mg/kg (SS-1) to 120 mg/kg (SS-4). These reported concentrations exceed the Restricted Use - PG SCOs of 16 mg/kg for arsenic, 820 mg/kg for barium, 7.5 mg/kg for cadmium, 19 mg/kg for chromium, 450 mg/kg for lead, 0.73 mg/kg for mercury, and 4 mg/kg for selenium. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of 1,2-dichloroethene, 2-butanone, acetone, benzene, ethyl benzene, toluene, vinyl chloride, and total xylenes exceeding Restricted Use - PG SCOs, but below Restricted Use - Commercial SCOs. 1,2-dichloroethene was detected at SB-4 (4.5 to 6 feet) with a concentration of 490 µg/kg. 2-butanone was detected at SB-7 (4 to 5.5 feet) with a concentration of 200 µg/kg. Acetone was detected at SB-6 (6 to 8 feet) and SB-8 (0 to 3 feet) with concentrations ranging from 150 µg/kg (SB-8) to 820 µg/kg (SB-7). Benzene was detected at SB-4 and SB-6 with concentrations ranging from 65 µg/kg (SB-6) to 160 µg/kg (SB-4). Ethylbenzene was detected at SB-6 with a concentration of 1,100 µg/kg. Toluene was detected at SB-6 ad SB-7 with concentrations ranging from 870 µg/kg (SB-7) to 1,600 µg/kg (SB-6). Vinyl chloride was detected at SB-6 with a concentrations 6,900 µg/kg. Total xylenes were detected at a concentration of 2,700 µg/kg at SB-6. These reported concentrations are exceeding the Restricted Use - PG SCOs of 190 µg/kg for 1,2-dichloroethene, 120 µg/kg for 2-butanone, 50 µg/kg for acetone, 60 µg/kg for benzene, 1,000 for ethylbenzene, 700 µg/kg for toluene, 20 µg/kg for vinyl chloride, and 1,600 µg/kg for total xylenes. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene) exceed Restricted Use - Commercial SCOs and benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene exceed Restricted Use - PG SCOs. Benzo(a)anthracene was detected at SB-5 (0 to 4 feet) and SB-6 (6 to 8 feet) with concentrations ranging from 14,000 µg/kg (SB-6) to 20,000 µg/kg (SB-5). Benzo(a)pyrene was detected at SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1,400 µg/kg (SB-4) to 14,000 µg/kg (SB-5). Benzo(b)fluoranthene was detected at SB-5 (0 to 4 feet) and SB-6 (6 to 8 feet) with concentrations ranging from 12,000 µg/kg (SB-6) to 15,000 µg/kg (SB-5). Dibenz(a,h)anthracene was detected at SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 590 µg/kg (SB-8) to 2,600 µg/kg (SB-5). Indeno(1,2,3-cd)pyrene) was detected at SB-5 (0 to 4 feet) with a concentration of 6,400 µg/kg. These reported concentrations exceed the Restricted Use - Commercial SCO of 5,600 µg/kg for benzo(a)anthracene, 1,000 µg/kg for benzo(a)pyrene, 5,600 µg/kg for benzo(b)fluoranthene, 560 µg/kg for dibenzo(a,h)anthracene, and 5,600 µg/kg for indeno(1,2,3-cd)pyrene. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene exceeding Restricted Use - PG SCOs. Benzo(a)anthracene was detected at SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1,500 µg/kg (SB-4) to 20,000 (SB-5).

Benzo(a)pyrene was detected at SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1,400 µg/kg (SB-4) to 14,000 µg/kg (SB-5). Benzo(b)fluoranthene was detected at SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 3,500 µg/kg (SB-7) to 15,000 µg/kg (SB-5). Benzo(k)fluoranthene was detected at SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 3,500 µg/kg (SB-7) to 15,000 µg/kg (SB-5). Chrysene was detected at SB-3 (7 to 9.5 feet), SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1,100 µg/kg (SB-3) to 17,000 µg/kg (SB-5). These reported concentrations exceed the Restricted Use - PG SCOs of 1,000 µg/kg for benzo(a)anthracene, 1,700 µg/kg for benzo(b)fluoranthene, 1,700 µg/kg for benzo(k)fluoranthene, and 1,000 µg/kg for chrysene. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of PCBs exceeding the Restricted Use - Commercial SCO at SB-3 (7 to 9.5 feet), SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet). Aroclor 1242 was detected at SB-3, SB-6, and SB-8 with concentrations ranging from 1,300 µg/kg (SB-3) to 85,000 µg/kg (SB-8). Aroclor 1254 was detected at SB-4, SB-5, and SB-7 with concentrations ranging from 1,600 µg/kg (SB-4) to 33,000 µg/kg (SB-7). These PCB concentrations exceed the Restricted Use - Commercial SCO of 1,000 µg/kg for Aroclor 1242 and 1254. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of PCBs exceeding the Restricted Use - PG SCO at SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet). Aroclor 1242 was detected at SB-6 and SB-8 with concentrations ranging from 32,000 µg/kg (SB-6) to 85,000 µg/kg (SB-8). Aroclor 1254 was detected at SB-5 and SB-7 with concentrations ranging from 3,400 µg/kg (SB-5) to 33,000 µg/kg (SB-7). These PCB concentrations exceed the Restricted Use - PG SCO of 3,200 µg/kg for Aroclor 1242 and 1254. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of arsenic, barium, cadmium, lead, and mercury exceeding Restricted Use - Commercial SCOs. Arsenic was detected at SB-4 (4.5 to 6 feet) with a concentration of 28 mg/kg. Barium was detected at SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 440 mg/kg (SB-8) to 590 mg/kg (SB-7). Cadmium was detected at SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 17 mg/kg (SB-8) to 43 mg/kg (SB-7). Lead was detected at SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1,000 mg/kg (SB-8) to 8,200 mg/kg (SB-8). Mercury was detected at SB-6 (6 to 8 feet) and SB-7 (4 to 5.5 feet) with concentrations ranging from 6.5 mg/kg (SB-6) to 9.9 mg/kg (SB-7). These concentrations exceed the Restricted Use - Commercial SCOs of 16 mg/kg for arsenic, 400 mg/kg for barium, 9.3 mg/kg for cadmium, 1,000 mg/kg for lead, and 2.8 mg/kg for mercury. These results are presented in the September 2009 RIWP.

Soil boring sample results reported concentrations of arsenic, cadmium, chromium, lead, mercury, and selenium exceeding Restricted Use - PG SCOs. Arsenic was detected at SB-4 (4.5 to 6 feet) with a concentration of 28 mg/kg. Cadmium was detected at SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 17 mg/kg (SB-8) to 43 mg/kg (SB-7). Chromium was detected at SB-3 (7 to 9.5 feet), SB-4 (4.5 to 6 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 30 mg/kg (SB-4) to 220 mg/kg (SB-6). Lead was detected at SB-3 (7 to 9.5 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 700 mg/kg (SB-3) to 8,200 mg/kg (SB-8). Mercury was detected at SB-3 (7 to 9.5 feet), SB-5 (0 to 4 feet), SB-6 (6 to 8 feet), SB-7 (4 to 5.5 feet), and SB-8 (0 to 3 feet) with concentrations ranging from 1.2 mg/kg (SB-5) to 9.9 mg/kg (SB-7). Selenium was detected at SB-3 (7 to 9.5 feet) with a concentration of 5.7 mg/kg. These reported concentrations exceed the Restricted Use - PG SCOs of 16 mg/kg for arsenic, 7.5 mg/kg for cadmium, 19 mg/kg for chromium, 450 mg/kg for lead, 0.73 mg/kg for mercury, and 4 mg/kg for selenium. These results are presented in the September 2009 RIWP.

Elevated lead and mercury concentrations were observed in the groundwater throughout the Site. The highest levels of metal impacts were detected at the groundwater sample collected from the eastern edge of the Site along the English Kills. Elevated VOC concentrations were detected at the groundwater sample collected between the lean-to and the building. At GW-3, 1,2-dichloroethene was detected at a concentration of 2,900 µg/l, benzene was detected at a concentration of 2 µg/l, tetrachloroethene was detected at a concentration of 12 µg/l, trichloroethene was detected at a concentration of 15 µg/l, and vinyl chloride was detected at a concentration of 2,500 µg/l, and at GW-4, acetone was detected at a concentration of 76 µg/l. These concentrations exceed the TOGS standard of 5 µg/l for 1,2-dichloroethene, 50 µg/l for acetone, 1 µg/l for benzene, 5 µg/l for tetrachloroethene, 5 µg/l for trichloroethene, and 2 µg/l for vinyl chloride. These results are presented in the September 2009 RIWP.

An elevated SVOC concentration was detected at the groundwater sample collected at GW-1. Bis(2-ethylhexyl)phthalate was detected at a concentration of 6 µg/l, which exceed the TOGS standard of 5 µg/l. This result is presented in the September 2009 RIWP.

Elevated metal concentrations were detected at all groundwater monitoring wells installed at the Site. At GW-1, lead was detected at a concentration 0.11 mg/l, at GW-2, arsenic was detected at a concentration of 0.031 mg/l, lead was detected at a concentration of 0.61 mg/l, and mercury was detected at a concentration of 0.002 mg/l, at GW-3, cadmium was detected at a concentration of 0.006, lead was detected at a concentration of 2.7 mg/l, and mercury was detected at a concentration of 0.0018 mg/l, and at GW-4, arsenic was detected at a concentration of 0.32, barium was detected at a concentration of 310 mg/l, cadmium was detected at a concentration of 0.13 mg/l, chromium was detected at a concentration of 0.8 mg/l, lead was detected at a concentration of 19 mg/l, and mercury was detected at a concentration of 0.092 mg/l. These concentrations exceed the TOGS standard of 0.25 mg/l for arsenic, 1 mg/l for barium, 0.005 mg/l for cadmium, 0.05 mg/l for chromium, 0.025 for lead, and 0.0007 for mercury. These results are presented in the September 2009 RIWP.

2.1.3 Phase I Environmental Site Assessment - 2006

In December 2006, Frito-Lay retained GF to perform a Phase I Environmental Site Assessment (ESA) of 202-218 Morgan Avenue, Brooklyn, New York. Pre-inspection activities consisted of an environmental database search and historical document review. On-site activities consisted of a site reconnaissance to assess current conditions, to identify visible evidence of spills, discharges, or other potential environmental liabilities, and to review historical Site operations. Freedom of Information Law (FOIL) requests were submitted to federal, state, and local regulatory agencies.

The Phase I ESA revealed six (6) environmental conditions (ECs) and two (2) *de minimis* concerns in connection with the Site.

The following lists the recommendations included in the Phase I ESA report based upon the ECs:

- During the site reconnaissance performed by GF in December 2006, numerous debris piles were observed throughout the Site. These piles contained an array of miscellaneous debris ranging from tires and concrete pillars to plastics and domestic wastes. Additionally, the October 2003 investigation report by GF identified VOC, SVOC, PCB, and metals impacts to soil and groundwater on the Site. Due to the past usage of the Site as a scrap metal yard, and the present condition of the Site, soil, groundwater and soil gas sampling and analysis were recommended.

Past historical uses of surrounding properties within the inferred upgradient groundwater flow path of the Site include a chromium-plating business, multiple machine shops, metal finishing shops, foundries, and electrical equipment manufacturing. Regional groundwater quality has potentially been impacted by the heavy industrial use of the neighborhood. This impacted upgradient groundwater potentially impacted subsurface conditions at the Site. Soil, groundwater, and soil gas sample collection and analysis were recommended to identify whether the Site was impacted by upgradient site activities. Additionally, the surrounding sites of concern should be researched to determine if more information is available from regulatory agencies.

2.1.4 Surficial Soil and Debris Pile Analytical Results - 2007

In January 2007, GF prepared the Surface Pile Characterization Work Plan to address the disposal issues. Surficial soil and debris pile samples were collected on February 23, 2007. The results of the debris pile and surficial investigation indicate the presence of elevated levels of VOCs, SVOCs (carcinogenic polycyclic aromatic hydrocarbons [PAHs]), PCBs and metals.

Surficial soil and debris pile sample results reported acetone, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride) exceeding Restricted Use – PG SCOs, but below Restricted Use - Commercial SCO in one surficial soil sample (SS-3) located in the southern portion of the Site alone English Kills. Acetone was detected at SS-2 with a concentration of 62 µg/kg. At SS-3, cis-1,2-dichloroethene was detected at a concentration of 260 µg/kg, tetrachloroethene was detected at a concentration of 11,000 µg/kg, trichloroethene was detected at a concentration of 470 µg/kg, and vinyl chloride was detected at a concentration of 23 µg/kg. These results exceed the Restricted Use - PG SCO of 50 µg/kg for acetone, 250 µg/kg for cis-1,2-dichloroethene, 1,300 µg/kg for tetrachloroethene, 470 µg/kg for trichloroethene, and 20 µg/kg for vinyl chloride. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene) exceeding the Restricted Use - Commercial SCOs. At SS-5, benzo(a)anthracene was detected at a concentration of 16,000 µg/kg, benzo(a)pyrene was detected at a concentration of 21,000 µg/kg, benzo(b)fluoranthene was detected at a concentration of 12,000 µg/kg, dibenzo(a,h)anthracene was detected at a concentration of 5,200 µg/kg, and indeno(1,2,3-cd)pyrene was detected at a concentration of 18,000 µg/kg. These results exceed the Restricted Use - Commercial SCO of 5,600 µg/kg for benzo(a)pyrene, 1,000 µg/kg for benzo(a)pyrene, 5,600 µg/kg for benzo(b)fluoranthene, 560 µg/kg for dibenzo(a,h)anthracene, and 5,600 µg/kg for indeno(1,2,3-cd)pyrene. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and phenol exceed Restricted Use - PG SCOs. At SS-2, phenol was detected at a concentration of 13,000 µg/kg, at SS-3, benzo(b)fluoranthene was detected at a concentration of 12,000 µg/kg, at SS-5, benzo(a)anthracene was detected at a concentration of 16,000 µg/kg, benzo(b)fluoranthene was detected at a concentration of 12,000 µg/kg, benzo(k)fluoranthene was detected at a concentration of 4,000 µg/kg, chrysene was detected at a concentration of 15,000 µg/kg, indeno(1,2,3-cd)pyrene was detected at a concentration of 18,000 µg/kg, and naphthalene was detected at a concentration of 16,000 µg/kg. These results exceed the Restricted Use - PG SCO of 1,000 µg/kg for benzo(a)pyrene and chrysene, 1,700 µg/kg for benzo(b)fluoranthene and benzo(k)fluoranthene, 8,200 µg/kg for indeno(1,2,3-cd)pyrene, 12,000 µg/kg for naphthalene, and 330 µg/kg for phenol. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported concentrations of PCBs exceeding Restricted Use - Commercial SCO. Aroclor 1248 was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, DP-3, and DP-6, with concentrations ranging from 8,200 µg/kg (SS-5) to 75,000 µg/kg (SS-2). Aroclor 1260 was detected at SS-2, SS-6, and DP-5 with concentrations ranging from 4,200 µg/kg to 7,400 µg/kg. These results exceed the Restricted Use - Commercial SCO of 1,000 µg/kg for Aroclor 1248 and Aroclor 1260. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported concentrations of PCBs exceeding Restricted Use - PG SCO. Aroclor 1248 was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, DP-3, and DP-5 with concentrations ranging from 8,200 µg/kg (SS-5) to 75,000 µg/kg (SS-2). Aroclor 1260 was detected at SS-2, SS-6, and DP-5 with concentrations ranging from 4,200 µg/kg to 7,400 µg/kg. These results exceed the Restricted Use - PG SCO of 3,200 µg/kg for Aroclor 1248 and Aroclor 1260. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported concentrations of arsenic, barium, cadmium, chromium, lead, and mercury exceeding Restricted Use - Commercial SCOs. Arsenic was detected at SS-1, SS-2, and SS-6 with concentrations ranging from 22 mg/kg (SS-1) to 52.6 mg/kg (SS-2). Barium was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, DP-3, DP-5, and DP-6 with concentrations ranging from 464 mg/kg (DP-2) to 4,580 mg/kg (DP-6). Cadmium was detected at SS-1, SS-2, SS-3, SS-4, SS-6, DP-1, DP-2, and DP-3 with concentrations ranging from 16.9 mg/kg (SS-4) to 82 mg/kg (SS-6). Lead was detected at SS-1,

SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, DP-3, and DP-6 with concentrations ranging from 1,040 mg/kg (DP-2) to 9,790 mg/kg (SS-2). Mercury was detected at SS-2, SS-3, SS-6, and DP-3 with concentrations ranging from 4.9 mg/kg (DP-3) to 11.1 mg/kg (SS-6). These concentrations exceed the Restricted Use - Commercial SCO of 16 mg/kg for arsenic, 400 mg/kg for barium, 9.3 mg/kg for cadmium, 400 mg/kg for chromium, 1,000 mg/kg for lead, and 2.8 mg/kg for mercury. These results are presented in the September 2009 RIWP.

Surficial soil and debris pile sample results reported concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver exceeding Restricted Use - PG SCO. Arsenic was detected at SS-1, SS-2, and SS-6 with concentrations ranging from 22 mg/kg (SS-1) to 52.6 mg/kg (SS-2). Barium was detected at SS-2, SS-4, SS-5, SS-6, DP-3, and DP-6 with concentrations ranging from 873 mg/kg (SS-4) to 4,580 mg/kg (DP-6). Cadmium was detected at SS-1, SS-2, SS-3, SS-4, SS-6, DP-1, DP-2, and DP-3 with concentrations ranging from 16.9 mg/kg (SS-4) to 82 mg/kg (SS-6). Chromium was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, and DP-3 with concentrations ranging from 47.6 mg/kg (SS-5) to 798 mg/kg (SS-6). Lead was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-1, DP-2, DP-3, DP-5, and DP-6 with concentrations ranging from 930 mg/kg (DP-5) to 9,790 mg/kg (SS-2). Mercury was detected at SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, DP-2, and DP-3 with concentrations ranging from 1.4 mg/kg (SS-4) to 11.1 mg/kg (SS-6). Selenium was detected at SS-1, SS-2, SS-6, and DP-5 with concentrations ranging from 21.9 mg/kg (SS-6) to 56.2 mg/kg (SS-2). Silver was detected at SS-1, SS-2, SS-3, SS-6, and DP-1 with concentrations ranging from 9.44 mg/kg (DP-1) to 56.2 mg/kg (SS-2). These reported concentrations exceed the Restricted Use - PG SCO of 16 mg/kg for arsenic, 820 mg/kg for barium, 7.5 mg/kg for cadmium, 19 mg/kg for chromium, 450 mg/kg for lead, 0.73 mg/kg for mercury, 4 mg/kg for selenium, and 8 mg/kg for silver. These results are presented in the September 2009 RIWP.

2.1.5 Phase II ESA - Soil Analytical Results (2007-2008)

In December 2007 and January 2008, GF on behalf of Frito-Lay, conducted a Phase II ESA investigation. The scope of this investigation was to identify potential on-site impacts to the soil, groundwater, and soil gas from ECs observed and reported during GF's Phase I ESA.

On December 10 and 11, 2007, 15 borings were advanced and five (5) monitoring wells were installed. On December 12, the monitoring wells were gauged and developed. On December 26, the monitoring wells were gauged, sampled and surveyed by Naik Consulting Group, P.C. (Naik). On January 26 through 28, 2008, Naeva Geophysics, Inc. (Naeva) performed a geophysical survey for the Site. On January 18, 2008, the five monitoring wells were gauged.

VOC soil concentrations exceeded the Unrestricted Use SCOs and Restricted Use - PG SCOs throughout the Site, with the highest VOC (non-chlorinated) concentrations located at the center of the Site (SB-6, SB-8, SB-9, and SB-11). VOC concentrations did not exceed the Restricted Use - Commercial SCOs in any of the soil samples collected. VOC soil concentrations exceeded Unrestricted Use SCOs and Restricted Use - PG SCOs throughout the Site, with the highest VOC (chlorinated) concentrations located at the center of the Site (SB-6, SB-8, SB-9, and SB-11). These results are presented in Final RI Report submitted in July 2010.

SVOC concentrations in soil exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs throughout the Site. The highest SVOC concentrations were located in the center and northeast corner of the Site and spanned a depth of 0-5 ft-bgs. SVOC concentrations in soil exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs throughout the Site. The highest SVOC concentrations were located in the center and northeast corner of the Site and spanned a depth of 0-5 feet below grade. These results are presented in Final RI Report submitted in July 2010.

Total PCB concentrations in soil exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs with the highest concentration reported in the samples collected from 9 to 11 feet below grade. Total PCB concentrations in soil exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs with the highest concentration reported in the samples collected from 9 to 11 feet below grade. These results are presented in Final RI Report submitted in July 2010.

Soil metals concentrations exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs throughout the Site. Arsenic, barium, cadmium, chromium, copper, lead, mercury, and nickel concentrations all exceeded Restricted Use - Commercial SCOs. The highest concentrations were reported from the soil samples obtained at the center of the Site (SB-8, SB-9, and SB-11). Soils from 0 to 5 feet below grade were reported with the highest metals impacts. Soil metals concentrations exceeded Unrestricted Use SCOs, Restricted Use - PG SCOs, and Restricted Use - Commercial SCOs throughout the Site. Arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc concentrations all exceeded Restricted Use - PG SCOs. These results are presented in Final RI Report submitted in July 2010.

The soil sample results are presented in Tables 2-1, 2-2, and 2-3, and Figures 2-1 through 2-8.

2.1.6 Phase II ESA - Groundwater Analytical Results (2007-2008)

Groundwater results reported limited concentrations of VOCs, SVOCs, and metals. Slight exceedences of TOGS standards for vinyl chloride were reported in the two upgradient groundwater monitoring wells (MW-1 and MW-2). Slight exceedences of TOGS standards for methyl tert-butyl ether (MTBE) were reported in the two downgradient wells (MW-4 and MW-5). SVOC were not detected at concentrations exceeding their respective TOGS standards in any of the groundwater samples collected during this sampling program. Aluminum, iron, manganese, and thallium were reported with concentrations slightly exceed TOGS standards. Sodium was reported in all groundwater samples at orders of magnitude exceed TOGS standards. The Site is surrounded to the east and south by English Kills. Groundwater is tidally influenced and brackish conditions exist below the Site. Therefore, further investigation into the high sodium concentrations was not recommended.

Vinyl chloride was detected at MW-1 and MW-2 with concentrations ranging from 12 µg/l (MW-1) to 13 µg/l (MW-2). Cis-1,2-dichloroethene was detected at MW-2 with a concentration of 12 µg/l. MTBE was detected at MW-4 and MW-5 with concentrations ranging from 12 µg/l to 28 µg/l, respectively. Aluminum was detected at MW-1, MW-2, MW-3, MW-4, and MW-5 with concentrations ranging from 0.129 mg/l (MW-1) to 0.485 mg/l (MW-3). Antimony was detected at MW-3 at a concentration of 0.015 mg/l. Iron was detected at MW-1, MW-2, MW-3, MW-4, and MW-5 with concentrations ranging from 0.4 mg/l (MW-5) to 1 mg/l (MW-2). Lead was detected at MW-4 at a concentration of 0.025 mg/l. Magnesium was detected at MW-4 at a concentration of 62.4 mg/l. Manganese was detected at MW-1, MW-2, MW-3, and MW-5 with concentrations ranging from 0.36 mg/l (MW-5) to 1.8 mg/l (MW-1). Sodium was detected at MW-1, MW-2, MW-3, MW-4, and MW-5 with concentrations ranging from 165 mg/l (MW-5) to 203 mg/l (MW-3). Thallium was detected at MW-1 and MW-3 with concentrations ranging from 0.009 mg/l (MW-5) to 0.011 mg/l (MW-3). These results exceed the TOGS standard of 0.100 mg/l for aluminum, 0.003 mg/l for antimony, 0.3 mg/l for iron, 0.025 mg/l for lead, 35 mg/l for magnesium, 0.3 mg/l for manganese, 20 mg/l for sodium, and 0.0005 mg/l for thallium. No SVOC concentrations were detected exceeding TOGS standards, therefore, no figure has been provided. These results are presented in Final RI Report submitted in July 2010. The groundwater sample results are presented in Tables 2-4, 2-5, and 2-6, and Figures 2-9 and 2-10.

GF understands that Frito Lay is planning to develop the Site by constructing a parking lot. Future plans may include expanding the adjacent storage warehouse and using the remainder of the Site as parking space. GF also understands that Frito Lay is committed to remediating impacts that exist on the Site that would prevent the development of the Site. GF recommended applying for the NYS Brownfields Program to develop the Site under Restricted Use - Commercial SCOs. Due to the VOC, PCB, and metal concentrations on the Site, the Restricted Use - Commercial SCOs as set forth in Part 375 would focus the soil cleanup on the SVOC, PCB, and metals impacts.

2.1.7 Remedial Investigation Analytical Results (2009)

The RI sampling program included the collection of: two (2) soil borings along English Kills; thirteen (13) soil borings at various on site locations to complete the 50’ x 50’ sampling grid; two (2) surface water samples and four (4) sediment samples from the English Kills; one (1) on-site and two (2) off-site upgradient groundwater monitoring wells, and eight (8) groundwater monitoring wells samples.

The soil sample results indicate that arsenic, lead, mercury, PCBs, and SVOCs (carcinogenic PAHs) are present in surface and subsurface soils with concentrations exceeding Restricted Use - Commercial and/or Industrial SCOs. PAHs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene have been previously detected with concentrations exceeding Part 375 Restricted Use SCOs. The detected soil contamination is located throughout the Site to depths greater than 11 ft-bgs, which is the approximate depth of groundwater beneath the Site. Potentially hazardous levels of PCBs and lead are present in several locations within the Site boundary. The soil sample results are presented in Tables 2-7 through 2-11, and on Figures 2-11 through 2-17.

The results of the RI did not indicate the presence of VOCs, SVOCs, and pesticides with concentrations exceeding the applicable NYSDEC HHB, BALT, BALCT, and WB Guidance Values have been listed in tables within the report. TAL metal concentrations exceed the SEL criteria at all four (4) sediment sample locations. PCB concentrations were also detected exceeding HHB and/or WB criteria at all four (4) sediment sample locations.

TAL Metals and PCBs detected at the sediments have been also detected at the Site, the source of the metal and PCB sediment contamination is likely attributable to impacts to the English Kills from a variety of sources rather than attributable to impacts to the Site. The data collected during the RI sampling program is inconclusive that the Site is responsible for, or attributable to the sediment contamination. A more extensive sediment sampling program would need to be implemented to make this determination.

The results of the RI did not indicate the presence of VOC, SVOC, PCBs, or pesticides with concentrations exceeding the applicable NYSDEC HCF-SW, FS-SW, WP-SW, and AW-SW Guidance Values. A copper concentration of 5 J µg/L which is exceeding the FS-SW of 4.8 µg/L was detected at SW-2. Based on the surface results collected during the November 2009 sampling event, there do not appear to be surface water impacts from Site, therefore, no further action is proposed.

The results of the RI, as well as the results of the previous investigations conducted since 2003 indicate the presence of benzene, DCE, 1,1-DCA, 1,2-DCA, MTBE, and vinyl chloride with concentrations exceeding their respective TOGS standards in several on- and off-site monitoring wells. Concentrations of aluminum, arsenic, iron, magnesium, manganese, nickel, and sodium are also present with concentrations exceeding their TOGS standards in several on- and off-site monitoring wells. The groundwater sample results are presented in Tables 2-12 through 2-17.

The presence of chlorinated VOCs (DCE, 1,1-DCA, 1,2-DCA, and vinyl chloride) in groundwater is most likely due to anaerobic dechlorination of PCE from an off-site location. In MW-1, chlorinated VOCs were detected with concentrations exceeding the TOGS standards. However, the off-site and upgradient monitoring well also exhibited chlorinated VOCs at higher concentrations than MW-1 which may indicate that MW-7 is impacting the groundwater quality at MW-1. In MW-2, the PCE daughter product (1,1-DCA, 1,2-DCA, DCE, and vinyl chloride) concentrations have increased from the December 2007 to the November 2009 sampling events indicating that anaerobic dechlorination is occurring in this portion of the Site.

The total TAL Metal groundwater samples are significantly higher for most metals than the dissolved samples. Aluminum, arsenic, iron, magnesium, manganese, and sodium are present in several on-site monitoring well with concentrations in excess of the TOGS standards. The total samples for aluminum, chromium, iron, lead, manganese, nickel, and sodium were detected at MW-7 and MW-8 (off-site monitoring wells) and may be indicative of a regional or localized groundwater conditions. Arsenic was detected at both the total and dissolved samples with similar concentrations exceeding the TOGS standards which could indicate a localized elevated arsenic groundwater condition at MW-3 and MW-4. Several soil sampling locations containing arsenic concentrations exceeding the Restricted Use - Industrial SCO and/or Protection of Groundwater SCO have been identified as “Hot Spot” and will require remediation. It is anticipated that by removing these arsenic “Hot Spot” upgradient of MW-3 and MW-4 will significantly reduce the arsenic groundwater concentrations identified in these monitoring wells.

The presence of DCE, 1,1-DCE, 1,2-DCE, and vinyl chloride in groundwater is most likely due to the degradation of PCE from an off-site source. Given that these daughter by-products are present, it is likely anaerobic dechlorination will continue to occur at the Site.

The soil gas results indicate the presence of VOCs collected from three (3) soil gas sampling points installed at the Site. The most notable soil gas concentrations include acetone, benzene, 2-

butanone, carbon disulfide, chloroform, cyclohexane, ethylbenzene, heptane, hexane, toluene, tert-butyl alcohol, tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 2,2,4-trimethylpentane cyclohexane, o-xylene, and m/p-xylene.

2.1.8 Supplemental Remedial Investigation Analytical Results (August 2010)

The SRI was conducted to further quantify and delineate surface and subsurface impacted soil identified during the December 2007 and January 2008 and November 2009 sampling programs. The SRI sampling program included the collection of an additional 27 soil borings. All soil samples were analyzed for PCBs and TAL metals in conformance with ASP Category B protocol. In addition, six (6) soil samples were also collected for TCLP analyses (arsenic only). The soil sample results are presented in Tables 2-18 through 2-21, and on Figures 2-18 through 2-24.

The soil sample results indicate that arsenic soil concentrations are present in surface and subsurface soils at concentrations exceeding the Restricted Use - Protection of Groundwater and lead, mercury, and PCBs are present in surface and subsurface soils at concentrations exceeding the Restricted Use - Industrial SCOs in 21 of the 27 soil borings completed during the SRI. The detected soil contamination is located throughout the Site to depths greater than 11 ft-bgs, which is the approximate depth of groundwater beneath the Site. Several soil borings containing lead concentrations exceeding the Restricted Use - Industrial SCOs may fail TCLP analysis and will require proper disposal to an appropriate disposal facility. Potentially hazardous levels of PCBs were not detected during the performance of the SRI sampling program.

Soil samples were analyzed from select SRI sample locations to assess whether specific arsenic concentrations that exceed the Restricted Use – Protection of Groundwater SCO of 16 mg/kg also exceed the RCRA Hazardous Waste Regulatory Level of 5 mg/L. Six (6) soil samples collected on August 5, 6, and 9, 2010 were analyzed to assess the leaching potential for soil samples SB-32 (0-4) (144 mg/kg), SB-38 (0-4) (45.9 mg/kg), SB-42 (0-4) (67.4 mg/kg), SB-42 (4-10) (35.8 mg/kg), SB-43 (4-8) (29.5 mg/kg), and SB-53 (4-10) (25.1 mg/kg).

A total of six (6) soil samples were analyzed from sample depth intervals of 0 to 4 ft-bgs and 4 to 10 ft-bgs to compare arsenic concentrations in relation to TCLP concentrations. Arsenic was detected at concentrations exceeding the Restricted Use - Commercial and Industrial SCO of 16 mg/kg at all six (6) sample locations which were also analyzed to assess the corresponding TCLP concentrations. The following table lists the arsenic and TCLP analytical results:

Sample Location	Sample Depth	Restricted Use Commercial/ Industrial SCOs	Analytical Results (mg/kg)	RCRA Level (mg/L)	TCLP Results (mg/L)	
SB-32 (0-4)	0-4 ft-bgs	16	144	5	0.025	U
SB-38 (0-4)	0-4 ft-bgs	16	45.9	5	0.025	U
SB-42 (0-4)	0-4 ft-bgs	16	67.4	5	0.025	U
SB-42 (4-10)	4-10 ft-bgs	16	35.8	5	0.025	U
SB-43 (4-8)	4-8 ft-bgs	16	29.5	5	0.025	U
SB-53 (4-10)	4-10 ft-bgs	16	25.1	5	0.025	U

Note: U = The analyte was analyzed for, but not detected above the sample reporting limits.

Arsenic was detected at concentrations ranging from 25.1 mg/kg to 144 mg/kg which exceed the Restricted Use - Protection of Groundwater SCO of 16 mg/kg at all six (6) sample locations. The corresponding TCLP concentrations of 0.025 mg/L for all of the six (6) samples indicate that these arsenic concentrations are not leaching and are significantly below the RCRA Hazardous Waste Regulatory Level of 5 mg/L.

The results of the arsenic TCLP analysis indicated that concentrations exceeding the RCRA Hazardous Waste Regulatory Level of 5 mg/L were not present in any of the six (6) samples collected for analysis. The analytical data demonstrated that arsenic contaminated soil at concentrations at or below 144 mg/kg have recorded no detection for TCLP analyses in all concurrent sampling pairs.

2.1.9 Second Supplemental Remedial Investigation Analytical Results (October 2010)

Prior to conducting the SSRI sampling program, a meeting was held with United States Environmental Protection Agency (EPA) (Region 2) representatives on August 26, 2010 and on September 23, 2010. The purpose of these meetings was to discuss the PCB soil contamination at the Site, to determine Toxic Substance Control Act (TSCA) requirements for disposal of PCB contaminated soil exceeding 50 mg/kg, to determine EPA's PCB soil delineation requirements, and to discuss EPA's High Occupancy Area (HOA) criteria of 10 milligrams per kilogram (mg/kg) and the Low Occupancy Area (LOA) criteria of 25 mg/kg in relation to the proposed remedial alternatives for the Site. In addition, EPA representatives provided guidance for the preparation of the "Notification for Self-Implementing on-site cleanup and disposal of PCB remediation waste" which must be approved prior to excavation and disposal of PCB contaminated soil with concentrations exceeding the TSCA criteria of 50 mg/kg. The EPA representatives did not have comments to the proposed PCB soil delineation sampling plan that was proposed in the SSRI sampling program.

The SSRI sampling program was then prepared to further delineate PCBs concentrations exceeding either 10 or 25 milligrams per kilogram (mg/kg) within individual 50' x 50' sampling grids by subdividing the sampling grid into four (4) 25' x 25' sampling grids for the collection of delineation samples. The purpose of this sampling program is to assess whether PCBs have impacted the entire 50' x 50' sampling grid or individual 25' x 25' sampling grids to adequately assess the quantity of soil requiring Toxic Substance Control Act (TSCA) disposal. The SSRI sampling program included the collection of: thirty-eight (38) soil borings advanced at various on site locations to further delineate PCB contamination in the 25' x 25' sampling grids. All soil samples were analyzed for PCBs and select soil samples were analyzed for TAL metals in conformance with ASP Category B protocol. In addition, selected soil samples were also collected for TCLP analyses (arsenic and lead only). Soil sampling equipment used for PCB sample collection were decontaminated in the field following the procedures outlined in 40 CFR 761.79 (PCB Decontamination Standards and Procedures). The soil sample results are presented in Tables 2-22 through 2-25, and on Figures 2-25 through 2-29.

The soil sample results indicate that arsenic soil concentrations are present in surface and subsurface soils at concentrations exceeding the Restricted Use – Protection of Groundwater and lead, mercury, and PCBs are present in surface and subsurface soils at concentrations exceeding the Restricted Use - Industrial SCOs in 18 of the 38 soil borings completed during the SSRI. The detected soil contamination is located throughout the Site to depths greater than 11 ft-bgs, which is the approximate depth of groundwater beneath the Site.

Ten (10) soil samples collected on October 13 and 14, 2010 were analyzed to assess the leaching potential of arsenic for soil samples SB-8-1 (0-4) (30.9 mg/kg), SB-8-1 (4-6) (33.7 mg/kg), SB-8-2 (0-4) (23.2 mg/kg), SB-8-2 (4-10) (47.5 mg/kg), SB-22-1 (0-4) (25.6 mg/kg), SB-22-1 (4-6) (16.3 mg/kg), SB-23-1 (0-4) (23.1 mg/kg), and SB-23-1 (4-6) (17.5 mg/kg) which contained arsenic concentration exceeding the Restricted Use - Protection of Groundwater SCOs. However, SB-23-2 (0-4) (14.1 mg/kg) and SB-23-2 (6-8) (8.3 mg/kg) did not exceed the Restricted Use - Protection of Groundwater SCOs of 16 mg/kg for arsenic.

A total of ten (10) soil samples were analyzed from sample depth intervals of 0 to 4 ft-bgs and 4 to 10 ft-bgs to compare arsenic concentrations in relation to TCLP concentrations. Arsenic was detected at concentrations exceeding the Restricted Use - Protection of Groundwater SCO of 16 mg/kg in 8 of the 10 sample locations which were also analyzed to assess the corresponding TCLP concentrations. The following table lists the arsenic and TCLP analytical results:

Sample Location	Sample Depth	Restricted Use Protection of Groundwater SCO	Analytical Results (mg/kg)	RCRA Level (mg/L)	TCLP Results (mg/L)	
SB-8-1 (0-4)	0-4 ft-bgs	16	30.9	5	0.025	U
SB-8-1 (4-6)	4-6 ft-bgs	16	33.7	5	0.025	U
SB-8-2 (0-4)	0-4 ft-bgs	16	23.2	5	0.025	U
SB-8-2 (4-10)	4-10 ft-bgs	16	47.5	5	0.025	U
SB-22-1 (0-4)	0-4 ft-bgs	16	25.6	5	0.025	U
SB-22-1 (4-6)	4-6 ft-bgs	16	16.3	5	0.025	U
SB-23-1 (0-4)	0-4 ft-bgs	16	23.1	5	0.025	U
SB-23-1 (4-6)	4-6 ft-bgs	16	17.5	5	0.025	U

Note: U = The analyte was analyzed for, but not detected above the sample reporting limits.

Arsenic was detected at concentrations ranging from 16.3 mg/kg to 47.5 mg/kg which exceed the Restricted Use - Protection of Groundwater SCO of 16 mg/kg at all eight (8) sample locations. The corresponding TCLP concentrations of 0.025 mg/L for all of the eight (8) samples indicate that these arsenic concentrations are not leaching and are reported as "non detected" which is significantly below the RCRA Hazardous Waste Regulatory Level of 5 mg/L, as presented in , as presented in Table 4-5 and Figure 4-9.

Eleven (11) soil samples collected on August 10, 2010, October 13, 2010, and October 14, 2010 were analyzed to assess the leaching potential of lead for soil samples SB-8-1 (0-4) (5,470 mg/kg), SB-8-1 (4-6) (10,700 mg/kg), SB-8-2 (0-4) (21,700 mg/kg), SB-8-2 (4-10) (10,600 mg/kg), SB-16-1 (0-4) (11,600 mg/kg), SB-22-1 (4-6) (4,970 mg/kg), SB-22-2 (0-4) (3,910 mg/kg), SB-22-2 (4-6) (6,660 mg/kg), SB-23-1 (0-4) (7,330 mg/kg), and SB-32 (0-4) (17,000 mg/kg) which contained lead concentration exceeding the Restricted Use - Industrial SCOs. However, SB-22-1 (0-4) did not exceed the Restricted Use - Industrial SCOs of 3,900 mg/kg for lead.

A total of ten (10) soil samples were analyzed from sample depth intervals of 0 to 4 ft-bgs and 4 to 10 ft-bgs to compare lead concentrations in relation to TCLP concentrations. Lead was detected at concentrations exceeding the Restricted Use - Industrial SCO of 3,900 mg/kg in 9 of the 10 sample locations which were also analyzed to assess the corresponding TCLP concentrations. The following table lists the arsenic and TCLP analytical results:

Sample Location	Sample Depth	Restricted Use Industrial SCO	Analytical Results (mg/kg)	RCRA Level (mg/L)	TCLP Results (mg/L)
SB-8-1 (0-4)	0-4 ft-bgs	3,900	5,470	5	0.292
SB-8-1 (4-6)	4-6 ft-bgs	3,900	10,700	5	3.99
SB-8-2 (0-4)	0-4 ft-bgs	3,900	21,700	5	5.37
SB-8-2 (4-10)	4-10 ft-bgs	3,900	10,600	5	2.81
SB-16-1 (0-4)	0-4 ft-bgs	3,900	11,600	5	1.14
SB-22-1 (4-6)	4-6 ft-bgs	3,900	4,790	5	0.353
SB-22-2 (0-4)	0-4 ft-bgs	3,900	3,910	5	0.025 U
SB-22-2 (4-6)	4-6 ft-bgs	3,900	6,660	5	0.963
SB-23-1 (0-4)	0-4 ft-bgs	3,900	7,330	5	0.271
SB-32 (0-4)	0-4 ft-bgs	3,900	17,000	5	2.87

Note: U = The analyte was analyzed for, but not detected above the sample reporting limits.

Lead was detected at concentrations ranging from 3,910 mg/kg to 21,700 mg/kg which exceed the Restricted Use - Industrial SCO of 3,900 mg/kg at nine (9) sample locations. The corresponding TCLP concentrations for all of the nine (9) samples indicate that one (1) lead concentration detected at SB-8-2 (0-4) exceeded the RCRA Hazardous Waste Regulatory Level of 5 mg/L.

The results of the TCLP analysis indicated that lead concentrations exceeding the RCRA Hazardous Waste Regulatory Level of 5 mg/L was present in 1 of the 10 samples collected for analysis. The analytical data demonstrated that lead contaminated soil at concentrations at or below 10,000 mg/kg have recorded detections for TCLP analyses in most concurrent sampling pairs (total and TCLP analyses). However, these TCLP concentrations are well below the RCRA Hazardous Waste Regulatory Level of 5 mg/L.

Potentially hazardous levels or concentrations of PCBs exceeding the Industrial SCOs were detected at SB-23-4 collected during the SSRI.

2.2 Soil Sample Results – Results Assessment

The data collected during the RI, the SRI, and the SSRI revealed that elevated concentrations of contamination exists on-site exceeding the Unrestricted Use SCOs as stated in part 375. These elevated concentrations of contamination suggest remedial actions may be required at the Site. The following section discusses the sample location, sample depth, compound, applicable Part 375 SCO, and sample results.

2.2.1 Semi-Volatile Organic Compounds

The results of the RI, SRI, and SSRI soil sampling programs indicated the presence of SVOC concentrations in soil exceeding the Restricted Use - Industrial SCOs.

The following table lists the reported benzo(a)anthracene soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-8 (0-5)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	75,000 J
SB-10 (9-11)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	100,000 D
SB-11 (9-11)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	14,000 J
SB-12 (0-5) SB-12 (5-7)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	28,000 14,000
SB-14 (0-5) SB-14 (5-7)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	37,000 J 23,000 J

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-17 (0-4) SB-17 (4-6)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	20,000 J 38,000 J
SB-20 (4-6)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	88,000
SB-21 (0-2)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	45,000
SB-22 (0-4) SB-22 (4-7.5)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg BCO Industrial=11,000 µg/kg	15,000 J 45,000
SB-23 (0-4)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	20,000 J
SB-25 (0-4)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	23,000
SB-26 (0-4)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	18,000 J
SB-27 (0-4)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	19,000 J
SB-101 (0-4) SB-101 (4-6)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	12,000 J 23,000
SB-102 (0-4)	Benzo(a)anthracene	BCO Industrial=11,000 µg/kg	18,000 J

The following table lists the reported benzo(a)pyrene soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-1 (0-5) SB-1 (7-9)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	1,200 3,500
SB-2 (0-5) SB-2 (5-7)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	9,100 J 2,600
SB-4 (0-5) SB-4 (5-7)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	3,600 1,300 J
SB-6 (0-5)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	2,000 J
SB-7 (0-5) SB-7 (9-11)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	10,000 3,700
SB-8 (0-5) SB-8 (5-7) SB-8 (9-11)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	47,000 J 2,000 J 7,200 J
SB-9 (0-5) SB-9 (7-8)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	7,000 J 1,900 J
SB-10 (0-5) SB-10 (5-7) SB-10 (9-11)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	2,400 J 75,000 5,200 J
SB-11 (0-5) SB-11 (7-8)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	10,000 J 6,900 J
SB-12 (0-5) SB-12 (5-7)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	21,000 9,700
SB-13 (0-5) SB-13 (5-7)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	4,400 J 2,800 J
SB-14 (0-5) SB-14 (5-7) SB-14 (9-11)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	28,000 J 17,000 J 7,600

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-15 (0-5)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	6,500
SB-16 (0-4) SB-16 (4-7)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	8,100 J 3,200 J
SB-17 (0-4) SB-17 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	17,000 J 30,000 J
SB-18 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	3,400 J
SB-19 (0-4) SB-19 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	7,400 J 14,000 J
SB-20 (0-4) SB-20 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	3,900 J 69,000
SB-21 (0-2)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	37,000
SB-22 (0-4) SB-22 (4-7.5)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	12,000 J 31,000 J
SB-23 (0-4)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	17,000 J
SB-24 (0-2)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	3,600 J
SB-25 (0-4)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	17,000 J
SB-26 (0-4) SB-26 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	14,000 J 3,300 J
SB-27 (0-4)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	14,000 J
SB-28 (4-8)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	4,300
SB-101 (0-4) SB-101 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	9,900 J 18,000 J
SB-102 (0-4) SB-102 (4-6)	Benzo(a)pyrene	BCO Industrial=1,100 µg/kg	16,000 J 3,200 J

The following table lists the reported benzo(b)fluoranthene soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-7 (0-5)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	12,000
SB-8 (0-5)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	57,000 J
SB-10 (5-7)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	110,000 D
SB-11 (0-5)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	15,000 J
SB-12 (0-5) SB-12 (5-7)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	28,000 13,000
SB-14 (0-5) SB-14 (5-7)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	39,000 J 27,000 J
SB-17 (0-4) SB-17 (4-6)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	22,000 J 41,000 J
SB-18 (4-6)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	4,600
SB-19 (4-6)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	16,000 J
SB-20 (4-6)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	84,000
SB-21 (0-2)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	43,000

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-22 (0-4) SB-22 (4-7.5)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	15,000 J 40,000
SB-23 (0-4)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	22,000 J
SB-25 (0-4)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	22,000
SB-26 (0-4)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	23,000 J
SB-27 (0-4)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	20,000 J
SB-101 (0-4) SB-101 (4-6)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	28,000 13,000
SB-102 (0-4)	Benzo(b)fluoranthene	BCO Industrial=11,000 µg/kg	20,000 J

The following table lists the reported dibenz(a,h)anthracene soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SB-8 (0-5)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	2,400 J
SB-10 (5-7)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	3,700 J
SB-12 (0-5)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	1,400 J
SB-17 (4-6)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	4,900 J
SB-20 (4-6)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	12,000 J
SB-21 (0-2)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	6,000 J
SB-22 (4-7.5)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	4,600 J
SB-25 (0-4)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	3,000 J
SB-101 (4-6)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	2,700 J
SB-102 (0-4)	Dibenz(a,h)anthracene	BCO Industrial=1,100 µg/kg	2,800 J

The following table lists the reported indeno(1,2,3-cd)pyrene soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICA L RESULTS (µg/kg)
SB-8 (0-5)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	22,000 J
SB-10 (5-7)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	37,000
SB-14 (0-5)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	15,000 J
SB-17 (4-6)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	17,000 J
SB-20 (4-6)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	44,000
SB-21 (0-2)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	23,000 J
SB-22 (4-7.5)	Indeno(1,2,3-cd)pyrene	BCO Industrial=11,000 µg/kg	19,000 J

SVOCs are a site-wide soil contaminant that is common in urban fill, may partially be attributed to native background conditions, and is a predominant contaminant in urban settings locations where commercial, industrial, and manufacturing operations have been occurred. The most common SVOCs in urban areas are PAHs, which are constituents of partially combusted coal or petroleum-derived products, such as coal and fuel oil. PAHs are commonly found in urban fill material, which is known to be present at the project site (and throughout the area). SVOCs (PAHs) are also commonly found in New York City urban fill material and are likely the result of historic filling processes. SVOCs (PAHs) were not detected at concentrations exceeding their respective TOGS standards in any of the groundwater samples collected since 2003. Therefore, SVOCs (PAHs) are likely immobile at the Site and do not pose a significant threat to human health and the environment, if left in-place covered by an engineered cover system. The proposed "engineered cover system" would provide protection against human health exposures (dermal contact, inhalation, and ingestion) from carcinogenic PAHs in surface soil.

2.2.2 Arsenic

The results of the RI, SRI, and SSRI soil sampling programs indicated the presence of arsenic concentrations in soil exceeding the Restricted Use - Protection of Groundwater SCOs.

The following table lists the reported arsenic soil concentrations that exceed the Restricted Use - Protection of Groundwater SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-1 (0-5) SB-1 (7-9)	Arsenic	BCO Protection of GW=16 mg/kg	168 J 31.6 J
SB-3 (5-7) SB-3 (11-11.5)	Arsenic	BCO Protection of GW=16 mg/kg	36.9 J 25.3 J
SB-8 (0-5) SB-8 (5-7)	Arsenic	BCO Protection of GW=16 mg/kg	42.8 J 20.5 J
SB-8-1 (0-4) SB-8-1 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	30.9 J 33.7 J
SB-8-2 (0-4) SB-8-2 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	23.2 J 47.5 J
SB-9 (7-8)	Arsenic	BCO Protection of GW=16 mg/kg	18.6 J
SB-10 (0-5) SB-10 (9-11)	Arsenic	BCO Protection of GW=16 mg/kg	19.2 J 29.1 J
SB-13 (9-11)	Arsenic	BCO Protection of GW=16 mg/kg	32.3

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-19 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	27.7
SB-22 (4-7.5)	Arsenic	BCO Protection of GW=16 mg/kg	28.1 J
SB-22-1 (0-4) SB-22-1 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	25.6 J 16.3 J
SB-23-1 (0-4) SB-23-1 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	23.1 17.5
SB-25 (0-4)	Arsenic	BCO Protection of GW=16 mg/kg	44.8
SB-28 (0-4)	Arsenic	BCO Protection of GW=16 mg/kg	104
SB-29 (0-4) SB-29 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	1,160 1,140
SB-30 (0-4) SB-30 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	23.9 27.6
SB-32 (0-4) SB-32 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	144 26.2
SB-33 (0-4) SB-33 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	26.7 21.3
SB-34 (0-4) SB-34 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	16.3 24.7
SB-35 (0-4) SB-35 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	16.2 22.5
SB-36 (0-4)	Arsenic	BCO Protection of GW=16 mg/kg	16.4
SB-38 (0-4) SB-38 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	45.9 25.8
SB-39 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	20.2
SB-42 (0-4) SB-42 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	67.4 35.8
SB-43 (0-4) SB-43 (4-8)	Arsenic	BCO Protection of GW=16 mg/kg	21 29.5
SB-44 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	32.5
SB-46 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	20.1
SB-47 (0-4) SB-47 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	69.6 18.5
SB-48 (0-4) SB-48 (4-6)	Arsenic	BCO Protection of GW=16 mg/kg	17.2 18.3
SB-50 (0-4) SB-50 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	23.2 39.8
SB-53 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	25.1
SB-54 (4-10)	Arsenic	BCO Protection of GW=16 mg/kg	27.1
SB-56 (0-4) SB-56 (6-8)	Arsenic	BCO Protection of GW=16 mg/kg	16.7 23 J
SB-57 (0-4) SB-57 (6-8)	Arsenic	BCO Protection of GW=16 mg/kg	17.5 19.1

2.2.3 TAL Metals

The results of the RI, SRI, and SSRI soil sampling programs indicated the presence of TAL Metals concentrations in soil exceeding the Restricted Use - Industrial SCOs.

The following table lists the reported cadmium soil concentration that exceeds the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-102 (4-6)	Cadmium	BCO Industrial=60 mg/kg	60.8

The following table lists the reported chromium soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-42 (0-4)	Chromium	BCO Industrial=800 mg/kg	823
SB-52 (0-4)	Chromium	BCO Industrial=800 mg/kg	834
SB-102 (4-6)	Chromium	BCO Industrial=800 mg/kg	1,610 J

The following table lists the reported copper soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-28 (0-4)	Copper	BCO Industrial=10,000 mg/kg	14,000 D
SB-31 (0-4)	Copper	BCO Industrial=10,000 mg/kg	19,800 B
SB-39 (0-4)	Copper	BCO Industrial=10,000 mg/kg	12,800 B
SB-43 (0-4)	Copper	BCO Industrial=10,000 mg/kg	11,700
SB-48 (0-4)	Copper	BCO Industrial=10,000 mg/kg	11,200 B

The following table lists the reported lead soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-1 (7-9)	Lead	BCO Industrial=3,900 mg/kg	6,670
SB-3 (11-11.5)	Lead	BCO Industrial=3,900 mg/kg	4,330 J
SB-6 (5-7)	Lead	BCO Industrial=3,900 mg/kg	4,630
SB-8 (0-5) SB-8 (5-7)	Lead	BCO Industrial=3,900 mg/kg	7,760 J 9,020 J
SB-8-1 (0-4) SB-8-1 (4-6)	Lead	BCO Industrial=3,900 mg/kg	5,470 J 10,700 J
SB-8-2 (0-4) SB-8-2 (4-6)	Lead	BCO Industrial=3,900 mg/kg	21,700 J 10,600 J
SB-16 (4-7)	Lead	BCO Industrial=3,900 mg/kg	6,130
SB-16-1 (0-4)	Lead	BCO Industrial=3,900 mg/kg	11,600
SB-19 (0-4) SB-19 (4-6)	Lead	BCO Industrial=3,900 mg/kg	4,190 10,100
SB-22 (0-4) SB-22 (4-7.5)	Lead	BCO Industrial=3,900 mg/kg	110,000 8,940
SB-22-1 (4-6)	Lead	BCO Industrial=3,900 mg/kg	4,970 J
SB-22-2 (0-4) SB-22-2 (4-6)	Lead	BCO Industrial=3,900 mg/kg	3,910 J 6,660 J
SB-23 (0-4)	Lead	BCO Industrial=3,900 mg/kg	10,900
SB-27 (0-4)	Lead	BCO Industrial=3,900 mg/kg	4,780
SB-30 (0-4)	Lead	BCO Industrial=3,900 mg/kg	5,410
SB-32 (0-4) SB-32 (4-10)	Lead	BCO Industrial=3,900 mg/kg	17,000 6,580
SB-33 (4-10)	Lead	BCO Industrial=3,900 mg/kg	6,070
SB-35 (4-10)	Lead	BCO Industrial=3,900 mg/kg	5,120
SB-36 (6-10)	Lead	BCO Industrial=3,900 mg/kg	4,490
SB-39 (4-10)	Lead	BCO Industrial=3,900 mg/kg	4,850
SB-42 (0-4)	Lead	BCO Industrial=3,900 mg/kg	6,240
SB-43 (4-8)	Lead	BCO Industrial=3,900 mg/kg	4,080
SB-44 (4-10)	Lead	BCO Industrial=3,900 mg/kg	5,050
SB-46 (0-4) SB-46 (4-10)	Lead	BCO Industrial=3,900 mg/kg	5,110 8,760
SB-47 (0-4) SB-47 (4-10)	Lead	BCO Industrial=3,900 mg/kg	5,810 6,080
SB-48 (4-6)	Lead	BCO Industrial=3,900 mg/kg	4,220
SB-54 (4-10)	Lead	BCO Industrial=3,900 mg/kg	4,530
SB-56 (6-8)	Lead	BCO Industrial=3,900 mg/kg	4,090 J
SB-57 (0-4)	Lead	BCO Industrial=3,900 mg/kg	4,890 J
SB-102 (4-6)	Lead	BCO Industrial=3,900 mg/kg	17,200

The following table lists the reported mercury soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-1 (0-5) SB-1 (7-9)	Mercury	BCO Industrial=5.7 mg/kg	7.5 J 8.5 J
SB-5 (0-5)	Mercury	BCO Industrial=5.7 mg/kg	11.2 J
SB-8 (0-5) SB-8 (5-7) SB-8 (9-11)	Mercury	BCO Industrial=5.7 mg/kg	8.7 J 8.4 J 6.8 J
SB-11 (0-5)	Mercury	BCO Industrial=5.7 mg/kg	7 J
SB-12 (5-7)	Mercury	BCO Industrial=5.7 mg/kg	9.9 J
SB-16 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	7.3 D
SB-17 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	7.6 J
SB-19 (0-4) SB-19 (4-6)	Mercury	BCO Industrial=5.7 mg/kg	12.7 6.1
SB-23 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	15.1 J
SB-26 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	7.3 J
SB-27 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	17 J
SB-28 (4-8)	Mercury	BCO Industrial=5.7 mg/kg	8.7
SB-29 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	10
SB-31 (0-4) SB-31 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	9.8 6
SB-32 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	14.2
SB-34 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	12.6
SB-35 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	5.8
SB-36 (0-4) SB-36 (6-10)	Mercury	BCO Industrial=5.7 mg/kg	7.1 9.1
SB-38 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	6.9
SB-39 (0-4) SB-39 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	9.9 14.3
SB-43 (4-8)	Mercury	BCO Industrial=5.7 mg/kg	6
SB-44 (0-4) SB-44 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	11.6 11.7
SB-46 (0-4) SB-46 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	9.2 9.7
SB-47 (0-4) SB-47 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	9.6 6
SB-48 (0-4) SB-48 (4-6)	Mercury	BCO Industrial=5.7 mg/kg	9.1 13.5
SB-52 (0-4)	Mercury	BCO Industrial=5.7 mg/kg	13.6
SB-53 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	7.9
SB-54 (0-4) SB-54 (4-10)	Mercury	BCO Industrial=5.7 mg/kg	12.6 8.5
SB-56 (6-8)	Mercury	BCO Industrial=5.7 mg/kg	8.6
SB-57 (6-8)	Mercury	BCO Industrial=5.7 mg/kg	5.8
SB-101 (4-6)	Mercury	BCO Industrial=5.7 mg/kg	10.1 J

The following table lists the reported zinc soil concentrations that exceed the Restricted Use - Industrial SCOs:

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-16 (4-7)	Zinc	BCO Industrial=10,000 mg/kg	10,700 J
SB-17 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	12,300 J
SB-19 (4-6)	Zinc	BCO Industrial=10,000 mg/kg	43,800 D
SB-24 (0-2)	Zinc	BCO Industrial=10,000 mg/kg	17,600 D
SB-25 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	15,900 D
SB-31 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	14,200
SB-32 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	11,600
SB-33 (4-10)	Zinc	BCO Industrial=10,000 mg/kg	12,400
SB-35 (4-10)	Zinc	BCO Industrial=10,000 mg/kg	15,400
SB-36 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	11,700
SB-39 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	18,700
SB-46 (4-10)	Zinc	BCO Industrial=10,000 mg/kg	16,400
SB-48 (0-4) SB-48 (4-6)	Zinc	BCO Industrial=10,000 mg/kg	12,800 10,600
SB-52 (0-4)	Zinc	BCO Industrial=10,000 mg/kg	11,300

2.2.4 Polychlorinated Biphenyls

The results of the RI, SRI, and SSRI soil sampling programs indicated the presence of PCB concentrations in soil that exceed the Restricted Use - Industrial SCOs.

The following table provides the sample location, sample depth, compound and corresponding PCB soil concentrations which exceed the Restricted Use - Industrial SCOs.

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-6 (5-7)	Aroclor 1254	BCO Industrial=25 mg/kg	33 J
SB-8 (0-5)	Aroclor 1242 Aroclor 1254	BCO Industrial=25 mg/kg	73 J 27 D
SB-8-2 (0-4)	Aroclor 1248 Aroclor 1260	BCO Industrial=25 mg/kg	14 12
SB-16 (0-4) SB-16 (4-7)	Aroclor 1242	BCO Industrial=25 mg/kg	26 D 33 D
SB-17 (0-4) SB-17 (4-6)	Aroclor 1242	BCO Industrial=25 mg/kg	69 D 31 J
SB-17-1 (0-4)	Aroclor 1242	BCO Industrial=25 mg/kg	39.3
SB-17-2 (4-6)	Aroclor 1242	BCO Industrial=25 mg/kg	30
SB-20 (0-4)	Aroclor 1242	BCO Industrial=25 mg/kg	56 J

SAMPLE LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
SB-22 (0-4) SB-22 (4-7.5)	Aroclor 1242	BCO Industrial=25 mg/kg	27 D 78 D
SB-23 (0-4)	Aroclor 1242	BCO Industrial=25 mg/kg	28 D
SB-23-4 (4-6)	Aroclor 1254	BCO Industrial=25 mg/kg	55
SB-24 (0-2)	Aroclor 1242	BCO Industrial=25 mg/kg	74 D
SB-27 (0-4) SB-27 (8-10)	Aroclor 1242	BCO Industrial=25 mg/kg	3,200 D 31 J
SB-102 (0-4)	Aroclor 1242	BCO Industrial=25 mg/kg	37 J

2.3 Remedial Investigation, Supplemental Remedial Investigation, and Second Supplemental Remedial Investigation Soil Sample Results

The results of the RI, SRI, and SSRI sampling programs have indicated that the on-site surface and subsurface soil concentrations are present at concentrations exceeding Part 375 the Restricted Use - Protection of Groundwater SCOs for arsenic, and the Restricted Use - Industrial SCOs for TAL Metals and PCBs.

2.3.1 Arsenic Soil Sample Results

Arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs are present from the ground surface to an approximate depth of 0 to 11 ft-bgs in several locations at the Site. Arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs are present in the northwest, north-central, and northeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. Arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs are present in the south central and southeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. The highest reported arsenic concentrations in the 0 to 4 ft-bgs depth interval are located at SB-29 (1,160 mg/kg), SB-1 (168 mg/kg), SB-32 (144 mg/kg), SB-28 (104 mg/kg), SB-47 (69.6 mg/kg), and SB-42 (67.4 mg/kg). The average concentration of arsenic, which exceeds the Restricted Use - Protection of Groundwater SCOs, detected from the 0 to 4 ft-bgs depth interval is 90.05 mg/kg. The highest reported arsenic concentrations in the 4 to 11 ft-bgs depth interval are located at SB-29 (1,140 mg/kg), SB-8-2 (47.5 J mg/kg), SB-50 (39.8 mg/kg), SB-3 (36.9 mg/kg), and SB-42 (35.8

mg/kg). The average concentration of arsenic, which exceeds the Restricted Use - Protection of Groundwater SCOs, detected from the 4 to 11 ft-bgs depth interval is 61.3 mg/kg.

2.3.2 Lead Soil Sample Results

Lead concentrations exceeding the Restricted Use - Industrial SCOs are present in the northwest, north central and northeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. Lead concentrations exceeding the Restricted Use - Industrial SCOs are present in the south-central and southeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. The highest reported lead concentrations in the 0 to 4 ft-bgs depth interval are located at SB-29 (110,000 mg/kg), SB-8-2 (21,700 J mg/kg), SB-1 (17,000 mg/kg), SB-32 (11,600 mg/kg), SB-28 (10,900 mg/kg), SB-8 (7,760 mg/kg), and SB-42 (6,240 mg/kg). The average concentration of lead, which exceeds the Restricted Use - Industrial SCOs, detected from the 0 to 4 ft-bgs depth interval is 14,985 mg/kg. The highest reported lead concentrations in the 4 to 11 ft-bgs depth interval are located at SB-102 (17,200 mg/kg), SB-8-1 (10,700 mg/kg), SB-8-2 (10,600 mg/kg), SB-19 (10,100 mg/kg), and SB-8 (9,020 mg/kg). The average concentration of lead, which exceeds Restricted Use - Industrial SCOs, detected from the 4 to 11 ft-bgs depth interval is 6,828 mg/kg.

2.3.3 Mercury Soil Sample Results

Mercury concentrations exceeding the Restricted Use - Industrial SCOs are present in the northwest and northeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. Mercury concentrations exceeding the Restricted Use - Industrial SCOs are present in the southeast, south-central, and southeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals. The highest reported mercury concentrations in the 0 to 4 ft-bgs depth interval are located at SB-27 (17 mg/kg), SB-23 (15.1 mg/kg), SB-32 (14.2 mg/kg), SB-52 (13.6 mg/kg), SB-19 (12.7 mg/kg), and SB-34 and SB-54 (12.6 mg/kg). The average concentration of mercury, which exceeds the Restricted Use - Industrial SCOs, detected from the 0 to 4 ft-bgs depth interval is 10.3 mg/kg. The highest reported mercury concentrations in the 4 to 11 ft-bgs depth interval are located at SB-39 (14.3 mg/kg), SB-48 (13.5 mg/kg), SB-44 (11.7 mg/kg), SB-101 (10.1 mg/kg), and SB-29 (10 mg/kg). The average concentration of mercury, which exceeds Restricted Use - Industrial SCOs, detected from the 4 to 11 ft-bgs depth interval is 8.7 mg/kg.

2.3.4 Polychlorinated Biphenyls Soil Sample Results

PCB concentrations exceeding the Restricted Use - Industrial SCOs are predominately present in the southwest, south-central, and southeast portions of the Site in both the 0 to 4 ft-bgs and 4 to 11 ft-bgs depth intervals, with the exception of SB-20 which is located in the north central to northeast portion of the Site. The highest reported PCB concentrations in the 0 to 4 ft-bgs depth interval are located at SB-27 (3,200 mg/kg), SB-8 (100 mg/kg), SB-24 (74 mg/kg), SB-17 (69 mg/kg), SB-20 (56 mg/kg), and SB-102 (37 mg/kg). The average concentration of PCB, which exceeds the Restricted Use - Industrial SCOs, detected from the 0 to 4 ft-bgs depth interval is 334 mg/kg. The highest reported PCB concentrations in the 4 to 11 ft-bgs depth interval are located at SB-22 (78 mg/kg), SB-23.4 (55 mg/kg), SB-6 and SB-16 (33 mg/kg), and SB-17 and SB-27 (31 mg/kg). The average concentration of PCB, which exceeds Restricted Use - Industrial SCOs, detected from the 4 to 11 ft-bgs depth interval is 41.1 mg/kg.

2.4 Groundwater Sample Results

The results of the RI soil sampling program indicates that several of the on-site groundwater monitoring wells exhibit concentrations of VOCs and TAL Metals above the TOGS standards. The following section discusses the sample results from the December 2007 and November 2009 sampling event. All of the compounds exceeding TOGS standards have been listed in tables within the report. Total samples were collected for VOCs, SVOCs, and PCBs groundwater analysis. TAL Metal groundwater samples were collected for total and dissolved sample analysis. The groundwater sample results are presented in Tables 2-12 through 2-17, and on Figures 2-30 through 2-32.

2.4.1 Volatile Organic Compounds

The results of the December 2007 and November 2009 groundwater sampling program indicated the presence of VOC concentrations above the TOGS standards.

The following tables provide the monitoring well location, sampling date, compound and corresponding analytical results which exceed the TOGS standards. The following table lists the reported VOC groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (µg/L)
MW-1 (12/2007) MW-1 (11/2009)	Vinyl Chloride	2 µg/L	12 10
MW-2 (11/2009)	1,1-Dichloroethane	5 µg/L	6
MW-2 (11/2009)	1,2-Dichloroethane	0.6 µg/L	1 J
MW-2 (12/2007) MW-2 (11/2009)	Cis-1,2-Dichloroehtene	5 µg/L	12 46
MW-2 (12/2007) MW-2 (11/2009)	Vinyl Chloride	2 µg/L	13 42
MW-3 (11/2009)	Benzene	1 µg/L	1 J
MW-3 (11/2009)	MTBE	10 µg/L	10
MW-4 (12/2007) MW-4 (11/2009)	MTBE	10 µg/L	12 63
MW-5 (12/2007) MW-5 (11/2009)	MTBE	10 µg/L	28 30
MW-7 (11/2009)	Benzene	1 µg/L	12
MW-7 (11/2009)	Cis-1,2-Dichloroehtene	1 µg/L	6
MW-7 (11/2009)	Vinyl Chloride	2 µg/L	12

2.4.2 Semi-Volatile Organic Compounds

The results of the December 2007 and November 2009 groundwater sampling program indicated that SVOC concentrations above the TOGS standards are not present in the groundwater samples collected during this sampling program.

2.4.3 TAL Metals

The results of the December 2007 and November 2009 groundwater sampling program indicated the presence of TAL Metals (total and dissolved) concentrations above the TOGS standards.

The following table lists the reported aluminum groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-1 (12/2007) MW-1 (11/2009) (Total)	Aluminum	0.100 mg/L	0.129 0.171
MW-2 (12/2007) MW-2 (11/2009) (Total)	Aluminum	0.100 mg/L	0.244 1.67
MW-3 (12/2007) MW-3 (11/2009) (Total)	Aluminum	0.100 mg/L	0.485 4.66
MW-4 (12/2007)	Aluminum	0.100 mg/L	0.251
MW-5 (12/2007) MW-5 (11/2009) (Total)	Aluminum	0.100 mg/L	0.239 0.830
MW-6 (11/2009) (Total)	Aluminum	0.100 mg/L	0.807
MW-7 (11/2009) (Total)	Aluminum	0.100 mg/L	45.3
MW-8 (11/2009) (Total)	Aluminum	0.100 mg/L	71.1

The following table lists the reported arsenic groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-3 (11/2009) (Dissolved)	Arsenic	0.025 mg/L	0.0429
MW-3 (11/2009) (Total)	Arsenic	0.025 mg/L	0.0429
MW-4 (11/2009) (Dissolved)	Arsenic	0.025 mg/L	0.0631
MW-4 (11/2009) (Total)	Arsenic	0.025 mg/L	0.0746

The following table lists the reported cadmium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-7 (11/2009) (Total)	Cadmium	0.005 mg/L	0.0641

The following table lists the reported cobalt groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-3 (11/2009) (Total)	Cobalt	0.005 mg/L	0.0845 J
MW-7 (11/2009) (Total)	Cobalt	0.005 mg/L	0.0514
MW-8 (11/2009) (Total)	Cobalt	0.005 mg/L	0.0269

The following table lists the reported copper groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-7 (11/2009) (Total)	Copper	0.20 mg/L	0.227

The following table lists the reported iron groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-1 (12/2007) MW-1 (11/2009) (Total) MW-1 (11/2009) (Dissolved)	Iron	0.30 mg/L	0.723 6.81 2.41
MW-2 (12/2007) MW-2 (11/2009) (Total)	Iron	0.30 mg/L	1.79 26.10
MW-3 (12/2007) MW-3 (11/2009) (Total) MW-3 (11/2009) (Dissolved)	Iron	0.30 mg/L	1.02 19.40 0.454
MW-4 (12/2007)	Iron	0.30 mg/L	0.528
MW-5 (12/2007) MW-5 (11/2009) (Total)	Iron	0.30 mg/L	0.412 2.08
MW-6 (11/2009) (Total)	Iron	0.30 mg/L	2.17
MW-7 (11/2009)(Total)	Iron	0.30 mg/L	122.0
MW-8 (11/2009) (Total) MW-8 (11/2009) (Dissolved)	Iron	0.30 mg/L	98.3 1.88

The following table lists the reported lead groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-2 (11/2009) (Total)	Lead	0.025 mg/L	0.047
MW-3 (11/2009) (Total)	Lead	0.025 mg/L	0.594
MW-4 (12/2007) (Total)	Lead	0.025 mg/L	0.055
MW-5 (11/2009) (Total)	Lead	0.025 mg/L	0.049
MW-6 (11/2009) (Total)	Lead	0.025 mg/L	0.049
MW-7 (11/2009) (Total) MW-7 (11/2009) (Dissolved)	Lead	0.025 mg/L	0.743 0.054
MW-8 (11/2009) (Total)	Lead	0.025 mg/L	0.271

The following table lists the reported magnesium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-3 (11/2009) (Total) MW-3 (11/2009) (Dissolved)\	Magnesium	35 mg/L	70.3 57.5

The following table lists the reported manganese groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-1 (12/2007) MW-1 (11/2009) (Total) MW-1 (11/2009) (Dissolved)	Manganese	0.30 mg/L	1.82 2.1 2.41
MW-2 (12/2007) MW-2 (11/2009) (Total) MW-2 (11/2009) (Dissolved)	Manganese	0.30 mg/L	0.449 0.857 0.776
MW-3 (12/2007) MW-3 (11/2009) (Total) MW-3 (11/2009) (Dissolved)	Manganese	0.30 mg/L	1.32 1.2 1.04
MW-5 (12/2007) MW-5 (11/2009) (Total) MW-5 (11/2009) (Dissolved)	Manganese	0.30 mg/L	0.36 0.427 0.364
MW-6 (11/2009) (Total) MW-6 (11/2009) (Dissolved)	Manganese	0.30 mg/L	1.69 1.70
MW-7 (11/2009) (Total) MW-7 (11/2009) (Dissolved)	Manganese	0.30 mg/L	2.14 1.14
MW-8 (11/2009) (Total) MW-8 (11/2009) (Dissolved)	Manganese	0.30 mg/L	2.44 1.15

The following table lists the reported mercury groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-2 (11/2009) (Total)	Mercury	0.0007 mg/L	0.00092
MW-3 (11/2009) (Total)	Mercury	0.0007 mg/L	0.0014

The following table lists the reported nickel groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-7 (11/2009) (Total) MW-7 (11/2009) (Dissolved)	Nickel	0.10 mg/L	5.28 0.325

The following table lists the reported selenium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-7 (11/2009) (Total)	Selenium	0.01 mg/L	0.0152
MW-8 (11/2009) (Total)	Selenium	0.01 mg/L	0.0096 J

The following table lists the reported sodium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-1 (12/2007) MW-1 (11/2009) (Total) MW-1 (11/2009) (Dissolved)	Sodium	20 mg/L	171 183 190
MW-2 (12/2007) MW-2 (11/2009) (Total) MW-2 (11/2009) (Dissolved)	Sodium	20 mg/L	175 125 128
MW-3 (12/2007) MW-3 (11/2009) (Total) MW-3 (11/2009) (Dissolved)	Sodium	20 mg/L	203 194 192
MW-4 (12/2007) MW-4 (11/2009) (Total) MW-4 (11/2009) (Dissolved)	Sodium	20 mg/L	182 148 152
MW-5 (12/2007) MW-5 (11/2009) (Total) MW-5 (11/2009) (Dissolved)	Sodium	20 mg/L	165 155 143
MW-6 (11/2009) (Total) MW-6 (11/2009) (Dissolved)	Sodium	20 mg/L	168 171
MW-7 (11/2009) (Total) MW-7 (11/2009) (Dissolved)	Sodium	20 mg/L	101 95
MW-8 (11/2009) (Total) MW-8 (11/2009) (Dissolved)	Sodium	20 mg/L	478 487

The following table lists the reported thallium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-1 (12/2007)	Thallium	0.0005 mg/L	0.0097 J
MW-3 (12/2007)	Thallium	0.0005 mg/L	0.0117 J
MW-4 (11/2009) (Total)	Thallium	0.0005 mg/L	0.0236 J
MW-6 (11/2009) (Total)	Thallium	0.0005 mg/L	0.0288 J
MW-7 (11/2009) (Total)	Thallium	0.0005 mg/L	0.0314 J
MW-8 (11/2009) (Total)	Thallium	0.0005 mg/L	0.0491 J

The following table lists the reported vanadium groundwater concentrations exceeding the TOGS standards:

SAMPLE LOCATION	COMPOUND	TOGS STANDARD	ANALYTICAL RESULTS (mg/L)
MW-3 (11/2009) (Total)	Vanadium	0.014 mg/L	0.0287
MW-7 (11/2009) (Total) MW-7 (11/2009) (Dissolved)	Vanadium	0.014 mg/L	0.158 J 0.00766
MW-8 (11/2009) (Total)	Vanadium	0.014 mg/L	0.179

2.4.4 Polychlorinated Biphenyls

The results of the RI groundwater sampling program indicated that PCB concentrations exceeding the TOGS standards are not present in the groundwater samples collected during this sampling program. Groundwater samples were not collected at the Site during the December 2007 sampling program.

2.5 Sediment Sample Results

Sediment sample analytical results were compared to the NYSDEC Human Health Bioaccumulation (HHB), Benthic Aquatic Life Toxicity (BALT), Benthic Aquatic Life Chronic Toxicity (BALCT), and Wildlife Bioaccumulation (WB) Guidance Values. The TAL Metal concentrations were also compared to the Lowest Effect Level (LEL) and Severe Effect Level (SEL) criteria. The sediment sample results are presented in Tables 2-26 through 2-43, and on Figures 2-33 through 2-36.

2.5.1 Volatile Organic Compounds and Semi-Volatile Organic Compounds

VOCs and SVOCs were not detected at SED-1, SED-2, SED-3, and SED-4 with concentrations exceeding the HHB, BALT, BALCT, and WB criteria.

2.5.2 Pesticides

Pesticides were not detected at SED-1, SED-2, SED-3, and SED-4.

2.5.3 Polychlorinated Biphenyls

PCBs were detected at SED-1 with concentrations exceeding the HHB criteria, but did not exceed the WB criteria. The following table lists the reported PCB sediment concentrations that exceed the HHB criteria:

SAMPLE LOCATION	COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (µg/kg)
SED-1	Aroclor-1248	HHB=0.8 µg/kg	1,300
SED-2	Aroclor-1248	HHB=0.8 µg/kg	790 J
SED-3	Aroclor-1248	HHB=0.8 µg/kg WB=1,400 µg/kg	1,900
SED-4	Aroclor-1248	HHB=0.8 µg/kg WB=1,400 µg/kg	4,800

2.5.4 TAL Metals

TAL Metals were detected at SED-1 with concentrations exceeding the Severe Effect Level (SEL). The following table lists the reported TAL Metal sediment concentrations that exceed the SEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Cadmium	SEL=9 mg/kg	22.5 J
Chromium	SEL=110 mg/kg	147 J
Copper	SEL=110 mg/kg	610 J
Iron	SEL=40,000 mg/kg	134,000
Lead	SEL=110 mg/kg	1,220 J
Nickel	SEL=50 mg/kg	124 J
Zinc	SEL=270 mg/kg	2,050 J

TAL Metals were detected at SED-1 with concentrations exceeding the Lowest Effect Level (LEL). The following table lists the reported TAL Metal sediment concentrations that exceed the LEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Antimony	LEL=2 mg/kg	18.10
Arsenic	LEL=6 mg/kg	21.4 J
Cadmium	LEL=0.6 mg/kg	22.5 J
Chromium	LEL=26 mg/kg	147 J
Copper	LEL=16 mg/kg	610 J
Iron	LEL=20,000 mg/kg	134,000
Lead	LEL=31 mg/kg	1,220 J
Manganese	LEL=460 mg/kg	811 J
Mercury	LEL=0.15 mg/kg	1.2
Nickel	LEL=16 mg/kg	124 J
Zinc	LEL=120 mg/kg	2,050 J

TAL Metals were detected at SED-2 with concentrations exceeding the SEL. The following table lists the reported TAL Metal sediment concentrations that exceed the SEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Antimony	SEL=25 mg/kg	31.1
Arsenic	SEL=33 mg/kg	34.2 J
Cadmium	SEL=9 mg/kg	57.5 J
Chromium	SEL=110 mg/kg	283 J
Copper	SEL=110 mg/kg	1,380 J
Iron	SEL=40,000 mg/kg	101,000
Lead	SEL=110 mg/kg	2,250 J
Mercury	SEL=1.3 mg/kg	2.5 D
Nickel	SEL=50 mg/kg	245 J
Zinc	SEL=270 mg/kg	5,290 J

TAL Metals were detected at SED-2 with concentrations exceeding the LEL. The following table lists the reported TAL Metal sediment concentrations that exceed LEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Antimony	LEL=2 mg/kg	31.1
Arsenic	LEL=6 mg/kg	34.2 J

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Cadmium	LEL=0.6 mg/kg	57.5 J
Chromium	LEL=26 mg/kg	283 J
Copper	LEL=16 mg/kg	1,380 J
Iron	LEL=20,000 mg/kg	101,000
Lead	LEL=31 mg/kg	2,250 J
Mercury	LEL=0.15 mg/kg	2.5
Nickel	LEL=16 mg/kg	245 J
Zinc	LEL=120 mg/kg	5,290 J

TAL Metals were detected at SED-3 with concentrations exceeding the SEL. The following table lists the reported TAL Metal sediment concentrations that exceed the SEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Cadmium	SEL=9 mg/kg	33.4 J
Chromium	SEL=110 mg/kg	214 J
Copper	SEL=110 mg/kg	941 J
Lead	SEL=110 mg/kg	1,360 J
Iron	SEL=40,000 mg/kg	43,800
Lead	SEL=110 mg/kg	1,360 J
Mercury	SEL=1.3 mg/kg	2.7
Nickel	SEL=50 mg/kg	171 J
Silver	SEL=2.2 mg/kg	13.2 J
Zinc	SEL=270 mg/kg	3,560 J

TAL Metals were detected at SED-3 with concentrations exceeding the LEL. The following table lists the reported TAL Metal sediment concentrations that exceed the LEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Antimony	LEL=2 mg/kg	17.7
Arsenic	LEL=6 mg/kg	23.1 J
Cadmium	LEL=0.6 mg/kg	33.4 J
Chromium	LEL=26 mg/kg	214 J
Copper	LEL=16 mg/kg	941 J
Iron	LEL=20,000 mg/kg	43,800
Lead	LEL=31 mg/kg	1,360 J
Mercury	LEL=0.15 mg/kg	2.7
Nickel	LEL=16 mg/kg	171 J
Silver	LEL=1 mg/kg	13.2 J
Zinc	LEL=120 mg/kg	3,560 J

TAL Metals were detected at SED-4 with concentrations exceeding the SEL. The following table lists the reported TAL Metal sediment concentrations that exceed the SEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Cadmium	SEL=9 mg/kg	76.5 J
Chromium	SEL=110 mg/kg	397 J
Copper	SEL=110 mg/kg	1,340 J
Iron	SEL=40,000 mg/kg	53,900
Lead	SEL=110 mg/kg	1,880 J
Mercury	SEL=1.3 mg/kg	8.4
Nickel	SEL=50 mg/kg	250 J
Silver	SEL=2.2 mg/kg	9.79 J
Zinc	SEL=270 mg/kg	5,120 J

TAL Metals were detected at SED-4 with concentrations exceeding the LEL. The following table lists the reported TAL Metal sediment concentrations that exceed the LEL criteria:

COMPOUND	CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)
Antimony	LEL=2 mg/kg	24.9
Arsenic	LEL=6 mg/kg	26 J
Cadmium	LEL=0.6 mg/kg	76.5 J
Chromium	LEL=26 mg/kg	397 J
Copper	LEL=16 mg/kg	1,370 J
Iron	LEL=20,000 mg/kg	53,900
Lead	LEL=31 mg/kg	1,880 J
Mercury	LEL=0.15 mg/kg	8.4
Nickel	LEL=16 mg/kg	250 J
Silver	LEL=1 mg/kg	9.79 J
Zinc	LEL=120 mg/kg	5,120 J

2.6 Surface Water Sample Results

Surface water sample analytical results were compared to the NYSDEC Human Consumption of Fish - Saline Waters (HCF-SW), Fish Survival - Saline Waters (FS-SW), Wildlife Protection - Saline Waters (WP-SW), and Aesthetic Waters - Saline Waters (AW-SW) Guidance Values. The surface water sample results are presented in Tables 2-44 through 2-59.

2.6.1 Volatile Organic Compounds and Semi-Volatile Organic Compounds

VOCs and SVOCs were not detected at SW-1 and SW-2 with surface water concentrations exceeding the HCF-SW, FS-SW, WP-SW, and AW-SW criteria.

2.6.2 TAL Metals

TAL Metals were not detected at SW-1 with surface water concentrations exceeding the HCF-SW, FS-SW, WP-SW, and AW-SW criteria. Copper was detected at SW-2 with surface water concentration exceeding the FS-SW of 0.0048 mg/L. No other TAL Metals were detected at SW-2 with surface water concentrations exceeding the HCF-SW, FS-SW, WP-SW, and AW-SW criteria.

2.6.3 Polychlorinated Biphenyls

PCBs were not detected at SW-1 and SW-2 with surface water concentrations exceeding the HCF-SW, FS-SW, WP-SW, and AW-SW criteria.

2.7 Soil Gas Sample Results

Soil vapor gas samples were collected, as per NYSDEC's request, along the perimeter of the Site to evaluate the potential for soil vapor intrusion into future on-site construction and the potential for off-site soil vapor migration to assess the presence of VOCs that were detected in the soil and groundwater samples collected from the Site. The objective of the subsurface soil vapor sampling was to characterize potential vapor impacts from the subsurface soil and/or groundwater.

Subsurface soil vapor sampling followed the protocols outlined in Sections 2.6.1 and 2.7.1 of the NYSDOH Guidance document. The soil vapor collection points were advanced to an approximate depth of 11 ft-bgs, which is generally one (1) foot above the shallowest depth to groundwater at the Site. Three (3) temporary soil vapor collection points were installed on-site with one (1) collection point located along the northwestern corner of the Site boundary, one (1) collection point located along the western Site boundary in the vicinity of Morgan Avenue, and the remaining soil vapor collection point located approximately 100 feet north of MW-3 along the north-central Site boundary.

Table 2-17 and Figure 2-37 provides the soil gas sample designations and the associated laboratory analysis.

2.7.1 SG-1

Thirty (30) VOCs were detected from the soil gas sample collected from SG-01. Most notable are the soil gas concentrations of acetone (23 D µg/m^3), benzene (2.3 µg/m^3), 2-butanone (72 D µg/m^3), carbon disulfide (3.4 µg/m^3), chloroform (1.4 µg/m^3), cyclohexane (2 µg/m^3), ethylbenzene (2.5 µg/m^3), heptane (1.4 µg/m^3), hexane (2.9 µg/m^3), toluene (13 D µg/m^3), tert-butyl alcohol (6 µg/m^3), tetrachloroethene (PCE) (19 D µg/m^3), trichloroethene (TCE) (0.74 µg/m^3), 1,1,1-trichloroethene (8 µg/m^3), trichlorofluoromethane (28 D µg/m^3), 1,2,4-trimethylbenzene (2.9 µg/m^3), 2,2,4-trimethylpentane cyclohexane (0.75 µg/m^3), o-xylene (2.5 µg/m^3), and m/p-xylene (9.6 µg/m^3) were detected from soil gas sample from SG-1.

A review of NYSDOH's Air Guidance Values (AGVs) indicates that there is currently no AGV for these compounds. Therefore, based on these results and the fact that NYSDOH does not have AGVs for these compounds, the soil vapor concentrations detected at SG-1 are not of regulatory concern in this portion of the Site.

2.7.2 SG-2

Twenty-four (24) VOCs were detected from the soil gas sample collected from SG-02. Most notable are the soil gas concentrations of acetone (260 D µg/m^3), benzene (2.2 µg/m^3), 2-butanone (67 D µg/m^3), carbon disulfide (2.3 µg/m^3), dichlorodifluoromethane (1.7 µg/m^3), ethylbenzene (2.1 µg/m^3), heptane (1 µg/m^3), hexane (1.8 µg/m^3), toluene (12 µg/m^3), tert-butyl alcohol (4.7 µg/m^3), PCE (20 D µg/m^3), TCE (0.65 µg/m^3), 1,1,1-trichloroethene (8 µg/m^3), 1,2,4-trimethylbenzene (2 µg/m^3), 2,2,4-trimethylpentane (3 µg/m^3), o-xylene (2.5 µg/m^3), and m/p-xylene (8.3 µg/m^3) from SG-2.

A review of NYSDOH's AGVs indicates that there is currently no AGV for these compounds with the exception of tetrachloroethene which is 100 µg/m^3. Therefore, based on these results and the fact that NYSDOH does not have AGVs for these compounds, the soil vapor concentrations detected at SG-2 are not of regulatory concern in this portion of the Site.

2.7.3 SG-3

Thirteen (13) VOCs were detected from the soil gas sample collected from SG-03. Most notable are the soil gas concentrations of benzene (3.5 J µg/m^3), 2-butanone (11 µg/m^3), cyclohexane (27 µg/m^3), dichlorodifluoromethane (440 D µg/m^3), ethylbenzene (1.4 J µg/m^3), hexane (11 µg/m^3), toluene (8 µg/m^3), PCE (11 µg/m^3), trichlorofluoromethane (490 D µg/m^3), 1,2,4-trimethylbenzene (1.3 J µg/m^3), 2,2,4-trimethylpentane (2,200 D µg/m^3), o-xylene (3 J µg/m^3), and m/p-xylene (6.3 J µg/m^3) from SG-3.

A review of NYSDOH's AGVs indicates that there is currently no AGV for these compounds with the exception of PCE which is 100 µg/m^3. Therefore, based on these results and the fact that NYSDOH does not have AGVs for these compounds, the soil vapor concentrations detected at SG-3 are not of regulatory concern in this portion of the Site.

2.8 Qualitative Human Health Exposure Assessment

A Qualitative Human Health and Exposure Assessment was prepared as part of the RI Report, to identify the actual and/or potential human health and environmental exposures and the Site and include the following:

- Dermal contact of site-related chemicals in surface and subsurface soil may occur for construction and utility workers during work activities within Site boundaries. Trespassers may have dermal contact with chemical residuals in soils while on-site.
- Incidental ingestion of site-related chemicals in surface and subsurface soils may occur for construction or utility workers during excavation activities within Site boundaries. Trespassers may have incidental ingestion of chemical residuals in soils while on-site.

- Exposure to concentrations of volatilized chemicals residuals during excavation activities in impacted soils to construction and utility workers.
- Exposure to chemical residuals on airborne particles during excavation activities to construction or utility workers. Trespassers may be exposed to airborne particulates while on-site, as well as, potential exposures to construction workers, future workers, and visitors.
- Inhalation of vapors in indoor air may occur to Employees of local businesses outside the Site boundaries and individuals or future occupants if future construction occurs at the Site.
- Ingestion, inhalation, and contact to chemical residues in groundwater to construction workers and utility workers.

The Site is located in a section of Brooklyn that has experienced heavy industrial and manufacturing activities for the past 100 to 200 years which have significantly degraded the environmental quality of the soil, sediments, groundwater, and surface water. Therefore, environmental exposure receptors, such as terrestrial plants and animals, and aquatic biota in the adjacent English Kills are highly unlikely.

The Site consists of contaminated fill and debris with soils having little organic content precluding the growth of any substantial vegetation to support wildlife. Vermin (i.e., rats) are the only animals that may exist at the Site and this potential exposure will be reduced and/or eliminated through the remedial actions proposed in Section 10.

The English Kills have likely been significantly impacted by the heavy industrial and manufacturing activities in this section of Brooklyn. Given the presence of contaminated sediments and the likely low dissolved oxygen levels, there would be a lack of even the most pollution tolerant aquatic species.

3.0 DEVELOPMENT OF RAOs AND SCGs

This section describes the remedial action objectives (RAOs) and standards, criteria, and guidance (SCGs) used to determine the proposed cleanup levels for the Site.

3.1 Remedial Action Objectives

The remedial goal for this Site are intended to remove or eliminate any significant threats to public health and the environment, as well as, being protective of public health and the environment for the contemplated future use (commercial/industrial) of the Site in accordance the BCP agreement signed in August 2009 and with DER-10.

The RAOs for the Site were developed through consideration of the following:

- Identify all contaminants exceeding applicable NYSDEC SCGs;
- Identify applicable NYSDEC SCGs in relation to current and contemplated future use (restricted industrial and/or restricted commercial) of the Site;
- Identify actual and/or potential human health and environmental exposures resulting from on-site contaminants;
- Evaluate potential significant threats to human health and the environment; and,
- Identify site-specific cleanup levels, if applicable.

Site-specific RAOs may be developed to eliminate or reduce the current and potential future risks to human health and the environment from constituents present at the Site. The actual and potential human health and environmental exposures have been identified to include trespassers, construction workers, future workers, and visitors through dermal contact with contaminated soil and groundwater, as well as, ingestion of contaminated soil and groundwater.

Therefore, the following RAOs were determined to be appropriate for the Site:

- Prevention of human exposure, through direct contact, ingestion, or inhalation to contaminated soil, soil vapors, sediments, surface water, and groundwater that presents an unacceptable risk; and,
- Prevention of erosion of contaminated soil and off-site migration of contaminated soil, soil vapors, and groundwater at concentrations posing unacceptable risk.

Prevent Human Exposure through Direct Contact, Ingestion, or Inhalation. Exposure to contaminated soil, soil vapors, sediments, surface water, and groundwater through direct contact, ingestion, and or inhalation may occur at the Site. This RAO was developed to prevent direct contact/ingestion of contaminated soil, prevent ingestion of groundwater with contaminant levels exceeding drinking water standards, and prevent contact with, or inhalation of volatiles from contaminated groundwater or soil vapors. This RAO is intended to prevent unacceptable risks to trespassers, construction workers, future workers, and visitors once the Site is remediated.

Prevent Erosion and Off-site Migration. Possible erosion of surficial soils could result in the off-site migration of contaminants of concern (COCs) at concentrations posing unacceptable risks through direct contact, ingestion, and inhalation. This RAO was developed to prevent migration of contaminants that would result in soil and groundwater contamination to off-site locations, and soil vapor migration to off-site structures. This RAO is intended to prevent unacceptable risks as a result of exposure to contaminated soil, sediments, soil vapors, and groundwater.

3.2 Standards, Criteria, and Guidance

This section identifies and summarizes the federal and state laws, regulations, and guidance that affect remediation activities at the Site. In New York State, Standards, Criteria, and Guidance (SCGs) are used in place of Applicable or Relevant and Appropriate Requirements (ARARs) as established under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). NYSDEC has established specific SCGs for site characterization and remedial investigation, for remedy selection, for underground storage tanks closure, for remedial action, and for operation, maintenance, and monitoring (OM&M).

The definitions of SCGs are from NYSDEC guidance (DER-10), as follows:

- "Standards and Criteria" are New York State regulations or statutes. They are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations which are generally applicable, consistently applied, and officially promulgated under federal or State law that are either directly applicable to a contaminant, remedial action, location, or other circumstance, or that are not directly applicable but are relevant and appropriate.
- "Guidance" includes non-promulgated criteria and guidance that are not legal requirements; however, those responsible for investigation and/or remediation of the site should consider guidance that, based on professional judgment, are determined to be applicable to the Site.
- Non-promulgated guidance or criteria which when referenced in an oversight document, is enforceable and must be complied with as if it were a promulgated standard.

3.2.1 Site Characterization and Remedial Investigation

The SCGs for the Site that specifically apply to and have been reviewed for site characterization and remedial investigation include:

- 6 NYCRR Part 375 - Environmental Remediation Programs (December 2006)
- 6 NYCRR Part 375-6 - Remedial Program Soil Cleanup Objectives (December 2006)
- 6 NYCRR Part 700-706 - Water Quality Standards (June 1998)
- 6 NYCRR Part 257 - Air Quality Standards
- DER-10 - Technical Guidance for Site Investigation and Remediation
- Stars #1 - Petroleum-Contaminated Soil Guidance Policy
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations
- DER-23 - Citizen Participation Handbook for Remedial Programs
- Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.

3.2.2 Remedy Selection

The SCGs for the Site that specifically apply to and have been reviewed for remedy selection include:

- 6 NYCRR Part 375 - Inactive Hazardous Waste Disposal Sites
- 6 NYCRR Part 375-6 - Remedial Program Soil Cleanup Objectives (December 2006)
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 700-706 - Water Quality Standards (June 1998)
- TAGM 4051 - Early Design Strategy (August 1993)
- DER-10 - Technical Guidance for Site Investigation and Remediation
- DER-15 - Presumptive /Proven Remedial Technologies
- CP-51 - Soil Cleanup Guidance
- Air Guide 1 - Guidelines for Control of Toxic Ambient Air Contaminants
- Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.

3.2.3 Remedial Action

The SCGs for the Site that specifically apply to and have been reviewed for remedial action include:

- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)
- 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)
- 6 NYCRR Part 375 - Inactive Hazardous Waste Disposal Sites
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 700-706 - Water Quality Standards (June 1998)
- TAGM - Disposal of Drill Cuttings (November 1989)
- DER-2 - Making Changes to Selected Remedies (April 2008)
- DER-10 - Technical Guidance for Site Investigation and Remediation
- DER-31 - Green Remediation Policy
- CP-43 - Groundwater Monitoring Well Decommissioning Policy
- CP-51 - Soil Cleanup Guidance

- Stars #1 - Petroleum-Contaminated Soil Guidance Policy
- TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations.
- Air Guide 1 - Guidelines for Control of Toxic Ambient Air Contaminants
- Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.

3.2.4 Operation, Maintenance, and Monitoring

The SCGs for the Site that specifically apply to and have been reviewed OM&M include:

- 6 NYCRR Part 175 - Special Licenses and Permits – Definitions and Uniform Procedures
- Commissioner's Policy (CP-43) - Groundwater Monitoring Well Decommissioning Policy (December 2009)

3.3 Target Cleanup Goals

The environmental investigations conducted at the Site since 2003 have identified the COCs in the soil, soil gas, and groundwater. In soil, arsenic, lead, mercury, PCBs, and SVOCs (carcinogenic PAHs) have been detected at concentrations exceeding 6 NYCRR 375 Unrestricted and Restricted Use SCOs predominantly in the surface and in the subsurface soils. Arsenic, and to a lesser extent lead (total analysis only), and VOCs have been detected at concentrations exceeding the TOGS standards in groundwater, and VOC concentrations have been detected in soil gas but below the NYSDOH's Soil Vapor/Indoor Air Matrix (Guidance for Evaluating Soil Vapor Intrusion in the State of New York, 2006). Applicable SCGs for soil has been identified as the Part 375 Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for TAL Metals and PCBs. In addition, EPA's High Occupancy Area (HOA) criteria were identified as applicable SCG in the area of the proposed future warehouse expansion. In groundwater, VOCs and to a lesser extent TAL Metals (arsenic and lead) have been identified as the COC at concentrations exceeding the TOGS standards. Applicable SCGs for groundwater and surface water have been identified as the TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations. In soil vapors, VOCs have been identified as COC and have been compared to the DOH Guidance for VOC concentrations in soil vapors. Applicable SCGs for soil vapors have been identified as the Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006). Applicable SCGs for sediments have been identified as the NYSDEC's Technical Guidance for Screening Contaminated Sediments. Site-specific RAOs, as discussed in Section 3.4, has been proposed for the remaining arsenic, lead, and mercury concentrations in soil located beneath an approved engineered cover system or building element.

The remedial cleanup objectives of the BCP are to remove or eliminate significant threats to public health and the environment, as well as implementing soil cleanup levels that are consistent with current and intended Site use.

For the Site, soil cleanup levels will conform to the requirements of 6 NYCRR Part 375 - Environmental Remediation Programs for on-site soils are selected from:

- Unrestricted Use SCOs
- Restricted Use SCOs
  - Residential
  - Restricted Residential
  - Commercial
  - Industrial
  - Protection of Ecological Resources
  - Protection of Groundwater
- Other Federal or State standards that may be appropriate or relevant.

On-site soil cleanup goals will conform to the requirements of the Part 375 Restricted Use - Industrial SCOs, as well as the EPA's HOA criteria of 10 mg/kg for PCBs in the area of the proposed future warehouse expansion. Groundwater and surface water cleanup goals will conform to the requirements of the TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (TOGS standards). Sediment cleanup goals will conform to the requirements provided in NYSDEC's Technical Guidance for Screening Contaminated Sediments and soil vapor cleanup goals will conform to NYSDOH's Soil Vapor/Indoor Air Matrix (Guidance for Evaluating Soil Vapor Intrusion, 2006).

Remedial alternatives for surface water is not proposed, as the elevated copper concentrations in the one (1) surface water sample is likely reflective of regional rather than site-specific impacts. In addition, the data collected during the RI sampling program is inconclusive that the Site is responsible for or attributable to the sediment contamination. A more extensive sediment sampling program would need to be implemented to make this determination. Therefore, a remedial alternative for sediments is also not proposed.

3.3.1 6 NYCRR Part 375 Cleanup Tracks

It is stated in the BCA that remedial activities conducted under the BCP must demonstrate that the proposed soil remedy mitigates or removes all significant threats to public health and the environment, and is fully protective of public health and the environment for the contemplated use for the Site. The proposed remedial strategy under the BCP must be consistent with Cleanup Tracks as defined in 6 NYCRR Part 375.

- Track 1 - Unrestricted use. The remedial program shall achieve a cleanup level that will allow the site to be used for any purpose without any restrictions on the use of the site.
- Track 2 - Restricted use with generic soil cleanup objectives. The soil component of the remedial program shall achieve the lowest of the three applicable contaminant-specific soil cleanup objectives for all soils above bedrock. May include use restrictions or reliance on long-term use of institutional or engineering controls, but must meet use-based soil standards without the use of controls.
- Track 3 - Restricted use with modified soil cleanup objectives. The remedial program for a site being addressed pursuant to Track 3 shall satisfy the provisions for a Track 2 remedial program. NYSDEC may approve the modification of one or more of the contaminant-specific soil cleanup objectives.
- Track 4 - Restricted use with site-specific soil cleanup objectives. Under this cleanup track, the soil cleanup objectives, as set forth in subpart 375-6, develop or modify site specific soil cleanup objectives, or propose site-specific soil cleanup objectives which are protective of public health and the environment. Site-specific cleanup level that is

protective of a site's current, intended, or reasonably anticipated use, using site use restrictions and/or institutional or engineering controls.

The remedial strategy for the Site will be consistent with Track 4 cleanup, as specified in 6 NYCRR §375-6.8(b) as the basis for site soil cleanup for the chemicals of concern (COC) identified at this Site. The SCOs for the major COCs found in the Site soils are 16 mg/kg for arsenic, 3,900 mg/kg for lead, 5.7 mg/kg for mercury, and 25 mg/kg for PCBs. Where concentrations of contaminants in soil exceed the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for lead, mercury, and PCBs, a combination of soil removal and an "engineered cover system" will be implemented to prevent exposures in accordance with restricted use. Soil contamination exceeding the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs lead, mercury, and PCBs that are expected to remain on-site and below an approved "engineered cover system" are referred to as "remaining contamination." The major COCs that are expected to remain on-site as "remaining contamination" is arsenic, lead, mercury, PCBs, and SVOCs (carcinogenic PAHs). These COCs has been evaluated to determine its potential to migrate to other environmental media. Arsenic soil concentrations exceeding the Restricted Use - Protection of Groundwater SCO of 16 mg/kg, lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg, mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg, PCB concentrations below the Restricted Use - Industrial SCOs of 25 mg/kg, and SVOC concentrations exceeding the Restricted Use - Industrial SCOs will remain at specific on-site locations beneath an engineered cover system as described in Section 4.11.

3.4 Site-Specific RAOs

The development of site-specific remedial action objectives (RAOs) for the Site evaluated whether specific metal contaminants detected in the on-site groundwater monitoring well samples are the result of impacts from surface and/or subsurface soil concentration or whether the contaminants detected are the result of off-site impacts and/or regional groundwater conditions. Three (3) predominant soil contaminants (arsenic, lead, and mercury) with concentrations above the Restricted Use - Protection of Groundwater SCOs and/or Industrial

SCOs were evaluated to assess whether elevated metal surface and/or subsurface soil concentrations have the potential to impact groundwater quality beneath the Site.

Arsenic concentrations have been detected in the on-site groundwater samples and were also detected in the total metal groundwater sample collected from MW-7 (0.0191 mg/L) which is the upgradient (off-site) groundwater monitoring well. Arsenic was detected at concentrations exceeding the TOGS standard of 0.025 mg/L in both the total and dissolved metal groundwater samples collected from on-site monitoring wells MW-3 (0.0429 mg/L and 0.0429 mg/L) and MW-4 (0.0746 mg/L and 0.0631 mg/L). Since arsenic concentrations in groundwater are higher on-site rather than off-site, it is likely that elevated surface and subsurface arsenic contaminated soils from the Site are contributing to the elevated arsenic groundwater concentrations detected on the Site. Subsequently, sixteen (16) soil samples were collected during the SRI and the SSRI sampling programs for total arsenic and TCLP analyses to assess whether arsenic soil concentrations had the potential to leach to groundwater. The total arsenic results ranged from 16.3 mg/kg to 144 mg/kg, and showed no TCLP detections, and thus, no evidence of leaching. From these data and analyses, it is concluded that arsenic concentrations in Site soils, up to 144 mg/kg, will not present a significant threat to public health or the environment and is therefore in compliance with the remedial objectives of the BCP. Therefore, the proposed site-specific arsenic RAO of 100 mg/kg is based on the TCLP results which indicate that leaching is not occurring at site-specific locations where total arsenic soil concentrations are below 144 mg/kg.

It was recognized that the analytical data demonstrated that arsenic contaminated soil at concentrations up to 144 mg/kg have recorded no detection for TCLP analyses in all concurrent sampling pairs. It was also recognized that for the overall site remedy, remaining levels of arsenic contamination in soils (greater than the Restricted Use - Protection of Groundwater SCO of 16 mg/kg, but less than the 100 mg/kg RAO) left on-site and below an approved engineered cover system are not likely to represent source levels of contamination to other media and are not likely to be considered a significant threat to public health or the environment. The excavation of arsenic containing soil with concentrations exceeding 100 mg/kg, along with an approved engineered cover system, will likely reduce or eliminate any potential impact the surface and subsurface arsenic contaminated soil may have on groundwater quality.

Lead concentrations have been detected in the on-site and upgradient groundwater samples. Lead was detected at concentrations exceeding the TOGS standard of 0.025 mg/L in both the total and dissolved metal samples collected from upgradient monitoring well MW-7 (0.743 mg/L and 0.054 mg/L). Lead was not detected at concentrations exceeding the TOGS standard of 0.025 mg/L in the on-site groundwater samples collected for the dissolved metals. However, lead was detected in the total metal samples collected from on-site groundwater samples at concentrations exceeding the TOGS standard of 0.025 mg/L from MW-2 (0.0477 mg/L), MW-3 (0.594 mg/L), MW-4 (0.0548 mg/L), MW-5 (0.0497 mg/L), MW-5 DUP (0.0365 mg/L), and MW-6 (0.0492). Based on the on-site and upgradient groundwater sample results, the lead concentrations detected from the on-site monitoring wells do not contain dissolved lead concentrations above the TOGS standard of 0.025 mg/L and are likely the result of lead containing soil particles being collected as part of the groundwater sample and/or the results of impacts identified in the upgradient monitoring well MW-7. It does not appear that the lead surface and subsurface soil concentrations on the Site are impacting on-site groundwater quality, as the upgradient lead groundwater concentrations are higher (MW-7 - 0.743 mg/L) than the lead concentrations detected in the on-site groundwater samples.

Subsequently, eleven (11) soil samples were collected for total lead and TCLP analyses during the SRI and the SSRI sampling programs to assess whether lead soil concentrations had the potential to leach to groundwater. The soil sample results ranged from 3,910 mg/kg to 21,700 mg/kg, and showed TCLP detections soil samples except for SB-22-2 (0-4) (0.025 U mg/L). The TCLP results suggest that lead soil concentrations below 10,000 mg/kg correspond to TCLP concentrations generally below 1 mg/L, which is significantly below the RCRA hazardous level of 5 µg/L. Therefore, the TCLP results indicate that the leaching of lead from soil to groundwater is occurring at significantly lower concentrations (up to 10,000 mg/kg) than concentrations that are leaching at significantly higher concentrations (exceeding 10,000 mg/kg and above) that approach hazardous levels (>5 µg/L).

Since the on-site lead concentrations in groundwater appear to be the result of lead containing soil particles in the dissolved groundwater sample and/or the results of impacts identified in the upgradient monitoring well MW-7, and hazardous lead concentration have been detected in on-site soils and appear to have minimal impact to on-site groundwater conditions. Excavating lead concentrations ("hot spots") exceeding 10,000 mg/kg will significantly reduce the likelihood that lead in soil will leach to groundwater. The site-specific lead RAO of 10,000 mg/kg exceeds the Restricted Use - Protection of Groundwater SCOs of 450 mg/kg and the Restricted Use - Industrial SCO of 3,900 mg/kg. From these data and analyses, it is concluded that lead concentrations is Site soils, up to the RAO of 10,000 mg/kg, left on-site and below an approved engineered cover system are not likely to represent source levels of contamination to other media, are not likely to be considered a significant threat to public health or the environment, and is therefore in compliance with the remedial objectives of the BCP. The excavation of soil containing lead concentrations exceeding 10,000 mg/kg, along with the approved engineered cover system, will likely reduce any potential impact the surface and subsurface lead contaminated soil may have on groundwater quality.

Mercury concentrations have been detected exceeding the TOGS standard of 0.0007 mg/L in MW-3 (0.0014 mg/L) in the total, but not in the dissolved sample. However, mercury concentrations have also been detected exceeding the TOGS standard of 0.0007 mg/L in MW-7 (0.00281 mg/L) and MW-8 (0.0011 mg/L) which are off-site and upgradient monitoring wells in the total, but not in the dissolved sample. The highest reported mercury concentration in soil was detected during the November 2009 RI sampling program at soil sample SB-27 (0-4) with a concentration of 17 J mg/kg. Mercury was also detected during the November 2009 RI sampling program at SB-23 (0-4) with a concentration of 15.1 J mg/kg. Therefore, since mercury concentrations in groundwater are only present in MW-3, which is immediately downgradient of MW-8 which is off-site and upgradient, and no other monitoring well contains concentrations in either total or dissolved samples exceeding the TOGS standard of 0.0007 mg/L, mercury soil concentrations detected on the Site do not appear to be impacting the groundwater quality of the Site. Based on the on-site and upgradient groundwater sample results, the mercury concentrations detected from the on-site monitoring wells do not contain dissolved mercury concentrations above the TOGS standard of 0.0007 mg/L and are likely the result of mercury containing soil particles being collected as part of the groundwater sample and/or the results of impacts identified in the upgradient monitoring wells MW-7 and MW-8. From these data and analyses, it is concluded that mercury concentrations is Site soils, up to the RAO of 15 mg/kg, left on-site and below an approved engineered cover system are not likely to represent source levels of contamination to other media, are not likely to be considered a significant threat to public health or the environment, and is therefore in compliance with the remedial objectives of the BCP. The excavation of soil containing mercury concentrations exceeding 15 mg/kg, along with the approved engineered cover system, will likely reduce any potential impact the surface and subsurface mercury contaminated soil may have on groundwater quality.

3.5 Description of "Hot Spot" Areas

The results of the RI, the SRI, and the SSRI, as well as the results of the previous investigations conducted since 2003 indicate the presence of several "Hot Spot" with soil concentrations exceeding the Part 375 Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for TAL Metals and PCBs at the Site. "Hot Spot" were designated at the Site as areas where the investigations have identified discrete areas of soil containing contaminants in sufficient concentrations to potentially migrate in that medium, or to release significant levels of contaminants to another medium, such as, groundwater, which could result in a threat to public health or the environment. "Hot Spot" for the Site, were identified as soil contaminants having concentrations exceeding the Restricted Use - Protection of Groundwater SCOs for arsenic and having concentrations exceeding the Restricted Use - Industrial SCOs for lead and mercury that could, if not remediated or proven that leaching is not occurring, have the potential to migrate to and impact groundwater quality at the Site. In addition, "hot spot" for the Site, were also identified as soil contaminants having concentrations exceeding the Restricted Use - Industrial SCOs for PCBs. These specific soil boring locations have been identified as "Hot Spot" which will require remedial action for conform to BCP requirements. PCB concentrations exceeding the EPA's HOA criteria for 10 mg/kg within the area of the proposed future warehouse expansion were also identified as "Hot Spots"

The soil contaminants that could have the potential to migrate and impact groundwater quality at the Site have been identified as arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and lead, mercury, and PCB concentrations exceeding the Restricted Use

- Industrial SCOs. PCB concentrations exceeding the EPA's HOA criteria of 10 mg/kg located within the area of the proposed future warehouse expansion location will also be included for remediation. The site-specific "Hot Spot" have been identified to include soil borings (sampling grid) SB-1 (B,1), SB-6 (D3,3), SB-7 (E1,1), SB-8 (E3,4), SB-8-1 (E2,4), SB-8-2 (E4,4), SB-9 (E1,3), SB-9-3 (E4,3), SB-16 (H3,4), SB-16-1 (H4,4), SB-17 (H4,3), SB-17-1 (H2,3), SB-17-2 (H3,3), SB-19 (E4,1), SB-20 (G1,2), SB-22 (F3,4), SB-23 (D1,5), SB-23-4 (C2,5), SB-24 (D3,2), SB-27 (B2,5), SB-28 (A,3), SB-29 (A,1), SB-32 (A,2), and SB-102 (J,5). Each of the 24 site-specific "Hot Spot" are further discussed in Section 4.9.

4.0 IDENTIFICATION, EVALUATION, AND SELECTION OF REMEDIAL ALTERNATIVES

The first step in evaluating potential cleanup approaches for the Site is to identify and screen those cleanup technologies that have been used elsewhere and are widely accepted as effective means of addressing the COCs which include: arsenic, lead, mercury, PCB, and SVOC soil contamination, VOC groundwater contamination, and VOC soil vapor contamination. As a result, a wide range of different technologies were initially evaluated to address the arsenic, mercury, PCB, and SVOC impacted soils including: chemical treatment, stabilization/ solidification, biological treatment, soil mixing, soil excavation/removal, ICs, and the addition of imported clean fill material for both on- and off-site soil. A wide range of technologies were evaluated to address the VOC (and to a lesser extent arsenic and lead) groundwater contamination including: pump and treat, bioremediation, and permeable reactive barrier. Technologies that were evaluated for soil vapors included: soil vapor extraction and sub-slab depressurization system. Technologies were initially screened based on the potential for effectiveness, implementability, and comparative cost. Several of these technologies were determined to be inappropriate for the Site.

The second step in evaluating potential remedial alternatives for Site is to conduct a detailed analysis of each alternative against evaluation criteria established in DER-10; and, a comparative evaluation to facilitate remedy selection. The comparative evaluation identifies the most important factors that distinguish alternatives from each other. DER-10 lists nine (9) evaluation criteria which provide grounds for comparison of the relative performance of the alternatives and identify their advantages and disadvantages. This approach is intended to provide sufficient information to adequately compare the alternatives and to select the most appropriate and cost-effective alternative for implementation at the Site.

The evaluation criteria are:

- Overall Protection of Public Health and the Environment;

- Compliance with SCGs;
- Long-term Effectiveness and Permanence;
- Reduction of Toxicity, Mobility, or Volume through Treatment;
- Short-term Effectiveness;
- Implementability;
- Cost;
- Community Acceptance; and,
- Land use.

The following section will identify appropriate remedial options and technologies to address contaminated issues related to on-site soil, groundwater, and soil vapors. This section will also assess each alternative to established evaluation criteria and provide the basis for the selection of each remedial alternative to comply with NYSDEC BCP requirements.

Remedial alternatives for surface water is not proposed, as the elevated copper concentrations in the one (1) surface water sample is likely reflective of regional rather than site-specific impacts. In addition, the data collected during the RI sampling program is inconclusive that the Site is responsible for or attributable to the sediment contamination. A more extensive sediment sampling program would need to be implemented to make this determination. Therefore, a remedial alternative for sediments is also not proposed.

4.1 Identifying Remedial Options for Soil, Groundwater, and Soil Vapors

Identifying remedial options for soil, groundwater, and soil vapors is the first step in the remedial alternatives analysis process. The remedial options are basic actions that might be undertaken to remediate a Site. For each remedial option, several possible remedial technologies may exist. These can be further broken down into a number of process options. These technologies and process options are then screened based on several criteria. Those technologies and process options remaining for the Site after screening are assembled into alternatives in for on-site soil, for groundwater, and for soil vapors. Remedial actions consistent with these objectives are identified after the RAOs are developed.

The remedial actions for on-site soil, groundwater, and soil vapors that may be applicable to the Site include:

- No action;
- Institutional controls;
- Containment;
- In-situ/Ex-situ treatment; and/or
- Extraction/excavation/disposal.

Each remedial action for soil, groundwater, and soil vapors are discussed in the following paragraphs along with an overview of some of the technologies that are representative of the response action.

4.1.1 Remedial Options for On-Site Soils

No Action. The no action response would not satisfy the RAO of eliminating direct contact with the contaminated soil or preventing erosion. The no action alternative is retained through the remedial selection process as a basis of comparison.

Institutional Controls. Institutional controls for on-site soil consist of restricting construction and redevelopment activities to provide protection to workers and human health from contaminated soil through land-use restrictions (such as environmental easement). Compliance with institutional controls will be identified in the SMP and construction activities will require compliance with a HASP.

Containment. Containment is used to minimize the risk of contaminant migration, as well as, prevent direct contact exposures. The construction of an engineered cover system is an applicable remedial technology that could be used to eliminate exposure to contaminated soils and to help prevent contaminant migration off-site. Surface controls such as grading and revegetating can be used to reduce infiltration of precipitation through contaminated soil, to prevent erosion, and off-site migration of contaminated soil.

In-Situ/Ex-Situ Treatment. In-situ/Ex-situ treatment involves chemical reactions that chemically/physically bind or reduce the mobility of organic and inorganic contaminants. In-situ/Ex-situ treatment of contaminated soil is a viable remedial option which can effectively reduce the mobility of arsenic, lead, mercury, PCBs, and SVOC contaminated soil.

Excavation/Disposal. Soil excavation involves removal of on-site impacted soils (including historic fill) for off-site disposal. Physical, chemical, or thermal treatment technologies are used once soil is excavated, as necessary. Physical processes include excavating and transporting the contaminated soil to an approved off-site disposal facility.

Excavation/disposal of "hot spot" soil contamination is a viable remedial option for the arsenic, lead, mercury, PCB, and SVOC contaminated soil.

4.1.2 Remedial Options for Groundwater

No Action. The no action remedial option for groundwater would not satisfy the RAO of eliminating direct contact, ingestion, and inhalation of volatile organics. Groundwater treatment for VOC concentrations exceeding the TOGS standards is a viable alternative for the Site. Natural attenuation of VOC concentrations exceeding the TOGS standards is a viable alternative and appears to be occurring at the Site. Given that VOC daughter by-products are present, it is most likely anaerobic dechlorination will continue to occur at the Site. In addition, on-site groundwater contaminants are contained within Site boundaries and do not show evidence of migrating off-site.

Institutional Controls. Institutional controls for groundwater consist of restricting access to contaminated groundwater through groundwater use restrictions to prohibit groundwater use. The groundwater beneath the Site is currently not used as a source of potable water supply.

Containment. Containment for groundwater consists of restricting contaminated groundwater through the installation of vertical impermeable walls. Given that VOC daughter by-products are present, it is most likely anaerobic dechlorination will continue to occur at the Site, on-site groundwater contaminants are contained within Site boundaries, and do not appear to be migrating off-site. Therefore, the containment of groundwater is not considered a viable alternative for groundwater.

In-Situ/Ex-Situ Treatment. VOC concentrations in groundwater appear to be undergoing anaerobic dechlorination, however, should these concentrations increase in the future active treatment could be required.

Extraction/Treatment. Extraction/treatment/reinjection/disposal of contaminated groundwater are a viable remedial options. However, as long as VOC concentrations appear to be undergoing anaerobic dechlorination active groundwater treatment should not be required for the Site.

4.1.3 Remedial Options for Soil Vapors

No Action. The no action remedial option for contaminated soil vapors would not satisfy the RAO of preventing human exposure through inhalation of volatile organics for on-site building occupants.

Institutional Controls. Institutional controls for soil vapors consist of restricting construction and redevelopment activities to provide protection to workers and human health from contaminated soil vapors through land-use restrictions (such as environmental easement). Compliance with institutional controls will be identified in the SMP and construction activities will require compliance with a HASP.

Containment. Containment is used to minimize the risk of contaminant migration, as well as, prevent direct contact exposures. Containment for soil vapors consists of restricting vapor migration in the subsurface soils. The construction of an engineered cover system is an appropriate remedial technology that could be used to eliminate exposure to contaminated soil vapors.

In-Situ/Ex-Situ Treatment. In-situ/Ex-situ treatment of contaminated soil vapors is a viable remedial option. Soil vapors can be effectively treated using in-situ soil vapor extraction system.

Extraction/Treatment. Extraction/treatment of soil vapors is a viable remedial option using in-situ soil vapor vacuum extraction system or a sub-slab depressurization system.

4.2 Technology Screening Methodology

Technology types and process options are screened in an evaluation process based on overall protection of public health and the environment; compliance with SCGs; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; cost; community acceptance; and, land use.. Protection is considered the ability of the process option to protect human health and the environment. Compliance is the ability of the process option to achieve cleanup standards, standards of control, and other substantive environmental statutes or regulations which are either "applicable" or "relevant and appropriate" to the cleanup action. Effectiveness (long- and short-term) is considered the ability of the process option to perform as part of a comprehensive remedial work plan to meet RAOs under present conditions and limitations. Reduction of toxicity, mobility, or volume refers to the anticipated performance of the specific treatment technologies an alternative may employ specific to evaluating only how treatment reduces toxicity, mobility, or volume. Implementability refers to the relative degree of difficulty anticipated in implementing a particular process option under regulatory, technical, and schedule constraints posed at the Site. At this point, the cost criterion is comparative only, and similar to the effectiveness criterion, it is used to preclude further evaluation of process options that are very costly if there are other choices that perform similar functions with similar effectiveness at a lower cost. The cost criterion includes construction and OM&M costs for a 5-year period to operate and maintain technologies that are part of a remedial alternative. Community acceptance criterion addresses whether the alternatives will have a direct or indirect negative impact to the local community during implementation. The assessment also evaluates whether the final remedial action is of benefit to the continued growth of the community or creates an unacceptable aesthetic and economic burden to the community, and is consistent with the local land use Master Plan. Lastly, the land use criterion evaluates whether the alternatives are consistent with the contemplated future use (commercial/industrial) which has been identified in the BCA signed with NYSDEC.

The technology types and process options identified in the following sections are those offering at least conceptual applicability to remediation of the media of concern at the Site. This list of options is subject to revision based on further investigation findings, results of treatability studies, or technological developments.

4.3 Technologies

Table 4-1 presents a wide range of potentially applicable technology types and process options for soil, groundwater, and soil vapor, treatment/remediation at the Site. Soil treatment technologies considered for use at the Site included those presented in *Arsenic Treatment Technologies for Soil, Waste, and Water,* U.S. EPA 2002, *Treatment Technologies for Mercury in Soil, Waste, and Water*, U.S. EPA 2007, and *Treatment of Nonhalogenated Semivolatile Organic Compounds,* Federal Remediation Technologies Roundtable. Groundwater treatment technologies considered for use at the Site included those presented in *Groundwater Treatment Technology Resource Guide,* U.S. EPA 1994, and *Groundwater Treatment Technology Resource Matrix, Contaminated Soil Cleanup Information (CLU-IN)* U.S. EPA. Soil vapor treatment technologies considered for use at the Site included those presented in *In-Situ Treatment Technologies for Contaminated Soil,* U.S. EPA 2006, and *Soil Vapor Extraction (SVE) Treatment Technology Resource Guide,* U.S. EPA 1994. Screening comments are provided to highlight items of interest or concern for each option. This approach highlights differences within a remedial technology group to allow the best process within each group to be identified and evaluated.

The remedial technologies that were identified and screened include:

- institutional controls
  - environmental easement
- containment
  - soil, asphalt, concrete and/or building elements
- *in-situ*: biological treatment
  - bioventing

    - natural attenuation
    - land treatment
    - phytoremediation
- *in-situ*: physical/chemical treatment
    - solidification/stabilization
    - electrical separation
    - pneumatic fracturing
    - soil vapor extraction
    - soil flushing/extraction
    - *in-situ*: thermal treatment
    - vitrification
    - thermally enhanced soil vapor extraction
    - permeable reactive barrier
    - passive sub-slab ventilation
    - sub-slab depressurization system
- *ex-situ*: biological treatment
    - slurry phase biological treatment
    - controlled solid phase biological treatment
    - landfarming
- *ex-situ*: physical/chemical processes
    - stabilization/solidification
    - chemical oxygen reduction
    - soil washing
    - dehalogenation
    - solvent extraction
    - soil vapor extraction
    - particle separation
- *ex-situ*: thermal processes
    - plasma hearth process
    - thermal desorption
    - pyrolysis

- incineration
- *excavation*: on-site disposal
- *excavation*: off-site disposal

4.3.1 Remedial Technologies for On-Site Soils

In-situ bioremediation, bioventing, natural attenuation, and land treatment technologies were not retained because they are ineffective for metals. Phytoremediation was not retained due to the limited treatment depth, climatic conditions that may interfere or inhibit plant growth, relatively slow remediation time, and the length of the treatment period. Electrical separation, pneumatic fracturing, soil vapor extraction, and soil flushing/extraction were not retained as these process options are not particularly suited for metals, PCBs, and SVOCs. Vitrification was not retained due to the high cost, potential for toxicity of off-gases, and compatibility issues with future site uses. Landfarming was not retained as this process option is effective for organics and not for metals. Chemical oxidation/reduction, dehalogenation, solvent extraction, and particle separation were not retained due to effectiveness, treatability, and impenetrability issues, as well as cost consideration. Although applicable, soil washing was not retained because of potential difficulty in achieving thorough blending in large soil volume and the depth of soils that may need to be mixed. Plasma hearth process, thermal desorption, pyrolysis, and incineration are thermal-related process options that are more suited for the treatment of organics, but this treatment process is not effective for metals.

The remedial technologies for on-site soils that were retained include: access restriction, environmental easement, soil and/or asphalt/concrete cover system, excavation, phytoremediation, stabilization/solidification (in-situ and ex-situ), and off-site disposal were retained for consideration. In-situ and ex-situ stabilization/solidification was retained as it is effective for metals, PCBs, and SVOCs.

4.3.2 Remedial Technologies for Groundwater

The remedial technologies for groundwater that were retained include: granular activated carbon (GAC) adsorption, soil vapor extraction, pump and treat, bioremediation, natural attenuation, and air stripping/sparging which are all suited to remediate VOC contaminated groundwater.

Membrane filtration was not retained due to the high cost and due to the low concentrations of VOCS at the Site. Pack tower aeration, distillers, and ultraviolet/oxidation were not retained due to effectiveness, treatability, and implementability issues, as well as cost consideration.

4.3.3 Remedial Technologies for Soil Vapors

The remedial technologies for on- and off-site soil vapors that were retained include: soil vapor extraction, soil venting, liquid phase carbon adsorption, catalytic oxidation, bioventing, in-situ bioremediation, bioventing, natural attenuation, active soil depressurization (ASD), sub-slab depressurization (SSD) system, and land treatment technologies. Thermal resorption was not retained due to effectiveness, treatability, and impenetrability issues, as well as cost consideration.

4.4 Detailed Analysis of Remedial Alternatives

The detailed analysis of alternatives presents an evaluation of remedial alternatives for the Site against the established evaluation criteria. The detailed analysis of each alternative against evaluation criteria established in DER-10; and, a comparative evaluation to facilitate remedy selection. The comparative evaluation identifies the most important factors that distinguish alternatives from each other.

4.4.1 Evaluation Criteria

DER-10 lists nine (9) evaluating criteria which provide grounds for comparison of the relative performance of the alternatives and identify their advantages and disadvantages. This approach is intended to provide sufficient information to adequately compare the alternatives and to select the most appropriate and cost-effective alternative for implementation at the Site.

The evaluation criteria are:

- Overall Protection of Public Health and the Environment;
- Compliance with SCGs;
- Long-term Effectiveness and Permanence;
- Reduction of Toxicity, Mobility, or Volume through Treatment;

- Short-term Effectiveness;
- Implementability;
- Cost;
- Community Acceptance; and,
- Land use

The criteria are divided into two groups: threshold and evaluation criteria. The single threshold criterion is compliance with SCGs which must be met by a particular alternative for it to be eligible for selection as a remedial action. There is little flexibility in meeting the threshold criterion, unless a waiver to a SCG is deemed appropriate or justifiable by NYSDEC, either it is met by a particular alternative, or that alternative is not considered acceptable and should not be further considered.

There are three general categories of SCGs: chemical-, location-, and action-specific. The detailed analysis summarizes which requirements are applicable or relevant and appropriate to an alternative and describes how the alternative meets these requirements. The following should be addressed for each alternative during the detailed analysis of SCGs:

- Compliance with chemical-specific SCGs (e.g., Part 375 Unrestricted Use SCOs).
- Compliance with action-specific SCGs (e.g., RCRA minimum technology standards).
- Compliance with location-specific SCGs (e.g., Part 375 Restricted SCOs for on-site impacts).

The nine (9) evaluation criteria weigh the trade-offs between alternatives. A low rating on one evaluation criterion can be compensated by a high rating on another. The threshold and evaluation criteria evaluated in this document are briefly described below. Typically the remedy selected must meet the threshold criteria and be cost-effective. Cost-effectiveness is determined by weighing overall effectiveness of a remedy with its cost.

4.4.1.1 Threshold and Evaluation Criteria

The nine (9) threshold and evaluation criteria listed below are used to weigh the trade-offs between alternatives.

Overall Protection of Human Health and the Environment

This criterion reflects an emphasis on implementing remedies that will ensure protection of human health and the environment. This assessment addresses whether a remedy provides adequate protection of human health and the environment and describes how risks are eliminated, reduced, controlled through treatment, or addressed using ICs.

Compliance with SCGs

SCGs are cleanup standards, standards of control, and other substantive environmental statutes or regulations which are either "applicable" or "relevant and appropriate" to the cleanup action. The SCGs for the Site are presented in Section 3.2. The specific SCGs for the Site are identified as Part 375 Restricted Use - Industrial SCOs for on-site soils, TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (TOGS standards) for groundwater, and the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York for soil vapors.

Long-term Effectiveness and Permanence

This criterion reflects an emphasis on implementing remedies that will ensure protection of human health and the environment in the long term, as well as in the short term. The assessment of alternatives against this criterion evaluates the residual risks at a site after completing a remedial action or enacting a 'no action' alternative and includes evaluation of the adequacy and reliability of controls.

Reduction of Toxicity, Mobility, or Volume through Treatment

The assessment against this criterion evaluates the anticipated performance of the specific treatment technologies an alternative may employ. The criterion is specific to evaluating only how treatment reduces toxicity, mobility, or volume.

Short-term Effectiveness

This criterion addresses short-term impacts of the alternatives. The assessment against this criterion examines the effectiveness of alternatives in protecting human health and the environment during the construction and implementation of a remedy until the response objectives have been met.

Implementability

The assessment against this criterion evaluates the technical and administrative feasibility of the alternative and the availability of the goods and services needed to implement it.

Cost

Cost encompasses engineering, construction, and OM&M costs incurred for a 5-year period. The assessment against this criterion is based on the estimated present worth of these costs for each alternative. These estimated costs are expected to provide an accuracy of plus 50 percent to minus 30 percent.

Community Acceptance

This criterion addresses whether the alternatives will have a direct or indirect negative impact to the local community during implementation. The assessment also evaluates whether the final remedial action is of benefit to the continued growth of the community or creates an unacceptable aesthetic and economic burden to the community, and is consistent with the local land use Master Plan.

Integration with Land Use

The assessment against this criterion evaluates whether the alternatives are consistent with the contemplated future use (commercial/industrial) which has been identified in the BCA signed with NYSDEC.

4.5 Development of Remedial Alternatives for Groundwater and Soil Vapors

The remedial alternatives for groundwater and soil vapor for the Site were developed in consideration of protection to human health and the environment, compliance with SCGs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume, short-term effectiveness, implementability, costs, community acceptance and land use. Each remedial alternative for groundwater and soil vapors are detailed and evaluated in the following section.

4.5.1 Groundwater

Remedial alternatives for groundwater were developed in consideration of achieving TOGS 1.1.1 - Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (TOGS standards) for groundwater, the contemplated use as commercial/industrial in identified in the BCA, the current zoning designation of Heavy Manufacturing (M3-1) and is not expected for a higher land use than commercial/industrial, and the unlikely usage of groundwater from the Site as a potable drinking water source.

Remedial alternatives for groundwater were only considered for VOCs as other inorganic compounds detected in groundwater above TOGS levels are likely more attributable to sample turbidity or area wide background levels which includes lead, with the exception of arsenic concentrations which appear to be due to on-site impacts. However, the proposed remedial alternative for soil will likely remove the primary sources of arsenic and lead contamination to groundwater.

All remedial action for groundwater will include the following to protect public health and the environment:

- Establishment of a SMP to ensure that the remedial objectives, as well as institutional controls remain effective.
- Establishment of land-use controls in the form of an environmental easement to prohibit groundwater use.

The following remedial alternatives for groundwater were considered for the Site.

- No Action
- Groundwater Treatment - This alternative provides for the active treatment of groundwater containing VOC concentrations exceeding the TOGS standards.
- Monitored Natural Attenuation - Natural attenuation is a combination of physical, chemical, or biological processes that, under favorable conditions, works without active treatment to reduce the mass, toxicity, mobility, volume, or concentration of VOC contaminants in groundwater.

4.5.1.1 Proposed Remedial Action for Groundwater

Natural attenuation is the proposed remedial action to address the VOC contaminated groundwater. Given that VOC daughter by-products are present in several on-site groundwater monitoring wells, it is most likely anaerobic dechlorination is and will continue to occur at the Site and no sensitive receptors have been identified in the downgradient groundwater flow direction, monitored natural attenuation is considered the most appropriate and cost-effective remedial action for the Site. The success of natural attenuation depends on both the nature of the contaminant and the specific subsurface conditions at a Site.

This remedial action achieves compliance with the SCGs, provides overall protection to human health and the environment, provides long-term effectiveness and permanence, short-term effectiveness, and provides reduction of toxicity, mobility, or volume through the natural attenuation of groundwater containing VOC concentrations exceeding the TOGS standards. This remedial action also has a high likelihood of community acceptance because contaminated groundwater will be naturally remediated and replaced with groundwater of higher quality than presently exists beneath at the Site.

Groundwater has been sampled and monitored for 8 years at this Site. Groundwater contaminant “hot spots” (low concentrations of VOCs) have been identified and remain persistent on-site. No soil contaminant sources have been attributed to these groundwater “hot spots” and no sensitive receptors have been identified in the downgradient groundwater flow direction with the exception of the English Kills. However, VOC contamination in groundwater may provide a source for soil vapor contamination.

The presence of chlorinated VOCs (DCE, 1,1-DCA, 1,2-DCA, and vinyl chloride) in groundwater is most likely due to anaerobic dechlorination of PCE from an off-site source. Given that these daughter by-products are present, it is most likely anaerobic dechlorination will continue to occur at the Site. In MW-1, chlorinated VOCs were detected at concentrations above the TOGS standards. However, the off-site and upgradient monitoring well also exhibited chlorinated VOCs at higher concentrations than MW-1 which may indicate that MW-7 is impacting the groundwater quality at MW-1. In MW-2, the PCE daughter product (1,1-DCA, 1,2-DCA, DCE, and vinyl chloride) concentrations have increased from the December 2007 to the November 2009 sampling events indicating that anaerobic dechlorination is occurring in this portion of the Site. Issues regarding arsenic and lead concentrations in groundwater will be further evaluated once the apparent on-site sources of these contaminants are removed as part of the proposed remedial action for soils.

Prior to implementing remedial actions at the Site, groundwater samples will be collected from all eight (8) groundwater monitoring wells to assess the potential for MNA. The MNA parameters that will be analyzed from the groundwater samples include: dissolved oxygen, nitrate, iron (ferrous and ferric), sulfate, sulfide, VOCs, methane, ethene, ethane, oxygen reduction potential, total organic carbon, biological oxygen demand, chemical oxygen demand, carbon dioxide, volatile fatty acids, alkalinity, chloride, hydrogen, pH, temperature, conductivity, and turbidity. In addition, groundwater samples will also be collected to assess the current groundwater concentrations of arsenic and lead.

Groundwater monitoring activities to assess natural attenuation will be detailed in the SMP and will continue as determined by NYSDEC until VOC and TAL Metal concentrations are detected below TOGS standards or become asymptotic over multiple rounds of monitoring. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC or a plume appears, additional source investigation, treatment or removal and/or control may be required.

4.5.2 Soil Vapors

Remedial alternatives for soil vapors were developed in consideration of achieving NYSDOH's Soil Vapor/Indoor Air Matrix (Guidance for Evaluating Soil Vapor Intrusion, 2006) standards for soil vapors and indoor air, the contemplated use as restricted industrial and/or restricted commercial identified in the BCA, the current zoning designation of Heavy Manufacturing (M3-1) which is not expected for a higher land use than commercial/industrial, and the absence of building structures on-site.

Limited on-site soil vapor sampling and analyses has detected groundwater-related contaminants in the soil vapor. Attributing the source of VOC contaminated soil vapors to VOC contaminated groundwater necessitates the investigation of potential impacts to occupants of future on-site structures. There are currently no on-site sensitive receptors that would be impacted from soil vapors as there are no building structures located on the Site. However, potential on-site impacts are possible if structures are proposed as part of site redevelopment.

All remedial actions for soil vapors from the Site will include the following to protect public health and the environment:

- Institutional and Engineering controls to evaluate potential soil vapor exposure impacts and mitigation at time of redevelopment of the Site.
- Establishment of a SMP to ensure that the remedial objectives, as well as institutional and engineering controls remain effective.

The following remedial alternatives for soil vapors were considered for the Site.

- No Action
- Soil Vapor Extraction provides for the active treatment of soil vapors to reduce soil vapor concentrations in the unsaturated soils.
- Soil Vapor Mitigation provides for the active mitigation of soil vapors to reduce the indoor air concentrations in future on-site structures.

4.5.2.1 Proposed Remedial Action for Soil Vapors

Soil vapor mitigation is the proposed remedial action to address the VOC contaminated soil vapors from the Site. This remedial action achieves compliance with the SCGs, provides overall protection to human health and the environment, provides long-term effectiveness and permanence, short-term effectiveness, and provides reduction of toxicity, mobility, or volume through the mitigation of contaminated soil vapors from the Site containing VOCs concentrations exceeding the NYSDOH's Soil Vapor/Indoor Air Matrix standards. This remedial action also has a high likelihood of community acceptance because contaminated soil vapors will be mitigated that presently exists beneath portions of the Site. The mitigation of contaminated soil vapors from the Site will prevent inhalation while working in an affected structure through the implementation of mitigation measures, if needed, and by implementing land-use controls to prohibit intrusive activities without proper protection. There are currently no building structures located on the Site.

Subsurface soil vapor sampling activities will be performed to assess the presence of contaminated soil vapors from the Site within the footprint of any future structures for the Site. Subsurface sampling will be conducted prior to completion of building design. The analytical results from subsurface soil vapor samples will be evaluated to determine if potential human health exposures to contaminated vapors exist and what protective action or mitigation may be necessary.

Implementation of this remedial action includes:

- Install subsurface soil vapor sampling locations.
- Collect and evaluate soil vapor samples.
- Install mitigative measures to reduce and/or eliminate indoor air concentrations below NYSDOH standards, if necessary to address soil vapors from the Site.

Engineering controls may be required as a result of investigative sampling and analyses or may be installed as a preemptive measure during redevelopment in accordance with the SMP. At the time of redevelopment, an evaluation will be conducted to assess the potential for soil vapor intrusion which may require the installation of mitigative measures for all structures constructed at the Site.

4.6 Development and Detailed Analysis of Proposed Remedial Alternatives for On-Site Soil

Remedial alternatives for on-site soil were developed in consideration of achieving the SCGs, the contemplated use as restricted industrial and/or restricted commercial identified in the BCA, and the current zoning designation of Heavy Manufacturing (M3-1) which is not expected for a higher land use than commercial/industrial. All soil remedial alternatives will include the following institutional controls to protect public health and the environment:

- Institutional and Engineering controls to evaluate potential soil vapor exposure impacts and mitigation at time of redevelopment.
- Establishment of a SMP to ensure that the remedial objectives, as well as institutional and engineering controls remain effective.
- Establishment of land-use controls in the form of an environmental easement for soil excavation.

The following remedial alternatives for soil were considered for the Site.

- No Action, No remediation
- Soil Excavation - Exceeding Unrestricted Use SCOs
- Soil Excavation - Exceeding Restricted Use - Commercial SCOs
- Soil Excavation - Exceeding Restricted Use - Industrial SCOs
- Soil Excavation, “Hot Spot” Excavation Areas - Exceeding Site-Specific RAOs for arsenic, lead, and mercury, and Restricted Use - Industrial SCOs for PCBs
- Ex-Situ Treatment (Solidification/Stabilization)
- Asphalt Cover System

All soil remedial alternatives will also include the following proposed remedial actions for the Site.

- Monitored Natural Attenuation for groundwater
- Soil Vapor Mitigation for soil vapors

Table 4-2 presents a comparative analysis of each remedial alternative for on-site soil. Table 4-3 presents the remedial cost estimate of each remedial alternative for on-site soil. The following sections provide a description and analysis of each remedial alternative for on-site soil including the corresponding institutional and engineering controls, as compared to the threshold and evaluation criteria.

4.6.1 Alternative No. 1 - No Action

Alternative No. 1 (No Action) includes no remediation, Site to be left as is, with the implementation of land-use controls.

Overall Protection of Public Health and the Environment: This alternative does not provide overall protection of public health and the environment to contaminated surface and subsurface soil exceeding the Part 375 SCOs.

Compliance with SCGs: This alternative does not achieve compliance with the SCGs for trespassers, construction workers, future workers, and visitors with respect to contaminated surface and subsurface soil.

Long-Term Effectiveness and Permanence: This alternative does not provide long-term effectiveness and permanence by eliminating the exposure path through excavation, and thereby risk, to trespassers, construction workers, future site workers, and visitors.

Reduction of Toxicity, Mobility, or Volume: This alternative does not provide a reduction of toxicity, mobility, or volume. This alternative will not remove soil contamination exceeding the Part 375 Unrestricted or Restricted Use SCOs. Therefore, the percentage of remaining soil contamination exceeding the Part 375 Unrestricted or Restricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 100%.

Short-Term Effectiveness: This alternative would not have an impact to the community as no soil excavation and soil placement activities are proposed.

Implementability: Alternative No. 1 (No Action) is easy to implement, as the only action for the Site would be the implementation of an environmental easement to limit intrusive activities unless the proper PPE are used and adequate health and safety provisions are in place prior to implementing any intrusive activities.

Costs: Alternative No. 1 (No Action) will require minimal expenditures to implement.

Community Acceptance: This alternative has the least likelihood of community acceptance since this alternative will not provide protection to human health and the environment.

Land Use: This alternative is not consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA; since, this alternative will not provide protection to human health and the environment and will not achieve soil remediation using the Unrestricted Use SCOs, the Restricted Use - Commercial SCOs, or the Restricted Use - Industrial SCOs as a basis for site cleanup.

Remedial Alternative Comparison: This alternative (No Action) compared to the other alternatives will not provide protection to public health and the environment, will not achieve compliance with the SCGs, will not provide long- or short-term effectiveness, will not provide a reduction of toxicity, mobility, or volume, and will not likely receive community acceptance. Alternatives No. 2 (Soil Excavation - Unrestricted Use SCOs), No. 3 (Soil Excavation, Commercial Use SCOs), No. 4 (Soil Excavation, Industrial Use SCOs), No. 5 (“Hot Spot” Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) will provide greater protection to public health and the environment, achieve compliance with the SCGs, provide long- or short-term effectiveness, provide a greater reduction of toxicity, mobility, or volume, and/or have a better chance of receiving community acceptance. Therefore, "No Action" is not an applicable remedial alternative for the soil contamination identified at the Site.

4.6.2 Alternative No. 2 - Soil Removal, Unrestricted Use SCOs

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) includes the excavation of soils exceeding the Unrestricted SCOs for VOCs, SVOCs, TAL Metals (arsenic, lead, and mercury), and PCBs to the approximate depth of groundwater (11 ft-bgs) and placement of imported clean fill material in excavation areas to eliminate exposure to trespassers, construction workers, future workers, and visitors preventing direct contact with remaining soils and to prevent erosion; and limited land-use controls. This alternative also includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. A depiction of this alternative is shown on Figure 4-1.

Overall Protection of Public Health and the Environment: This alternative provides overall protection of public health and the environment through the excavation and off-site disposal of surface and subsurface soil containing concentrations exceeding the Unrestricted Use SCOs.

Compliance with SCGs: This alternative achieves compliance with the SCGs by removing surface and subsurface soil with concentrations exceeding the Unrestricted Use SCOs and implementing land-use controls to ensure the imported clean fill material is maintained.

Long-Term Effectiveness and Permanence: This alternative provides long-term effectiveness and permanence by eliminating the exposure path through excavation, and thereby risk, to trespassers, construction workers, future site workers, and visitors. This alternative coupled with land-use controls to maintain the imported clean fill material cover provides long-term effectiveness and permanence than non-excavation alternatives.

Reduction of Toxicity, Mobility, or Volume: This alternative provides a reduction of toxicity, mobility, or volume through the excavation and off-site disposal of surface and subsurface soil containing concentrations exceeding the Unrestricted Use SCOs to a depth of 11 ft-bgs or to the depth of groundwater. The toxicity, mobility, and volume of soil containing concentrations exceeding the Unrestricted Use SCOs will be significantly reduced through the removal of the top 11 feet of soil across the entire Site. Therefore, the percentage of remaining soil contamination exceeding Unrestricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 0%. Since all contaminated soil exceeding the Unrestricted Use SCOs will be removed from the Site to the depth of groundwater (11 ft-bgs) there will be no soil contaminants exceeding the Unrestricted Use SCOs, range of contaminants, or approximate soil quantity that will remain once remedial actions are completed at the Site under Alternative No. 2 (Soil Removal, Unrestricted Use SCOs).

Short-Term Effectiveness: This alternative could take 5 to 6 months or longer to complete and will have a significant impact to the community during excavation and soil placement activities.

Implementability: Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) would require the excavation and replacement of over 45,600 cubic yards of contaminated soil. This alternative is difficult to implement due to the large soil excavation quantity.

Costs: The cost to implement Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) would be approximately $8,600,000, which includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Community Acceptance: This alternative has the greatest likelihood of community acceptance since it will provide the greatest protection to human health and the environment.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which is identified in the signed BCA and this alternative will provide the highest protection to human health and the environment of all the alternatives evaluated for this Site.

Remedial Alternative Comparison: This alternative (Soil Removal - Unrestricted Use SCOs) will provide the highest level of protection to public health and the environment, will achieve compliance with the SCGs, will provide the highest level of long- or short-term effectiveness, will provide the largest reduction of toxicity, mobility, or volume, and has the best chance to receive community acceptance of all the alternatives evaluated for this Site. Alternatives No. 3 (Soil Removal, Commercial Use SCOs), No. 4 (Soil Removal, Industrial Use SCOs), No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) will also provide , protection to public health and the environment, compliance with the SCGs, long- or short-term effectiveness, reduction of toxicity, mobility, or volume, but to a lesser extent than Alternative No. 2 (Soil Removal - Unrestricted Use SCOs).

Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) will require the longest time to complete, will be the most expensive, and will have the greatest impact to the community during implementation due to the large quantity of soil to be excavated of all of the alternatives considered for this Site. Therefore, while providing the highest overall protection to public health and the environment, of all of the alternatives considered for this Site, return of this long-time industrial site to unrestricted usage is neither feasible nor warranted given its industrial zoning and surroundings.

4.6.3 Alternative No. 3 - Soil Removal, Commercial Use SCOs

Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) alternative includes the excavation of soils exceeding the Restricted Use - Commercial SCOs for SVOCs, TAL Metals (arsenic, lead, and mercury), and PCBs and placement of imported clean fill material in excavation areas to eliminate exposure to trespassers, construction workers, future workers, and visitors preventing direct contact with remaining soils and prevent erosion; and limited land-use controls. The excavation quantity for this alternative was developed by evaluating the depth interval where soil concentrations exceeding the Restricted Use - Commercial SCOs are present to a depth of 11 ft-bgs for each sampling grid developed for the Site.

This alternative also includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. VOC soil concentrations exceeding the Restricted Use - Commercial SCOs were not detected at the Site and are not included in this proposed remedial alternative. A depiction of this alternative is shown on Figure 4-2.

Overall Protection of Public Health and the Environment: This alternative provides overall protection of public health and the environment through the excavation and off-site disposal of surface and subsurface soil containing concentrations exceeding Restricted Use - Commercial SCOs.

Compliance with SCGs: This alternative achieves compliance with the SCGs by removing surface and subsurface soil containing concentrations exceeding the Restricted Use - Commercial SCOs and implementing land-use controls to ensure the imported clean fill material is maintained.

Long-Term Effectiveness and Permanence: This alternative provides long-term effectiveness and permanence by eliminating the exposure path through excavation, and thereby risk, to trespassers, construction workers, future site workers, and visitors. This alternative coupled with land-use controls to maintain the imported clean fill material cover provides long-term effectiveness and permanence than non-excavation alternatives.

Reduction of Toxicity, Mobility, or Volume: This alternative provides a reduction of toxicity, mobility, or volume through the excavation and disposal of surface and subsurface soil containing concentrations exceeding the Restricted Use - Commercial SCOs to a depth of 11 ft-bgs or to the depth of groundwater. The toxicity, mobility, and volume of soil containing concentrations exceeding the Restricted Use - Commercial SCOs will be significantly reduced through the removal of over 32,600 cubic yards of contaminated soil across the entire Site. The percentage of remaining soil contamination exceeding Restricted Use - Commercial SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 29%

(13,000 cubic yards of contaminated soil will remain). For soil boring locations that do not provide analytical data to the depth of groundwater, the contaminated soil quantity remaining was calculated from the deepest sample interval where analytical data was collected to the depth of groundwater (11 ft-bgs). SB-41 and SB-49 are the only soil boring locations where soil excavation will not occur under Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) which is presented on Figure 4-2.

The following table provides the contaminants, sample locations, and range of concentrations exceeding the Unrestricted Use SCOs that remain upon completion of Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs).

Compound	Contaminant Range			
	Sample Location	Lowest Concentration (mg/kg)	Sample Location	Highest Concentration (mg/kg)
Chromium	SB-41 (4-11)	36.2	SB-49 (0-4)	51.1
Copper	SB-41 (4-11)	137	SB-49 (0-4)	153
Lead	SB-41 (0-4)	388	SB-41 (4-11)	521
Mercury	SB-49 (0-4)	0.72	SB-41 (4-11)	1.4
Nickel	SB-49 (0-4)	51.8	SB-49 (0-4)	51.8
Zinc	SB-49 (4-10)	331	SB-41 (0-4)	735
PCBs	SB-41 (0-4)	0.11	SB-41 (4-11)	0.38

Short-Term Effectiveness: This alternative could take 4 to 5 months to complete and will have a significant impact to the community during excavation and soil placement activities.

Implementability: Alternative No. 3 (Hot Spot Excavation, Restricted Use - Commercial SCOs) would require the excavation and replacement of over 32,600 cubic yards of contaminated soil. This alternative is difficult to implement due to the large soil excavation quantity.

Costs: The cost to implement Alternative No. 3 (Hot Spot Excavation, Restricted Use - Commercial SCOs) would be approximately $6,100,000, which includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Community Acceptance: This alternative has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA and will provide protection to human health and the environment for its intended future use (commercial/industrial).

Remedial Alternative Comparison: This alternative (Soil Removal - Commercial Use SCOs) compared to the other alternatives will provide the second highest level of protection to public health and the environment, will achieve compliance with the SCGs, will provide the second highest level of long- or short-term effectiveness, will provide the second highest level of a reduction of toxicity, mobility, or volume, and will likely receive community acceptance. Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs) will provide the highest protection to public health and the environment, will provide longer effectiveness, and will provide a greater reduction of toxicity, mobility, or volume than Alternative No. 3 (Soil Removal - Commercial Use SCOs). Alternatives No. 4 (Soil Removal, Industrial Use SCOs), No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) will also achieve protection to public health and the environment, of compliance with the SCGs, of long- or short-term effectiveness, reduction of toxicity, mobility, or volume, and receive community acceptance, but to a lesser extent than Alternative No. 3 (Soil Removal - Commercial Use SCOs) will provide.

Alternative No. 3 (Soil Excavation, Commercial Use SCOs) will require the longest time to complete and will be the most expensive alternative other than Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs), and will have the significant impact to the community during implementation due to the large quantity of soil to be excavated. Therefore, while protective of the environment, return of this long-time industrial site to commercial usage is not warranted given its industrial zoning and surroundings.

4.6.4 Alternative No. 4 - Soil Removal, Industrial Use SCOs

Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) includes the excavation of soils exceeding the Restricted Use - Industrial SCOs for SVOCs, TAL Metals (arsenic, lead, and mercury), and PCBs and placement of imported clean fill material in excavation areas to eliminate exposure to trespassers, construction workers, future workers, and visitors preventing direct contact with remaining soils and prevent erosion; and limited land-use controls. The excavation quantity for this alternative was developed by evaluating the depth interval where soil concentrations exceeding the Restricted Use - Industrial SCOs are present to a depth of 11 ft-bgs for each sampling grid developed for the Site.

This alternative will also include the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. VOC soil concentrations exceeding the Restricted Use - Industrial SCOs were not detected at the Site and are not included in this proposed remedial alternative. A depiction of this alternative is shown on Figure 4-3.

Overall Protection of Public Health and the Environment: This alternative provides overall protection of public health and the environment through the excavation and off-site disposal of surface and subsurface soil containing concentrations exceeding the Restricted Use - Industrial SCOs.

Compliance with SCGs: This alternative achieves compliance with the SCGs by removing surface and subsurface soil containing concentrations exceeding the Restricted Use - Industrial SCOs and implementing land-use controls to ensure the imported clean fill material is maintained.

Long-Term Effectiveness and Permanence: This alternative provides long-term effectiveness and permanence by eliminating the exposure path through excavation, and thereby risk, to trespassers, construction workers, future site workers, and visitors. This alternative coupled with land-use controls to maintain the imported clean fill material cover provides long-term effectiveness and permanence than non-excavation alternatives.

Reduction of Toxicity, Mobility, or Volume: This alternative provides a reduction of toxicity, mobility, or volume by excavation and disposal of surface and subsurface soil containing concentrations exceeding the Restricted Use - Industrial SCOs to a depth of 11 ft-bgs or to the depth of groundwater. The toxicity and mobility of soil containing concentrations exceeding the Restricted Use - Industrial SCOs will be significantly reduced through the removal of over 27,800 cubic yards of contaminated soil across the entire Site. Therefore, the percentage of remaining soil contamination exceeding Unrestricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 40% (17,800 cubic yards of contaminated soil will remain). For soil boring locations that do not provide analytical data to the depth of groundwater, the contaminated soil quantity remaining was calculated from the deepest sample interval where analytical data was collected to the depth of groundwater (11 ft-bgs). SB-5, SB-37, SB-40, SB-41, SB-49, and SB-55 are the only soil boring locations where soil excavation will not occur under Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) which is presented on Figure 4-3.

The following table provides the contaminants, sample locations, and range of concentrations exceeding the Unrestricted Use SCOs that remain upon completion of Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs).

Compound	Contaminant Range			
	Sample Location	Lowest Concentration (mg/kg)	Sample Location	Highest Concentration (mg/kg)
Benzo(a)anthracene	SB-5 (5-7)	1	SB-5 (0-5)	1.2
Benzo(b)fluoranthene	SB-5 (5-7)	1.1	SB-5 (0-5)	1.3
Chrysene	SB-5 (5-7)	1.1	SB-5 (0-5)	1.3
Indeno(1,2,3-cd)pyrene	SB-5 (0-5)	0.52 J	SB-5 (0-5)	0.52 J
Arsenic	SB-55 (4-10)	13.9	SB-40 (4-10)	14.8
Barium	SB-37 (4-10)	355	SB-55 (0-4)	713
Cadmium	SB-37 (4-10)	2.6 J	SB-37 (0-4)	8.5
Chromium	SB-41 (4-11)	36.2	SB-55 (0-4)	206
Copper	SB-5 (11-11.5)	41.9	SB-40 (0-4)	1,490
Lead	SB-5 (5-7)	388	SB-37 (0-4)	3,840
Mercury	SB-49 (0-4)	0.72	SB-55 (0-4)	5.4
Nickel	SB-49 (0-4)	51.8	SB-55 (0-4)	290
Zinc	SB-49 (4-10)	331	SB-37 (0-4)	3,650
PCBs	SB-41 (0-4)	0.11	SB-5 (0-5)	2.8

Short-Term Effectiveness: This alternative could take 3 to 4 months or longer to complete and will have a significant impact to the community during excavation and soil placement activities.

Implementability: Alternative No. 4 (Hot Spot Excavation, Restricted Use - Industrial SCOs) would require the excavation and replacement of over 27,800 cubic yards of contaminated soil. This alternative is difficult to implement due to the large soil excavation quantity.

Costs: The cost to implement Alternative No. 4 (Hot Spot Excavation, Restricted Use - Industrial SCOs) would be approximately $5,600,000, which includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Community Acceptance: This alternative has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA and will provide protection to human health and the environment for its intended future use (commercial/industrial).

Remedial Alternative Comparison: This alternative (Soil Removal - Industrial Use SCOs) compared to the other alternatives will provide protection to public health and the environment, will achieve compliance with the SCGs, will provide long- or short-term effectiveness, will provide a reduction of toxicity, mobility, or volume, and will likely receive community acceptance. Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs) and No. 3 (Soil Removal - Commercial Use SCOs) will provide a higher level of protection to public health and the environment, will provide longer effectiveness, and will provide a a higher level of reduction of toxicity, mobility, or volume than Alternative No. 4 (Soil Removal - Industrial Use SCOs). Alternative No. 4 (Soil Excavation, Industrial Use SCOs) will require the shortest time to complete of the alternatives that propose excavation to meet specific Unrestricted or Restricted Use SCOs. Alternatives No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) will also achieve protection to public health and the environment, of compliance with the SCGs, of long- or short-term effectiveness, reduction of toxicity, mobility, or volume, and receive community acceptance, but not to the extent that Alternative No. 4 (Soil Removal - Industrial Use SCOs) will provide.

Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) is protective of human health and the environment, yet better recognizes the anticipated future end use as industrial, along with the industrial zoning and industrial character of the surrounding neighborhood. This alternative, however, still relies heavily on the off-site removal and disposal of large quantities of soil not meeting Restricted Use - Industrial SCOs. Therefore, there are still secondary impacts and significant costs associated with this alternative.

4.6.5 Alternative No. 5 - "Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) includes the excavation of soils exceeding site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for SVOCs, TAL Metals, and PCBs, and placement of imported clean fill material in excavation areas to eliminate exposure to trespassers, construction workers, future workers, and visitors by preventing direct contact with remaining soils and to prevent erosion; and limited land-use controls.

As discussed in Sections 3.3.1 and 3.4, where concentrations of contaminants in soil exceed the Restricted Use - Protection of Groundwater SCOs for arsenic of 16 mg/kg and the Restricted Use - Industrial SCOs for lead of 3,900 mg/kg, mercury of 5.7 mg/kg, PCBs of 25 mg/kg, and SVOCs, a combination of soil removal or an "engineered cover system" has been proposed to eliminate the significant threat to the environment and provide protection to human health. Site-specific RAOs for arsenic (100 mg/kg), for lead (10,000 mg/kg), and for mercury (5.7 mg/kg) were proposed under this alternative based on an evaluation of TCLP data and current groundwater sample results. Therefore, this alternative will address the excavation of soil concentrations exceeding the site-specific RAO for arsenic (100 mg/kg), for lead (10,000 mg/kg), and for mercury (15 mg/kg), and the Restricted Use - Industrial SCOs for PCBs (25 mg/kg) and will also include a 6-inch (plus 6 inches of sub base) asphalt engineered cover system. The proposed engineered cover system would also provide protection for human health exposure from SVOCs in the surface soils.

The excavation quantity for this alternative was developed by evaluating the depth interval where soil concentrations exceeding the site-specific RAO for arsenic (100 mg/kg), for lead (10,000 mg/kg), and for mercury (15 mg/kg), and the Restricted Use - Industrial SCOs for PCBs (25 mg/kg) are present to a depth of 11 ft-bgs for each 50' x 50' sampling grid located on the Site. Where SVOC and TAL Metals (chromium, copper and zinc) soil concentrations exceeding the Restricted Use - Industrial SCO remain after the Hot Spot" excavations, the placement of an engineered cover system will effectively provide protection to public health. Additionally, SVOC and TAL Metals (chromium, copper and zinc) concentrations have not been detected in the groundwater samples collected at the Site and do not pose a significant threat to the environment.

This alternative will also include the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. VOC soil concentrations exceeding the Restricted Use - Industrial SCOs were not detected at the Site and are not included in this proposed remedial alternative. A depiction of this alternative is shown on Figure 4-4.

Overall Protection of Public Health and the Environment: This alternative provides overall protection of public health and the environment through the excavation and off-site disposal of surface and subsurface soil containing concentrations exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs. This alternative will also employ an engineered cover system for the entire Site, as well as for the remaining arsenic soils exceeding the Restricted Use - Protection of Groundwater SCO of 16 mg/kg, the remaining lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg, and the remaining mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg that will be maintained, as part of the soil remedy for the Site.

Compliance with SCGs: This alternative achieves compliance with the SCGs by removing surface and subsurface soil containing concentrations exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs and implementing land-use controls to ensure the engineered cover system is maintained above arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs of 16 mg/kg, lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg, and mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg.

Long-Term Effectiveness and Permanence: This alternative provides long-term effectiveness and permanence by eliminating the exposure path through excavation, and thereby risk, to trespassers, construction workers, future site workers, and visitors. This alternative coupled with land-use controls to maintain the engineered cover system provides long-term effectiveness and permanence than non-excavation alternatives.

Reduction of Toxicity, Mobility, or Volume: This alternative provides a reduction of toxicity, mobility, or volume by excavation and disposal of surface and subsurface soil containing concentrations exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs, and through the placement of an engineered cover system for the entire Site, as well as for the arsenic soils exceeding the Restricted Use - Protection of Groundwater SCO of 16 mg/kg, lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg, and mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg. This alternative will remove all soil contamination exceeding the site-specific RAO for arsenic (100 mg/kg), lead (10,000 mg/kg), and mercury (15 mg/kg), and the Restricted Use - Industrial SCOs for PCBs (25 mg/kg). Therefore, the percentage of remaining soil contamination exceeding Unrestricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 85% (38,800 cubic yards of contaminated soil will remain). For soil boring locations that do not provide analytical data to the depth of groundwater, the contaminated soil quantity remaining was calculated from the deepest sample interval where analytical data was collected to the depth of groundwater (11 ft-bgs). Section 4.10 presents the contaminants, range of contaminants, and the approximate soil quantity that will remain once remedial actions are completed at the Site under Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs).

Short-Term Effectiveness: This alternative could take 2 to 3 months to complete and will have a relatively small impact to the community during excavation and soil placement activities.

Implementability: Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) would require the excavation and replacement of over 6,200 cubic yards of contaminated soil. This alternative is less difficult to implement due to the small soil excavation quantity.

Costs: The cost to implement Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) would be approximately $1,400,000, plus an additional $500,000 for the 6-inch (plus 6 inches of sub base) asphalt engineered cover system. This alternative is one of the least expensive alternatives, other than No. 7 (Asphalt Cover System).

Community Acceptance: This alternative has a good likelihood of community acceptance since this alternative will provide more protection to human health and the environment.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA and will provide protection to human health and the environment for its intended future use (commercial/industrial).

Remedial Alternative Comparison: This alternative (“Hot Spot” Excavation, Site-Specific RAOs and Industrial SCOs) compared to the other alternatives will provide protection to public health and the environment, will achieve compliance with the SCGs, will provide long- or short-term effectiveness, will provide a reduction of toxicity, mobility, or volume, and will likely receive community acceptance. Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial Use SCOs), and No. 4 (Soil Removal - Industrial Use SCOs) will provide a higher level of protection to public health and the environment, will provide longer effectiveness, and will provide a higher reduction of toxicity, mobility, or volume than

Alternative No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), but with a significantly impact to the community and at a significantly higher cost. Alternative No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs) will require the shortest time to complete compared to all other alternatives with the exception of Alternatives No. 6 (Ex-Situ Treatment) and No. 7 (Asphalt Cover System). Alternatives No. 6 (Ex-Situ Treatment) and No. 7 (Asphalt Cover System) will also achieve protection to public health and the environment, of compliance with the SCGs, of long- or short-term effectiveness, reduction of toxicity, mobility, or volume, and receive community acceptance, but not to the extent that Alternative No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs) will provide.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will eliminate a significant threat to the environment and will provide protection of human health and the environment, yet better recognizes the anticipated future end use as industrial, along with the industrial zoning and industrial character of the surrounding neighborhood. This alternative, however, still relies on the off-site removal and disposal of a relative small quantity of soil, compared to other alternatives, not meeting the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs. Therefore, there are still secondary, but minor, impacts and significant cost reduction associated with this alternative, as compared with other excavation based alternatives.

4.6.6 Alternative No. 6 - Ex-Situ Treatment

Alternative No. 6 (Ex-Situ Treatment) involves mixing a binding agent into the contaminated soil. Binding agents commonly used include portland cement, cement kiln dust (CKD), lime, lime kiln dust (LKD), limestone, fly ash, slag, clay, gypsum and phosphate mixtures and a number of proprietary agents. Due to the great variation of hazardous constituents, a mix design would be evaluated to determine its effectiveness prior to implementation.

This alternative includes excavation and ex-situ treatment of soils exceeding site-specific RAO for arsenic (100 mg/kg), lead (10,000 mg/kg), and mercury (15 g/kg), and the Restricted Use - Industrial SCOs for PCBs (25 mg/kg), as discussed under Alternative No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs. The treated soil will be placed into the excavation areas to meet final grade and establishment of land use controls in the form of an environmental easement on the entire Site. The ex-situ treatment quantity for this alternative was developed by evaluating the depth interval where soil concentrations exceeding the site-specific RAO for arsenic (100 mg/kg), lead (10,000 mg/kg), and mercury (15 mg/kg), and the Restricted Use - Industrial SCOs for PCBs (25 mg/kg) are present to a depth of 11 ft-bgs for each sampling grid developed for the Site.

This alternative will also include the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. This alternative will also include a 6-inch (plus 6 inches of sub base) asphalt engineered cover system. A depiction of this alternative is shown on Figure 4-5. The proposed engineered cover system would also provide protection for human health exposure from SVOCs in the surface soils.

Although the implementation of this alternative may be feasible, the stabilization/solidification of 1,400 cubic yards of contaminated soil from specific remedial areas (SB-8, SB-8-2, SB-17, SB-20, SB-22, SB-23-4, SB-24, and SB-27) could impede subsurface construction activities associated with redevelopment of the Site. Construction activities associated with the future warehouse expansion, installation of block heaters for Frito-Lay delivery trucks, electrical wiring conduits, and stormwater appurtenance will likely occur in or near some of the remedial areas where stabilization/solidification would be performed. Therefore, while this remedial alternative may be appropriate for most contaminants requiring remediation, subsequent redevelopment activities could require the re-excavation and off-site disposal of certain stabilized/solidified remedial areas to accommodate subsurface construction.

Overall Protection of Public Health and the Environment

The "Ex-Situ Treatment" alternative provides protection of public health and the environment through the binding of contaminated soils that exceed the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs which will reduce its mobility and toxicity coupled with land-use controls to ensure the asphalt engineered cover system is maintained.

Compliance with SCGs

The "Ex-Situ Treatment" alternative along with asphalt engineered cover system complies with the SCGs for trespassers, construction workers, future workers, and visitors from surface soil that exceeds the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs.

Long-Term Effectiveness and Permanence

The "Ex-Situ Treatment" would eliminate the exposure path, and thereby risk, to construction workers, future site workers, and visitors, unless excavation occurs beneath the treated soil cover. This alternative coupled with land-use controls to maintain the engineered cover system provides long-term effectiveness and permanence, but less than alternatives that excavate contaminated soils to Unrestricted and/or Restricted Use SCOs.

Reduction of Toxicity, Mobility, or Volume

The "Ex-Situ Treatment" does provide a reduction of toxicity and mobility, but not volume. The toxicity and mobility will be reduced through binding of the contaminated soil exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs. This alternative also provides containment with the placement of an asphalt engineered cover system above surface soils to limit direct contact with soils and prevent erosion. This alternative will not reduce the contaminated soil volume of the Site or remove the contaminated soil in the "Hot Spot" areas of the Site. Therefore, the percentage of remaining soil contamination exceeding Unrestricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater which will not be treated is approximately 85% (38,800 cubic yards of contaminated soil will remain). For soil boring locations that do not provide analytical data to the depth of groundwater, the contaminated soil quantity remaining was calculated from the deepest sample interval where analytical data was collected to the depth of groundwater (11 ft-bgs). Section 4.10 presents the contaminants, range of contaminants, and the approximate soil quantity that will remain once remedial actions are completed at the Site under Alternative No. 6 (Ex-Situ Treatment).

There is some uncertainty whether the stabilization/solidification of arsenic and PCBs will be successful in reducing the mobility of these contaminants, considering the high concentrations of lead (110,000 mg/kg) and PCBs (3,200 mg/kg), in the long-term and this alternative will likely hinder redevelopment of the Site where subsurface construction will occur without disturbing these specific areas of the Site.

If future soil excavation is required in the ex-situ treatment areas, treated soil will require specific management, whereas, under Alternative No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs) contaminated soils exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs will be removed in the "Hot Spot" areas and will be replaced with imported clean fill material.

Short-Term Effectiveness

This alternative could take 2 to 3 months to complete and will have a relatively small impact to the community during excavation, ex-situ treatment, treated soil backfilling, and placement of the asphalt cover system.

Implementability

This alternative will take a relatively short time to complete as compared to the other alternatives under consideration. This alternative would require the excavation, treatment, and replacement of over 4,800 cubic yards of contaminated soil and the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L. It is assumed that 1,000 cubic yards of soil can be treated per week; therefore, this alternative could take from 2 to 3 months to complete.

Costs

The "Ex-Situ Treatment" alternative is one of the least expensive alternatives, other than Alternatives No. 5 ("Hot Spot" Excavation and Site-Specific RAOs and Industrial SCOs) and No. 7 (Asphalt Cover System). Costs will occur for the excavation and treatment of contaminated soil exceeding the site-specific RAO for arsenic, lead, and mercury, and the

Restricted Use - Industrial SCOs for PCB and the installation of the 6-inch (plus 6 inches of sub base) asphalt engineered cover system.

Based on available information, the cost to implement this alternative would be approximately $2,740,000, which includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L and the 6-inch (plus 6 inches of sub base) asphalt engineered cover system.

Community Acceptances

The "Ex-Situ Treatment" alternative has a good chance for community acceptance since contaminated soil exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCBs will treated, and a 6-inch (plus 6 inches of sub base) asphalt engineered cover system will be installed which will eliminate direct exposure to the contaminated soil at the Site. However, this alternative has the potential to generate significant levels of dust through the excavation, stockpiling, treatment, and placement of 4,800 cubic yards of soil for several weeks which could have a negative impact to the neighboring community.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA and will provide protection to human health and the environment for its intended future use (commercial/industrial).

Remedial Alternative Comparison: This alternative (Ex-Situ Treatment) compared to the other alternatives will provide protection to public health and the environment, will achieve compliance with the SCGs, will provide long- or short-term effectiveness, will provide a reduction of toxicity, mobility, but will not reduce volume, and will likely receive community acceptance. Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial Use SCOs), and No. 4 (Soil Removal - Industrial Use SCOs) will provide more protection to public health and the environment, will provide longer effectiveness, and will provide a greater reduction of toxicity, mobility, or volume than Alternative No. 6 (Ex-Situ Treatment), but at a significantly higher cost. Alternative No. 5 ("Hot Spot" Excavation, Site-

Specific RAOs and Industrial SCOs) will provide a slightly higher level of protection through the excavation and off-site disposal of contaminated soil exceeding the site-specific RAO for arsenic, lead, and mercury, and the Restricted Use - Industrial SCOs for PCB and at a lower cost. Alternative No. 6 (Ex-Situ Treatment) will require the shortest time to complete compared to all other alternatives with the exception of, Alternative No. 5 (“Hot Spot” Excavation, Site-Specific RAOs and Industrial SCOs) and Alternative No. 7 (Asphalt Cover System).

Alternative No. 6 (Ex-Situ Treatment) will eliminate a significant threat to the environment and will provide protection of human health and the environment. Although the implementation of this alternative is likely feasibility, the stabilization/solidification of these remedial areas could impede subsurface construction associated with redevelopment of the Site. The stabilization/solidification areas could require additional disturbance during subsurface construction activities which could then require additional excavation in these areas to allow completion of the proposed subsurface construction activities. Therefore, there are still secondary, but minor, impacts and significant cost reduction associated with this alternative, as compared with most excavation based alternatives.

4.6.7 Alternative No. 7 - Asphalt Cover System

Alternative No. 7 (Asphalt Cover System) provides for the placement of a 6-inch asphalt cover system (plus 6 inches of sub base) to prevent direct contact with remaining soils and limited land-use controls. No soil excavation is proposed under this remedial alternative with the exception of the 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L that will be excavated for off-site disposal. Surface/subsurface soils exceeding the Unrestricted Use SCOs, the Restricted Use - Protection of Groundwater SCOs, the Restricted Use - Commercial SCOs, and the Restricted Use - Industrial SCOs will remain untreated beneath the 6-inch asphalt cover system. Engineering controls will also include a demarcation barrier above soils exceeding Part 375 SCOs. This alternative also requires establishment of land-use controls in the form of an environmental easement on the entire Site for excavations at depths below the 6-inch asphalt cover system (plus 6 inches of sub base) throughout the Site. A depiction of this alternative is shown on Figure 4-6. The proposed engineered cover system would also provide protection for human health exposure from SVOCs in the surface soils.

Overall Protection of Public Health and the Environment: This alternative provides protection for public health and the environment through the placement of an engineered cover system above surface and subsurface soil that exceed the Unrestricted Use SCOs, the Restricted Use - Protection of Groundwater SCOs, the Restricted Use - Commercial SCOs, and the Restricted Use - Industrial SCOs.

Compliance with SCGs: This alternative will not achieve compliance with the SCGs by placing a 6-inch asphalt cover system (plus 6 inches of sub base) above the surface and subsurface soils since contaminated soil exceeding the Unrestricted Use SCOs, the Restricted Use - Commercial SCOs, and the Restricted Use - Industrial SCOs will not be excavated for off-site disposal.

Long-Term Effectiveness and Permanence: This alternative provides long-term effectiveness and permanence, but less than alternatives that excavates or treats contaminated soils. This alternative coupled with land-use controls to maintain the engineered cover system provides long-term effectiveness and permanence, as long as the cover system is in place.

Reduction of Toxicity, Mobility, or Volume: This alternative does not provide a reduction of toxicity, mobility, or volume, but provides containment with the placement of a 6-inch asphalt cover system (plus 6 inches of sub base) to limit direct contact with soils and to prevent erosion. Therefore, the percentage of remaining soil contamination exceeding Unrestricted Use SCOs under this alternative to a depth of 11 ft-bgs or to the depth of groundwater is approximately 97% (44,200 cubic yards of contaminated soil will remain). The only contaminated soils that will be excavated under this alternative are the 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Short-Term Effectiveness: This alternative will have little potential for adverse impacts to both workers and the community during asphalt placement, which would take a relatively short time to implement, and could be completed in 1 to 2 months.

Implementability: Alternative No. 7 (Asphalt Cover System) is the easiest remedial alternatives, other than the Alternative No. 1 (No Action) remedial alternative, to implement since minimal soil excavation is required with the exception of the 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Costs: The cost to implement Alternative No. 7 (Asphalt Cover System) would be approximately $1,020,000, which includes the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria of 50 mg/kg and lead concentrations exceeding the RCRA hazardous criteria of 5 mg/L.

Community Acceptance: This alternative has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment.

Land Use: This alternative is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA; however, this alternative will not provide protection to human health and the environment as compared to the other alternatives considered for this Site.

Remedial Alternative Comparison: This alternative (Asphalt Cover System) compared to the other alternatives will provide limited protection to public health and the environment, will not achieve compliance with the SCGs, will provide limited long- or short-term effectiveness, will not provide a reduction of toxicity, mobility, or volume, and will likely receive community acceptance. Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial Use SCOs), No. 4 (Soil Removal - Industrial Use SCOs), No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), and No. 6 (Ex-Situ Treatment) will provide more protection to public health and the environment, will provide longer effectiveness, and will provide a greater reduction of toxicity, mobility, or volume than Alternative No. 7 (Asphalt Cover System), but at a significantly high cost.

Alternative No. 7 (Asphalt Cover System) will eliminate potential exposure to contaminated surface soil, this alternative does not remove contaminant concentrations which could be considered "sources" of future contamination, and also covers soils which already meet Restricted Use - Industrial SCOs, which are an appropriate level of protection given the anticipated future use and zoning of this Site. Although this alternative will eliminate potential exposure to contaminated surface soils at a significant cost savings, it will not remove contamination from the Site and potential "sources" of future contamination from the environment.

4.6.8 Integration with Site End-Use

The BCP Agreement signed on August 21, 2009 with NYSDEC, as well as the City's zoning classification as M3-1 (Heavy Manufacturing District) restricts the Site's contemplated future use to commercial/industrial for the development of the Site. Therefore, commercial and/or industrial development of the Site is consistent with the BCP Agreement and the City's zoning regulations.

Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial Use SCOs), No. 4 (Soil Removal - Industrial Use SCOs), No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) are all in conformance with the City's M3-1 zoning for manufacturing usage once the remedial action is complete and consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA. The final grade elevations achieved in each alternative vary in order to optimize imported fill and cover soil requirements with the grade achieved following excavation. Alternative No. 7 Asphalt Cover System) would take the least time to implement and offer the greatest potential for completing remedial activities in Summer 2011. Alternatives No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), would take from 3 to 4 months to complete and Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial

Use SCOs) and No. 4 (Soil Removal - Industrial Use SCOs), would take from 4 to 6 months to complete with remedial action expected to be completed in late Fall or Winter 2011.

There may be additional measures that must be undertaken to interface the raised grade with bordering properties. Therefore, Alternatives No. 2 (Soil Removal, Unrestricted Use SCOs), No. 3 (Soil Removal - Commercial Use SCOs), No. 4 (Soil Removal - Industrial Use SCOs), No. 5 ("Hot Spot" Excavation, Site-Specific RAOs and Industrial SCOs), No. 6 (Ex-Situ Treatment), and No. 7 (Asphalt Cover System) all rank very high with respect to integration with the contemplated future use of the Site.

4.7 Summary of the Evaluation Criteria for the Proposed Remedial Alternatives for On-Site Soil

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions. The seven (7) remedial alternatives were evaluated against the nine (9) threshold and evaluation criteria in Section 4.6.

The No Action Alternative will not be protective of human health and the environment, will not comply with other statutory requirements, and will not utilize permanent solutions since it would not achieve the threshold criterion of protectiveness and is not considered further. The following section compares each of the seven (7) alternatives to each of the threshold and evaluation criteria.

4.7.1 Overall Protection of Human Health and the Environment

This criterion reflects whether a remedy provides adequate protection of human health and the environment and also describes how risks are eliminated, reduced, controlled through treatment, or addressed using ICs.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will provide overall protection of public health and the environment and eliminate risks through the excavation and off-site disposal of 45,600 cubic yards of contaminated to the depth of groundwater (11 ft-bgs).

- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) will provide overall protection of public health and the environment and reduce risks through the excavation and off-site disposal of 32,600 cubic yards of contaminated to the depth of groundwater (11 ft-bgs).
- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) will provide overall protection of public health and the environment and reduce risks through the excavation and off-site disposal of 27,800 cubic yards of contaminated to the depth of groundwater (11 ft-bgs).
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will provide overall protection of public health and the environment and reduce risks through the excavation and off-site disposal of 6,200 cubic yards and the construction of an “engineered” cover system.
- Alternative No. 6 (Ex-Situ Treatment) will provide overall protection of public health and the environment and reduce risks through the excavation of 6,200 cubic yards (on-site treatment of 4,800 cubic yards and off-site disposal of 1,400 cubic yards to PCB TSCA and lead RCRA soils) and the construction of an “engineered” cover system.
- Alternative No. 7 (Asphalt Cover System) will provide limited protection of public health and the environment and reduce risks through the excavation and off-site disposal of 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria and lead concentrations exceeding the RCRA hazardous criteria and the construction of an “engineered” cover system.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will provide the highest level of protection of human health and the environment of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. This is due to the fact that Alternative No. 2 would achieve the most stringent SCOs and eliminated risks to human health and the environment through the excavation of the largest amount of contaminated soil from the Site. However, while providing the highest overall protection to public health and the environment, the return of this long-time industrial site to unrestricted usage is neither feasible nor warranted given its industrial zoning and surroundings.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will provide the highest level of protection of human health and the environment of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. Implementation of Alternative No. 6 will reduce the mobility, and to a lesser extent toxicity, but not volume, whereas, Alternative No. 5 will remove the same volume of contaminated soil for off-site disposal. Therefore, Alternative No. 5 would remove the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media and the construction of an "engineered" cover system to eliminate exposure to contaminated surface soils. The return of this long-time industrial site to restricted (commercial/industrial) usage is feasible and warranted given its industrial zoning and surroundings.

4.7.2 Compliance with SCGs

This criterion reflects whether a remedy provides "applicable" or "relevant and appropriate" SCGs for the Site. The SCGs for the Site soils are identified as the Part 375 Unrestricted and Restricted Use SCOs.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will achieve compliance with applicable SCGs and target soils that contain concentrations exceeding the Unrestricted Use SCOs.
- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) will achieve compliance with applicable SCGs and target soils that contain concentrations exceeding the Restricted Use - Commercial SCOs.
- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) will achieve compliance with applicable SCGs and target soils that contain concentrations exceeding the Restricted Use - Industrial SCOs.

- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will achieve compliance with applicable SCGs and target soils that contain concentrations exceeding the Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 6 (Ex-Situ Treatment) will achieve compliance with applicable SCGs and will target soils that contain concentrations exceeding the Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 7 (Asphalt Cover System) will not achieve compliance with the applicable SCGs available for consideration.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will achieve the highest level of compliance through the excavation and off-site disposal of soils containing concentrations exceeding the most restrictive of the applicable SCOs (Unrestricted Use SCOs) available for consideration of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. However, complying with unrestricted use is neither feasible nor warranted given its industrial zoning and surroundings.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will achieve the highest level of compliance through the excavation and off-site disposal of soils containing concentrations exceeding the Site-Specific SCOs of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an ‘engineered” cover system as a basis for remediation. Alternative No. 5 would remove a majority of the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media, the construction of an “engineered” cover system to eliminate exposure to contaminated surface soils, and the return of this long-time industrial site to restricted (commercial/industrial) use is feasible and warranted given its industrial zoning and surroundings.

4.7.3 Long-Term Effectiveness and Permanence

This criterion reflects an emphasis on implementing remedies that will ensure protection of human health and the environment in the long term, as well as in the short term.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will ensure long-term effectiveness and permanence through the excavation and off-site disposal of soils that contain concentrations exceeding the Unrestricted Use SCOs.
- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) will ensure long-term effectiveness and permanence through the excavation and off-site disposal of soils that contain concentrations exceeding the Restricted Use - Commercial SCOs.
- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) will ensure long-term effectiveness and permanence through the excavation and off-site disposal of soils that contain concentrations exceeding the Restricted Use - Industrial SCOs.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will ensure long-term effectiveness and permanence through the excavation and off-site disposal of soils that contain concentrations exceeding the Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 6 (Ex-Situ Treatment) will ensure long-term effectiveness and permanence through the excavation and on-site treatment of soils that contain concentrations exceeding Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 7 (Asphalt Cover System) will not ensure long-term effectiveness and permanence for soils containing concentrations exceeding the applicable SCGs.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will ensure the greatest long-term effectiveness and permanence through the excavation and off-site disposal of soils containing concentrations exceeding the Unrestricted Use SCOs of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted

Use - Industrial SCOs]) that use excavation as a basis for remediation. Alternatives No. 2, No. 3, and No. 4 will ensure long-term effectiveness and permanence, but with a significant financial impact to the owner and significant impacts to the community during the excavation and removal of 45,600 cubic yards of contaminated soil.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will ensure long-term effectiveness and permanence through the excavation and off-site disposal of soils containing concentrations exceeding the Site-Specific SCOs of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. This is due to the fact that Alternative No. 5 would remove the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media and the construction of an "engineered" cover system to eliminate exposure to contaminated surface soils. Alternatives No. 5 and No. 6 will ensure long-term effectiveness and permanence, but Alternative No. 7 will not provide long-term effectiveness and permanence. Alternative No. 5 would remove a majority of the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media, whereas, Alternative No. 6 will not remove the contaminated soil for off-site disposal but treat the contaminated soil. There is a possibility that the treated soil could either be disturbed or the treatment additive breaks down over a long time period.

4.7.4 Reduction of Toxicity, Mobility, or Volume through Treatment

This criterion is specific to evaluating only how the proposed remedial alternative reduces toxicity, mobility, or volume.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) reduces toxicity, mobility, and volume through the excavation and off-site disposal of 45,600 cubic yards of soil that contain concentrations exceeding the Unrestricted Use SCOs.
- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) reduces toxicity, mobility and volume through the excavation and off-site disposal of 32,600 cubic yards of soil that contain concentrations exceeding the Restricted Use - Commercial SCOs.

- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) reduces toxicity, mobility and volume through the excavation and off-site disposal of 27,800 cubic yards of soil that contain concentrations exceeding the Restricted Use - Industrial SCOs.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) reduces toxicity, mobility and volume through the excavation and off-site disposal of 6,200 cubic yards of soil that contain concentrations exceeding the Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 6 (Ex-Situ Treatment) reduces toxicity and mobility, but does not reduce volume through the excavation and on-site treatment of soils that contain concentrations exceeding Site-Specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs for PCBs which have been identified as the soil COCs for the Site, and includes PCB TSCA and lead RCRA soils.
- Alternative No. 7 (Asphalt Cover System) will not reduce toxicity, mobility, and volume of soils containing concentrations exceeding the above applicable SCGs.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) reduces the highest level of toxicity, mobility and volume through the excavation and off-site disposal of soils containing concentrations exceeding the Unrestricted Use SCOs of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. Alternatives No. 2, No. 3, and No. 4 will reduce the largest contaminated soil volume and toxicity, but at a significant financial impact to the owner and significant impacts to the community during implementation.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) reduces the highest level of toxicity, mobility and volume through the excavation and off-site disposal of 6,200 cubic yards of soil containing concentrations exceeding the Site-Specific SCOs of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. Alternatives No. 5 and No. 6 will reduce toxicity, mobility, and volume, but Alternative No. 7 does not reduce toxicity, mobility, and volume. Alternative No. 5 would remove the toxicity and volume for a majority of the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media, whereas, Alternative No. 6 will reduce toxicity and mobility, but not volume. There is a possibility that the treated soil could either be disturbed or the treatment additive breaks down over a long time period.

4.7.5 Short-Term Effectiveness

This criterion addresses short-term impacts of the alternatives in protecting human health and the environment during the construction and implementation of a remedy until the response objectives have been met.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) could take 5 to 6 months or longer to complete and will have a significant impact to the community during excavation and soil placement activities.
- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) could take 4 to 5 months to complete and will have a significant impact to the community during excavation and soil placement activities.
- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) could take 3 to 4 months or longer to complete and will have a significant impact to the community during excavation and soil placement activities.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) could take 2 to 3 months to complete and will have a relatively small impact to the community during excavation and soil placement activities.
- Alternative No. 6 (Ex-Situ Treatment) could take 2 to 3 months to complete and will have a relatively small impact to the community during excavation, ex-situ treatment, treated soil backfilling, and placement of the asphalt cover system.
- Alternative No. 7 (Asphalt Cover System) will have little potential for adverse impacts to both workers and the community during asphalt placement, which would take a relatively short time to implement, and could be completed in 1 to 2 months.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will have the highest short-term impacts to the community during the construction and implementation of a remedy of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. Alternative No. 2 could take 5 to 6 months or longer to complete, Alternative No. 3 could take 4 to 5 months or longer to complete, and Alternative No. 4 could take 3 to 4 months to complete. All of these alternatives will have a significant impact to the community during excavation and soil placement activities.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will have relatively small short-term impacts to the community during the construction and implementation of a remedy of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. Alternative No. 5 could take 2 to 3 months or longer to complete, Alternative No. 6 could take 2 to 3 months or longer to complete, and Alternative No. 7 could take 1 to 2 months to complete. All of these alternatives will have a significantly less impact to the community during excavation and soil placement activities as compared to Alternatives No. 2, No. 3, and No 4. Alternative No. 5 will have the least impact to the community given that Alternative No. 7 will not be in compliance with several evaluation criteria.

4.7.6 Implementability

The assessment against this criterion evaluates the technical and administrative feasibility of the alternative and the availability of the goods and services needed to implement it.

- Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) would require the excavation and replacement of over 45,600 cubic yards of contaminated soil. This alternative has the lowest level of technical and administrative feasibility due to the large soil excavation quantity.
- Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) would require the excavation and replacement of over 32,600 cubic yards of contaminated soil. This

alternative has a low level of technical and administrative feasibility due to the large soil excavation quantity.

- Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) would require the excavation and replacement of over 27,800 cubic yards of contaminated soil. This alternative has a low level of technical and administrative feasibility due to the large soil excavation quantity.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) would require the excavation and replacement of over 6,200 cubic yards of contaminated soil. This alternative has a high level of technical and administrative feasibility due to the small soil excavation quantity.
- Alternative No. 6 (Ex-Situ Treatment) will take a relatively short time to complete as compared to the other alternatives under consideration. This alternative would require the excavation, treatment, and replacement of over 4,800 cubic yards of contaminated soil and the excavation and off-site disposal of approximately 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria and lead concentrations exceeding the RCRA hazardous criteria. This alternative has a high level of technical and administrative feasibility due to the small soil excavation quantity.
- Alternative No. 7 (Asphalt Cover System) is the easiest remedial alternatives to implement since minimal soil excavation is required with the exception of the 1,400 cubic yards of PCB soil with concentrations exceeding the TSCA criteria and lead concentrations exceeding the RCRA hazardous criteria. This alternative has the highest level of technical and administrative feasibility since no soils will be excavated for off-site disposal.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will have the lowest level of technical and administrative feasibility of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation which is due to the high volume (45,600 cubic yards) of contaminated soil that requires excavation and off-site disposal. Alternatives No. 3 and No. 4 will also have low level of technical and administrative feasibility due to the high volume (32,600 cubic yards and 27,800 cubic yards, respectively) of contaminated soil that requires excavation and off-site disposal.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will have the highest level of technical and administrative feasibility of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation due to the volume of contaminated soil that requires excavation and off-site disposal. Alternative No. 6 will require a significant level of technical feasibility to develop the proper stabilization mixture prior to implementation. Alternative No. 5 will have the highest level of technical and administrative feasibility given that Alternative No. 7 will not be in compliance with several of the evaluation criteria.

4.7.7 Cost

Cost encompasses engineering, construction, and OM&M costs incurred for a 5-year period. The assessment against this criterion is based on the estimated present worth of these costs for each alternative.

- The cost to implement Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) would cost approximately $8,600,000 to implement.
- The cost to implement Alternative No. 3 (Hot Spot Excavation, Restricted Use - Commercial SCOs) would cost approximately $6,100,000 to implement.
- The cost to implement Alternative No. 4 (Hot Spot Excavation, Restricted Use - Industrial SCOs) would cost approximately $5,600,000 to implement.
- The cost to implement Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) would cost approximately $1,400,000 to implement. An additional $500,000 will be expended for the 6-inch (plus 6 inches of sub base) asphalt engineered cover system.
- The cost to implement Alternative No. 6 (Ex-Situ Treatment) this alternative would cost approximately $2,740,000 to implement and includes a 6-inch (plus 6 inches of sub base) asphalt engineered cover system.

- The cost to implement Alternative No. 7 (Asphalt Cover System) would cost approximately $1,020,000 to implement.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) is the highest cost ($8.6M) to implement of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. Alternatives No. 3 and No. 4 will also have a high cost to implement ($6.1M and $5.6M, respectively) of the alternatives that require excavation and off-site disposal.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) is one of the lowest cost ($1.9M) alternatives of the alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. Alternatives No. 6 and No. 7 will also have a lower cost to implement ($2.7M and $1.02M, respectively) than the alternatives that require excavation and off-site disposal. Alternative No. 5 will have the lowest cost to implement given that Alternative No. 7 is not compliant with several evaluation criteria.

4.7.8 Community Acceptance

This criterion addresses whether the alternatives will have a direct or indirect negative impact to the local community during implementation. The assessment also evaluates whether the final remedial action is of benefit to the continued growth of the community or creates an unacceptable aesthetic and economic burden to the community, and is consistent with the local land use Master Plan.

- Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) has the greatest likelihood of community acceptance since it will provide the greatest protection to human health and the environment.

- Alternative No. 3 (Hot Spot Excavation, Restricted Use - Commercial SCOs) has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment.
- Alternative No. 4 (Hot Spot Excavation, Restricted Use - Industrial SCOs) has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) has a good likelihood of community acceptance since this alternative will provide more protection to human health and the environment.
- Alternative No. 6 (Ex-Situ Treatment) has a good chance for community acceptance. However, this alternative has the potential to generate significant levels of dust through the excavation, stockpiling, treatment, and placement of 4,800 cubic yards of soil for several weeks which could have a negative impact to the neighboring community.
- Alternative No. 7 (Asphalt Cover System) has a good likelihood of community acceptance since this alternative will provide protection to human health and the environment, although this alternative will not remove contaminated soil from the environment.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) will have the highest negative impact to the local community during implementation, but will have a favorable impact to the continued economic growth of the community of the alternatives (Alternative No. 3 [Soil Removal, Restricted Use - Commercial SCOs] and Alternative No. 4 [Soil Removal, Restricted Use - Industrial SCOs]) that use excavation as a basis for remediation. Alternatives No. 3 and No. 4 will also have high negative impact to the local community during implementation of the alternatives that require excavation and off-site disposal, but to a lesser extent than Alternative No. 2. However, return of this long-time industrial site to unrestricted usage is neither feasible nor warranted given its industrial zoning and surroundings.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) will have the lowest negative impacts to the local community during implementation alternatives (Alternative No. 6 [Ex-Situ Treatment] and Alternative No. 7 [Asphalt Cover

System]) that use excavation off-site disposal or ex-situ treatment and an 'engineered" cover system as a basis for remediation. Alternative No. 5 will have a favorable impact to the continued growth of the community, as the Site will provide support to Frito-Lay's current operations and provide additional economic growth in the community. Alternatives No. 6 and No. 7 will also have low negative impacts to the local community during implementation, and are not as compliant with other evaluation criteria as compared to Alternative No. 5.

4.7.9 Integration with Land Use

The assessment against this criterion evaluates whether the alternatives are consistent with the contemplated future use (commercial/industrial) which has been identified in the BCA signed with NYSDEC.

- Alternative No. 2 (Soil Excavation, Unrestricted Use SCOs) is consistent with the contemplated future use (commercial/industrial) which is identified in the signed BCA.
- Alternative No. 3 (Hot Spot Excavation, Restricted Use - Commercial SCOs) is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA.
- Alternative No. 4 (Hot Spot Excavation, Restricted Use - Industrial SCOs) is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA.
- Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA.
- Alternative No. 6 (Ex-Situ Treatment) is consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA.
- Alternative No. 7 (Asphalt Cover System) is not consistent with the contemplated future use (commercial/industrial) which has been identified in the signed BCA, since the contaminated soils remaining on-site will not be remediated and this alternative will not provide protection to human health and the environment as compared to the other alternatives considered for this Site.

Alternative No. 2 (Soil Removal, Unrestricted Use SCOs) is consistent with the contemplated future use (commercial/industrial), since remediation proposed for this alternative will remediate soils to the most stringent SCOs (Unrestricted Use). Therefore, Alternative No. 2 provides a higher level of land use consistency than is required for this community and zoning. Alternative No. 3 (Soil Removal, Restricted Use - Commercial SCOs) and Alternative No. 4 (Soil Removal, Restricted Use - Industrial SCOs) are more consistent with the contemplated future use (commercial/industrial) than Alternative No. 2, since these alternatives address contaminated soil concentrations exceeding Commercial and Industrial SCOs.

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs) is consistent with the contemplated future use (commercial/industrial). This is due to the fact that Alternative No. 5 would remove the COCs for off-site disposal to reduce the potential of contaminant migration to other environmental media and the construction of an "engineered" cover system to eliminate exposure to contaminated surface soils. Alternatives No. 6 and No. 7 are also consistent with the contemplated future use (commercial/industrial), and are not as compliant with other evaluation criteria as compared to Alternative No. 5.

4.7.10 Remedial Alternatives Evaluation

Seven (7) remedial alternatives were evaluated to address soils which contain concentrations exceeding the Unrestricted and Restricted Use SCOs that are present at the Site. Each alternative was previously evaluated against the threshold and evaluation criteria to determine whether the alternative complies with these criteria.

The results of this evaluation indicate that most alternatives are compliant with the threshold and evaluation criteria. However, several alternatives will likely cause negative impacts to the community during implementation, the cost to complete are excessive for the end use for the Site, and will be difficult to complete due to the large amount of soil that will be excavated and transported for off-site disposal.

Alternatives No. 2, No. 3, and No. 4 will all provide protection to human health and the environment, will provide short-term and long-term effectiveness and permanence, will provide the largest reduction in toxicity, mobility, and volume, and will likely receive community acceptance. All of these alternatives will have the greatest impact to the community during implementation and are the most expensive remedial alternatives. However, the return of this long-time industrial site to unrestricted or commercial usage is not warranted given its industrial zoning and surroundings. Alternative No. 4 still relies heavily on the off-site removal and disposal of large quantities of soil not meeting Restricted Use - Industrial SCOs. Therefore, there are still secondary impacts and significant costs associated with this alternative.

Alternatives No. 5, No. 6, and No. 7 will all provide protection to human health and the environment, will provide short-term and long-term effectiveness and permanence, will provide the reduction in toxicity, mobility, or volume, and will likely receive community acceptance. All of these alternatives will have impacts to the community during implementation but are significantly less than Alternatives No. 2, No. 3, and No. 4. The costs to implement these alternatives are reasonable given the level and amount of soil contamination that has been identified at the Site. However, there is some uncertainty whether the stabilization/solidification of arsenic and PCBs under Alternative No. 6 will be successful in reducing the mobility of these contaminants in the long-term and this alternative will likely hinder redevelopment of the Site where subsurface construction will occur without disturbing these specific areas of the Site. Alternative No. 7, although the lowest cost to implement, will not reduce the toxicity, mobility, and volume, and will not address COCs which may migrate to other environmental media in the future.

Alternative No. 5 will eliminate a significant threat to the environment and will provide protection of human health and the environment, yet better recognizes the anticipated future end use as industrial, along with the industrial zoning and industrial character of the surrounding neighborhood. This alternative, however, still relies on the off-site removal and disposal of a relative small quantity of soil, compared to other alternatives, will reduce toxicity, mobility, and volume of the COCs which will prevent migration to other environmental media, will provide short-term and long-term effectiveness and permanence, and will likely receive community acceptance.

4.8 Proposed Remedial Action for Soil

Based on the desire to remediate "hot spot" areas to a level that is commensurate for the anticipated future use and zoning of the Site, the most practical and cost effective remedial alternative which is protective to human health and the environment is Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) and an engineered cover system (asphalt cover system). This cost-effective and fully protective remedial action can also be implemented relatively rapidly with minimal disruption to the community and will ensure timely completion allowing for restricted industrial and/or restricted commercial development of the Site. Land use controls will be implemented to limit the future use of the Site to commercial/industrial and to restrict handling of soil during future development and/or any soil excavation activities.

The remedial strategy for contaminated soil will be consistent with Track 4 cleanup, as specified in 6 NYCRR §375-6.8(b) as the basis for site soil cleanup for the COCs identified at this Site. The SCOs for the major COCs found in the Site soils are 16 mg/kg for arsenic, 3,900 mg/kg for lead, 5.7 mg/kg for mercury, and 25 mg/kg for PCBs. Where concentrations of contaminants in soil exceed the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for lead, mercury, and PCBs, a combination of soil removal or an "engineered cover system" will be implemented to prevent exposures in accordance with restricted use. Soil contamination exceeding the Restricted Use - Industrial SCOs that is expected to remain on-site and below an approved "engineered cover system" is referred to as "remaining contamination." The only major COCs expected to remain on-site as "remaining contamination" is arsenic, lead, and mercury, and they have been evaluated to determine its potential to migrate to other environmental media. Where SVOC and TAL Metals (chromium, copper and zinc) soil concentrations exceeding the Restricted Use - Industrial SCO remain after the Hot Spot" excavations, the placement of an engineered cover system will effectively provide protection to public health. Additionally, SVOC and TAL Metals (chromium, copper and zinc) concentrations have not been detected in the groundwater samples collected at the Site and do not pose a threat to the environment. The proposed remedy will eliminate the significant threat to the environment and will provide more protection to human health.

The site-specific RAO of 100 mg/kg for arsenic, 10,000 mg/kg for lead, and 15 mg/kg for mercury, and the Restricted Use - Industrial SCOs for PCBs of 25 mg/kg in site soils have been proposed as the Target Cleanup Levels because the current and contemplated future use has been identified as Heavy Manufacturing (M3-1) and the contemplated use of the Site is not expected for a higher land use than commercial/industrial. Therefore, remaining arsenic concentrations should remain below 100 mg/kg, lead concentrations should remain below 10,000 mg/kg, mercury concentrations should remain below 15 mg/kg, and PCBs concentrations should remain below 25 mg/kg in areas either outside or within the "Hot Spot" excavations. Approximately, 1,400 cubic yards of potentially hazardous lead and PCB soils and 4,800 cubic yards of arsenic, lead, mercury, and PCB (concentrations exceeding 25 mg/kg and exceeding 10 mg/kg in the proposed future warehouse location) soil with concentrations exceeding the Restricted Use - Protection of Groundwater for arsenic and/or Restricted Use - Industrial SCOs will be excavated for off-site disposal, and placement of imported clean fill material back into the excavation area as part of the proposed remedial alternative for the Site. The lead and PCB impacted soil that is considered "hazardous" will require excavation, management, and off-site disposal in accordance with RCRA and TSCA regulations. An engineered cover system will be proposed for arsenic soil concentrations that exceed the Restricted Use - Protection of Groundwater SCOs, but less than the site-specific RAO of 100 mg/kg, for lead soil concentrations that exceed the Restricted Use - Industrial SCOs, but less than the site-specific RAO of 10,000 mg/kg, and for mercury soil concentrations that exceed the Restricted Use - Industrial SCOs, but less than the site-specific RAO of 15 mg/kg.

The use of land use or ICs controls (environmental easement) will ensure that construction workers can work safely at the Site in the future by establishing specific health and safety requirements for all future excavations at the Site as long as soil containing concentrations that exceed site-specific RAOs and Restricted Use - Industrial SCOs are present at any depth.

Contaminated soil excavation and removal is proposed in 24 individual areas within the Site boundaries that contain concentrations exceeding the site-specific RAO of 100 mg/kg, that contain lead concentrations exceeding the site-specific RAO of 10,000 mg/kg, which contain mercury concentrations exceeding the site-specific RAO of 15 mg/kg, and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs or 10 mg/kg in the proposed future warehouse expansion area. These areas include soil borings (sampling grid) SB-1 (B,1), SB-6 (D3,3), SB-7 (E1,1), SB-8 (E3,4), SB-8-1 (E2,4), SB-8-2 (E4,4), SB-9 (E1,3), SB-9-3 (E4,3), SB-16 (H3,4), SB-16-1 (H4,4), SB-17 (H4,3), SB-17-1 (H2,3), SB-17-2 (H3,3), SB-19 (E4,1), SB-20 (G1,2), SB-22 (F3,4), SB-23 (D1,5), SB-23-4 (C2,5), SB-24 (D3,2), SB-27 (B2,5), SB-28 (A,3), SB-29 (A,1), SB-32 (A,2), and SB-102 (J,5). Soil boring locations SB-8 (E3,4), SB-8-2 (E4,4), SB-17 (H4,3), SB-20 (G1,2), SB-22 (F3,4), SB-23-4 (C2,5), SB-24 (D3,2), and SB-27 (B2,5) contain potentially hazardous concentrations of lead and PCBs and require special handling, management and off-site disposal/treatment under RCRA and TSCA regulations. Soil boring locations SB-7 (E1,1), SB-9 (E1,3), SB-9-3 (E4,3), and SB-19 (E4,1) contain PCB concentrations exceed the EPA's HOA criteria of 10 mg/kg within the proposed warehouse expansion footprint and will be excavated for off-site disposal as part of the proposed remedial action for soil. The excavation limits both horizontally and vertically will be confirmed with the collection of end point sampling. A demarcation barrier will also be placed at the base of the excavation once end-point sampling indicates concentrations at or below Protection of Groundwater SCOs and/or Industrial SCOs prior to the placement of imported clean fill material. Upon completion of backfilling operations, the Site will be covered with asphalt pavement for use as a parking lot for Frito-Lay operations. The proposed engineered cover system is described in Section 4.11.

The placement of the asphalt cover system eliminates the potential that trespassers, construction workers, future workers, and visitors will come into contact with soil containing concentrations that exceed the Restricted Use - Protection of Groundwater for arsenic and/or the Restricted Use - Industrial SCOs for lead, mercury and SVOCs, even at low levels. The asphalt cover system will also limit rain water infiltration into the subsurface and also limiting the potential for leaching of arsenic and lead to enter into groundwater. The use of land use or ICs controls (environmental easement) will ensure that construction workers can work safely at the Site in the future by establishing specific health and safety requirements for all future excavations at the Site as long as soil containing concentrations that exceed Restricted Use SCOs are present at any depth.

Inspection of the asphalt engineered cover system will be conducted annually in the spring after all snow has melted or has been plowed/cleared from the Site in accordance with the Site Management Plan (SMP). If during the inspection the engineered cover system is determined to be damaged, appropriate actions will be taken to repair, replace or reseal the damaged area. Areas of significant damage or damaged areas which have the potential to allow public access/exposure to sub-base materials, as determined by a Professional Engineer (P.E.), will be immediately repaired. The degree of repair (i.e. resealing and/or placement of new asphalt) will be dependent on type and size of the damaged area. If the damage is determined to be of great significance that may cause for the disturbance of impacted materials, the provisions within the SMP shall be followed and worker protection measures implemented. These fully protective alternatives can also be implemented rapidly with minimal disruption to the community and will ensure timely completion allowing for restricted industrial and/or restricted commercial development of the Site.

The proposed remedial action for on-site soil, Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs (Alternative No. 5), will also include the following proposed remedial actions for the Site.

- Monitored Natural Attenuation for groundwater
- Soil Vapor Mitigation for soil vapors

4.9 Hot Spot Excavation, Site-Specific RAOs and Restricted Use - Industrial SCOs

The following section discusses specific sample location where arsenic, lead, and mercury concentrations exceed the site-specific RAOs, where PCBs exceed the Restricted Use - Industrial SCOs or the EPA's HOA criteria for the proposed future warehouse expansion location, and where remedial activities are proposed. Each sample location discussed below provides the contaminant of concern, the corresponding concentration, the approximate surface area and depth, as well as the approximate volume of contaminated soil to be excavated for off-site disposal/treatment. Excavation areas will be verified in the field through the collection of end point sampling in accordance with the guidance provided in DER-10 and as described below. A demarcation barrier will be placed at the base of the excavation once end-point sampling indicates concentrations at or below the site-specific RAOs for arsenic, lead, and mercury and the Restricted Use - Industrial SCOs PCBs prior to the placement of imported clean fill material. The 24 individual areas within the Site boundaries that contain concentrations of arsenic with concentrations exceeding the Restricted Use - Protection of Groundwater, and lead, mercury, and PCBs with concentrations exceeding the Restricted Use - Industrial SCOs or the EPA's HOA criteria for the proposed future warehouse expansion location are presented on Figure 4-7. The proposed endpoint sampling locations, depth, and laboratory analysis is provided in Table 4-4.

4.9.1 SB-1 (Sampling Grid B,1)

The RI sampling results indicate that arsenic (168 mg/kg) were detected exceeding the site-specific RAO of 100 mg/kg from SB-1 to a depth of 7 to 9 ft-bgs. The proposed remedial alternatives for SB-1 will consist of "Hot Spot" excavation and removal of approximately 925 cubic yards from the area surrounding SB-1. The approximate area of excavation will be 50 feet by 50 feet to a depth of 10 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-8.

End-point samples will be collected along the sidewalls and the base of the excavation for SB-1 to assess whether the reported arsenic concentrations exceeding the site-specific RAO of 100 mg/kg have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at a depth of 12 to 14 inches below the surface (SB-1-1, SB-1-2, and SB-1-3) and three (3) subsurface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at 12 to 14 inches (72 to 74 inches from the ground surface) below the mid-point depth (5 ft-bgs) of the excavation (SB-1-4, SB-1-5, and SB-1-6). No surface or subsurface end-point sidewall samples will be collected from the western sidewall bordering SB-29 as the excavation for that sampling grid will eliminate the surface and subsurface portions of the western sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (120 to 126 inches below the ground surface) below the center of the excavation base (SB-1-7). The end-point samples will be analyzed for arsenic.

4.9.2 SB-6 (Sampling Grid D3,3)

The RI sampling results indicate that lead (8,200 mg/kg) and PCBs (33 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead and Restricted Use - Industrial SCO of 25 mg/kg for PCBs from SB-6 to a depth of 0 to 7 ft-bgs. PCBs were detected at SB-6 with a concentration of 2.7 mg/kg which limits the depth of excavation to 7 ft-bgs. The proposed remedial alternatives for SB-6 will consist of “Hot Spot” excavation and removal of approximately 165 cubic yards from the area surrounding SB-6. The approximate area of excavation will be 25 feet by 25 feet to a depth of 7 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-9.

End-point sampling is proposed for SB-6 to assess whether the reported lead and PCB concentrations exceeding the site-specific RAO of 10,000 mg/kg for lead and Restricted Use - Industrial SCO of 25 mg/kg for PCBs have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-6-1, SB-6-2, SB-6-3, and SB-6-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (54 to 56 inches below the ground surface) below the mid-point depth (3.5 ft-bgs) of the excavation (SB-6-5, SB-6-6, SB-6-7, and SB-6-8). An additional end-point sample will be collected from a depth of 0 to 6 inches (84 to 90 inches below the ground surface) below the center of the excavation base (SB-6-9). The end-point samples will be analyzed for lead and PCBs.

4.9.3 SB-7 (Sampling Grid E1,1)

The RI sampling results indicate that PCBs (11 mg/kg) were detected which did not exceed the exceeding the Restricted Use - Industrial SCOs of 25 mg/kg. However, it is expected that future usage of this portion of the Site may include the extension of the existing warehouse that is located north of the Site. Since PCB concentrations exceed the EPA’s Cleanup Levels for HOA criteria of 10 mg/kg, soil excavation will occur in this portion of the Site. PCBs concentrations exceeding the HOA criteria of 10 mg/kg were detected from SB-7 to a depth of 7 to 9 ft-bgs. The proposed remedial alternatives for SB-7 will consist of “Hot Spot” excavation and removal of approximately 280 cubic yards from the area surrounding SB-7. The approximate area of excavation will be 25 feet by 25 feet to a depth of 12 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-10.

End-point samples will be collected along the sidewalls and the base of the excavation for SB-7 to assess whether the reported PCB concentrations exceeding the EPA's HOA criteria of 10 mg/kg have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-7-1, SB-7-2, SB-7-3, and SB-7-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (84 to 86 inches below the ground surface) below the mid-point depth (6 ft-bgs) of the excavation (SB-7-5, SB-7-6, SB-7-7, and SB-7-8). An additional end-point sample will be collected from a depth of 0 to 6 inches (144 to 150 inches below the ground surface) below the center of the excavation base (SB-7-9). The end-point samples will be analyzed for PCBs.

4.9.4 SB-8 (Sampling Grid E3,4)

The RI sampling results indicate that PCB (100 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg for PCBs from SB-8 to a depth of 0 to 7 ft-bgs. PCBs were detected at a concentration 5.6 mg/kg at SB-8 in the 5 to 7 ft-bgs sample interval, which limits the excavation depth to 5 ft-bgs. The proposed remedial alternatives for SB-8 will consist of "Hot Spot" excavation and removal of approximately 115 cubic yards from the area surrounding SB-8. The approximate area of excavation will be 25 feet by 25 feet to a depth of 5 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-11.

End-point sampling is proposed for SB-8 to assess whether the reported PCB concentrations exceeding the site-specific RAO and the Restricted Use - Industrial SCO have been successfully removed. There (3) surface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-8-1, SB-8-2, and SB-8-3) and three (3) subsurface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at 12 to 14 inches (42 to 44 inches below the ground surface) below the mid-point depth (2.5 ft-bgs) of the excavation (SB-8-4, SB-8-5, and SB-8-6). No surface or subsurface end-point sidewall samples will be collected along the eastern sidewall bordering SB-8-2 as the excavation for that sampling grid will eliminate the surface and subsurface portions of the eastern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (60 to 66 inches below the ground surface) below the center of the excavation base (SB-8-7). The end-point samples will be analyzed for PCBs.

4.9.5 SB-8-1 (Sampling Grid E2,4)

The SSRI sampling results indicate that lead (10,700 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead SB-8-1 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-8-1 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-8-1. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-12.

End-point sampling is proposed for SB-8-1 to assess whether the reported lead concentrations exceeding the site-specific RAO of 10,000 mg/kg has been successfully removed. Two (2) surface end-point sidewall samples will be collected from the eastern and western sidewalls at a depth of 12 to 14 inches below the surface (SB-8-1-1 and SB-8-1-2) and three (3) subsurface end-point sidewall samples will be collected from the northern, eastern, and western sidewalls at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-8-1-3, SB-8-1-4, and SB-8-1-5). No surface or subsurface end-point sidewall samples will be collected from the southern sidewall bordering SB-8-2 as the excavation for that sampling grid will eliminate the surface and subsurface portions of the southern sidewall. One (1) subsurface end-point sidewall will be collected from the northern sidewall bordering SB-9-3 as the excavation for that sampling grid will eliminate the surface portion of the northern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-8-1-6). The end-point samples will be analyzed for lead.

4.9.6 SB-8-2 (Sampling Grid E4,4)

The SSRI results indicate that lead (21,700 mg/kg) and PCB (28 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use -

Industrial SCO of 25 mg/kg for PCBs from SB-8-2 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-8-2 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-8-2. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-13.

End-point sampling is proposed for SB-8-2 to assess whether the reported lead and PCB concentrations exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use - Industrial SCO of 25 mg/kg for PCBs have been successfully removed. One (1) surface end-point sidewall sample will be collected from the southern sidewall at a depth of 12 to 14 inches below the surface (SB-8-2-1) and two (2) subsurface end-point sidewall samples will be collected from the southern and western sidewalls at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-8-2-2 and SB-8-2-3). No surface or subsurface end-point sidewall samples will be collected from the northern and eastern sidewalls bordering SB-8-1 and SB-22 as the excavation for these sampling grids will eliminate the northern and eastern sidewalls. One (1) subsurface end-point sidewall sample will be collected from the western sidewalls bordering SB-8 as the excavation for this sampling grid will eliminate the surface portion of the western sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-8-2-4). The end-point samples will be analyzed for lead and PCBs.

4.9.7 SB-9 (Sampling Grid E1,3)

The RI sampling results indicate that PCBs (22 mg/kg) were detected which did not exceed the exceeding the Restricted Use - Industrial SCOs of 25 mg/kg. However, it is expected that future usage of this portion of the Site may include the extension of the existing warehouse that is located north of the Site. Since PCB concentrations exceed the EPA's Cleanup Levels for HOA criteria of 10 mg/kg, soil excavation will occur in this portion of the Site. PCBs concentrations exceeding the HOA criteria of 10 mg/kg were detected from SB-9 to a depth of 0 to 5 ft-bgs. PCBs were not detected at concentrations exceeding the HOA criteria of 10 mg/kg from the 7 to 8 ft-bgs and the 11 to 12 ft-bgs depth intervals. The proposed remedial alternatives for SB-9 will consist of "Hot Spot" excavation and removal of approximately 162 cubic yards from the area surrounding SB-9. The approximate area of excavation will be 25 feet by 25 feet to a depth of 7 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-14.

End-point samples will be collected along the sidewalls and the base of the excavation for SB-9 to assess whether the reported PCB concentrations exceeding the EPA's HOA criteria of 10 mg/kg have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-9-1, SB-9-2, SB-9-3, and SB-9-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (54 to 56 inches below the ground surface) below the mid-point depth (3.5 ft-bgs) of the excavation (SB-9-5, SB-9-6, SB-9-7, and SB-9-8). An additional end-point sample will be collected from a depth of 0 to 6 inches (84 to 90 inches below the ground surface) below the center of the excavation base (SB-9-9). The end-point samples will be analyzed for PCBs.

4.9.8 SB-9-3 (Sampling Grid E4,3)

The SSRI results indicate that PCBs (11 mg/kg) were detected which did not exceed the exceeding the Restricted Use - Industrial SCOs of 25 mg/kg. However, it is expected that future usage of this portion of the Site may include the extension of the existing warehouse that is located north of the Site. Since PCB concentrations exceed the EPA's HOA criteria of 10 mg/kg, soil excavation will occur in this portion of the Site. PCBs concentrations exceeding the HOA criteria of 10 mg/kg were detected from SB-9-3 to a depth of 0 to 4 ft-bgs. PCBs were not detected at concentrations exceeding the HOA criteria of 10 mg/kg from the 4 to 6 ft-bgs depth intervals. The proposed remedial alternatives for SB-9-3 will consist of "Hot Spot" excavation and removal of approximately 92 cubic yards from the area surrounding SB-9-3. The approximate area of excavation will be 25 feet by 25 feet to a depth of 4 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-15.

End-point samples will be collected along the sidewalls and the base of the excavation for SB-9-3 to assess whether the reported PCB concentrations exceeding the EPA's HOA criteria of 10 mg/kg have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, eastern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-9-3-1, SB-9-3-2, and SB-9-3-3) and three (3) subsurface end-point sidewall samples will be collected from the northern, eastern, and western sidewalls at 12 to 14 inches (36 to 38 inches below the ground surface) below the mid-point depth (2 ft-bgs) of the excavation (SB-9-3-4, SB-9-3-5, and SB-9-3-6). No surface or subsurface end-point sidewall samples will be collected along the southern sidewall bordering SB-8-1 as the excavation for that sampling grid will eliminate the surface and subsurface portions of the southern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (48 to 54 inches below the ground surface) below the center of the excavation base (SB-9-3-7). The end-point samples will be analyzed for PCBs.

4.9.9 SB-16 (Sampling Grid H3,4)

The RI sampling results indicate that PCB (33 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-16 to a depth of 0 to 7 ft-bgs. The proposed remedial alternatives for SB-16 will consist of "Hot Spot" excavation and removal of approximately 210 cubic yards from the area surrounding SB-16. The approximate area of excavation will be 25 feet by 25 feet to a depth of 9 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-16.

End-point sampling is proposed for SB-16 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-16-1, SB-16-2, and SB-16-3) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (66 to 68 inches below the ground surface) below the mid-point depth (4.5 ft-bgs) of the excavation (SB-16-4, SB-16-5, SB-16-6, and SB-16-7). One (1) subsurface end-point sidewall will be collected from the eastern sidewall bordering SB-16-1 as the excavation for this sampling grid will eliminate the surface portion of the eastern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (108 to 114 inches below the ground surface) below the center of the excavation base (SB-16-8). The end-point samples will be analyzed for PCBs.

4.9.10 SB-16-1 (Sampling Grid H4,4)

The SSRI sampling results indicate that lead (11,600 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead from SB-16-1 to a depth of 0 to 4 ft-bgs. The proposed remedial alternatives for SB-16-1 will consist of "Hot Spot" excavation and removal of approximately 115 cubic yards from the area surrounding SB-16-1. The approximate area of excavation will be 25 feet by 25 feet to a depth of 5 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-17.

End-point sampling is proposed for SB-16-1 to assess whether the reported lead concentrations exceeding the site-specific RAO of 10,000 mg/kg have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at a depth of 12 to 14 inches below the surface (SB-16-1-1, SB-16-1-2, and SB-16-1-3) and three (3) subsurface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at 12 to 14 inches (42 to 44 inches below the ground surface) below the mid-point depth (2.5 ft-bgs) of the excavation (SB-16-1-4, SB-16-1-5, and SB-16-1-6). No surface or subsurface end-point sidewall samples will be collected from the western sidewall bordering SB-16 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the western sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (60 to 66 inches below the ground surface) below the center of the excavation base (SB-16-1-7). The end-point samples will be analyzed for lead.

4.9.11 SB-17 (Sampling Grid H4,3)

The RI sampling results indicate that PCB (69 mg/kg and 31 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-17 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-17 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-17. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-18.

End-point sampling is proposed for SB-17 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Two (2) surface end-point sidewall samples will be collected from the southern and eastern sidewalls at a depth of 12 to 14 inches below the surface (SB-17-1 and SB-17-2) and three (3) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-17-3, SB-17-4, and SB-17-5). No surface end-point sidewall samples will be collected from the northern sidewall bordering SB-17-1 as the excavation for this sampling grid will eliminate the surface portion of the northern sidewall. No surface end-point sidewall samples will be collected from the western sidewall bordering SB-17-2 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the western sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-17-6). The end-point samples will be analyzed for PCBs.

4.9.12 SB-17-1 (Sampling Grid H2,3)

The SSRI sampling indicate that PCB (39.3 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-17-1 to a depth of 0 to 4 ft-bgs. PCBs were not detected at concentrations exceeding the Restricted Use - Industrial SCOs from the 4 to 6 ft-bgs depth interval. The proposed remedial alternatives for SB-17-1 will consist of "Hot Spot" excavation and removal of approximately 116 cubic yards from the area surrounding SB-17-1. The approximate area of excavation will be 25 feet by 25 feet to a depth of 5ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-19.

End-point sampling is proposed for SB-17-1 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, eastern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-17-1-1, SB-17-1-2, and SB-17-1-3) and three (3) subsurface end-point sidewall samples will be collected from the northern, eastern, and western sidewalls at 12 to 14 inches (42 to 44 inches below the ground surface) below the mid-point depth (2.5 ft-bgs) of the excavation (SB-17-1-4, SB-17-1-5, and SB-17-1-6). No surface and subsurface end-point sidewall samples will be collected from the southern sidewall bordering SB-17 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the southern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (60 to 66 inches below the ground surface) below the center of the excavation base (SB-17-1-7). The end-point samples will be analyzed for PCBs.

4.9.13 SB-17-2 (Sampling Grid H3,3)

The SSRI sampling results indicate that PCB (30 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-17-2 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-17-2 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-17-2. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-20.

End-point sampling is proposed for SB-17-2 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Three (3) surface end-point samples sidewall will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-17-2-1, SB-17-2-2, and SB-17-2-3) and three (3) subsurface sidewall end-point samples will be collected from the northern, southern, and western sidewalls at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-17-2-4, SB-17-2-5, and SB-17-2-6). No surface and subsurface end-point sidewall samples will be collected from the eastern sidewall bordering SB-17 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the eastern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-17-2-7). The end-point samples will be analyzed for PCBs.

4.9.14 SB-19 (Sampling Grid E4,1)

The RI sampling results indicate that PCBs (22 mg/kg) were detected which did not exceed the exceeding the Restricted Use - Industrial SCOs of 25 mg/kg. However, it is expected that future usage of this portion of the Site may include the extension of the existing warehouse that is located north of the Site. Since PCB concentrations exceed the EPA's HOA criteria of 10 mg/kg, soil excavation will occur in this portion of the Site. PCBs concentrations exceeding the HOA of 10 mg/kg were detected from SB-19 to a depth of 4 to 6 ft-bgs. The RI sampling results also indicate that lead (10,100) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg from SB-19 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-19 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-19. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-21.

End-point samples will be collected along the sidewalls and the base of the excavation for SB-19 to assess whether the reported lead concentrations exceeding the site-specific RAO of 10,000 mg/kg and the reported PCB concentrations exceeding the EPA's HOA criteria of 10 mg/kg have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-19-1, SB-19-2, SB-19-3, and SB-19-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-19-5, SB-19-6, SB-19-7, and SB-19-8). An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-19-9). The end-point samples will be analyzed for PCBs and lead.

4.9.15 SB-20 (Sampling Grid G1,2)

The RI sampling results indicate that PCB (56 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-20 to a depth of 0 to 4 ft-bgs. PCBs were detected at SB-20 with a concentration of 19 mg/kg at 4 to 6 feet which limits the depth of excavation to 4 ft-bgs. The proposed remedial alternatives for SB-20 will consist of "Hot Spot" excavation and removal of approximately 95 cubic yards from the area surrounding SB-20. The approximate area of excavation will be 25 feet by 25 feet to a depth of 4 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-22.

End-point sampling is proposed for SB-20 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs of 25 mg/kg have been successfully removed.

Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-20-1, SB-20-2, SB-20-3, and SB-20-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (36 to 38 inches below the ground surface) below the mid-point depth (2 ft-bgs) of the excavation (SB-20-5, SB-20-6, SB-20-7, and SB-20-8). An additional endpoint sample will be collected from a depth of 0 to 6 inches (48 to 54 inches below the ground surface) below the center of the excavation base (SB-20-9). The end-point samples will be analyzed for PCBs.

4.9.16 SB-22 (Sampling Grid F3,4)

The RI sampling results indicate that lead (110,000 mg/kg) and PCB (78 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use - Industrial SCO of 25 mg/kg for PCBs from SB-22 to a depth of 0 to 7.5 ft-bgs. The proposed remedial alternatives for SB-22 will consist of "Hot Spot" excavation and removal of approximately 230 cubic yards from the area surrounding SB-22. The approximate area of excavation will be 25 feet by 25 feet to a depth of 10 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-23.

End-point sampling is proposed for SB-22 to assess whether the reported lead and PCB concentrations exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at a depth of 12 to 14 inches below the surface (SB-22-1, SB-22-2, and SB-22-3) and four (4) subsurface sidewall end-point samples will be collected from each sidewall at 12 to 14 inches (72 to 74 inches below the ground surface) below the mid-point depth (5 ft-bgs) of the excavation (SB-22-4, SB-22-5, and SB-22-6, and SB-22-7). One (1) subsurface end-point sidewall will be collected from the western sidewall bordering SB-8-2 as the excavation for this sampling grid will eliminate the surface portion of the western sidewall. An additional endpoint sample will be collected from a depth of 0 to 6 inches (120 to 126 inches below the ground surface) below the center of the excavation base (SB-22-8). The end-point samples will be analyzed for lead and PCBs.

4.9.17 SB-23 (Sampling Grid D1,5)

The RI sampling results indicate that lead (10,900 mg/kg), mercury (15.1), and PCB (28 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead, the site-specific RAO of 15 mg/kg for mercury, and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs from SB-23 to a depth of 0 to 4 ft-bgs. The proposed remedial alternatives for SB-23 will consist of "Hot Spot" excavation and removal of approximately 162 cubic yards from the area surrounding SB-23. The approximate area of excavation will be 25 feet by 25 feet to a depth of 7 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-24.

End-point sampling is proposed for SB-23 to assess whether the reported lead, mercury, and PCB concentrations exceeding the site-specific RAO of 10,000 mg/kg for lead, the site-specific RAO of 15 mg/kg for mercury, and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and eastern sidewalls at a depth of 12 to 14 inches below the surface (SB-23-1, SB-23-2, and SB-23-3) and three (3) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (54 to 56 inches below the ground surface) below the mid-point depth (3.5 ft-bgs) of the excavation (SB-23-4, SB-23-5, and SB-23-6). No surface and subsurface end-point sidewall samples will be collected from the western sidewall bordering SB-23-4 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the western sidewall. An additional endpoint sample will be collected from a depth of 0 to 6 inches (84 to 90 inches below the ground surface) below the center of the excavation base (SB-23-7). The end-point samples will be analyzed for lead, mercury, and PCBs.

4.9.18 SB-23-4 (Sampling Grid C2,5)

The SSRI sampling results indicate that PCB (55 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCO of 25 mg/kg from SB-23-4 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-17-2 will consist of "Hot Spot" excavation and removal of approximately 185 cubic yards from the area surrounding SB-23-4. The approximate area of excavation will be 25 feet by 25 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-25.

End-point sampling is proposed for SB-23-4 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-23-4-1, SB-23-4-2, and SB-23-4-3) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-23-4-4, SB-23-4-5, SB-23-4-6, and SB-23-4-7). One (1) subsurface end-point sidewall will be collected from the eastern sidewall bordering SB-23 as the excavation for this sampling grid will eliminate the surface portion of the eastern sidewall. An additional end-point sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-23-4-8). The end-point samples will be analyzed for PCBs.

4.9.19 SB-24 (Sampling Grid D3,2)

The RI sampling results indicate that PCB (74 mg/kg) concentrations were detected exceeding the Restricted Use - Industrial SCOs of 25 mg/kg from SB-24 to a depth of 0 to 2 ft-bgs. The proposed remedial alternatives for SB-24 will consist of "Hot Spot" excavation and removal of approximately 116 cubic yards from the area surrounding SB-24. The approximate area of excavation will be 25 feet by 25 feet to a depth of 5 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-26.

End-point sampling is proposed for SB-24 to assess whether the reported PCB concentrations exceeding the Restricted Use - Industrial SCOs of 25 mg/kg have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-24-1, SB-24-2, SB-24-3, and SB-24-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches below (42 to 44 inches below the ground surface) the mid-point depth (2.5 ft-bgs) of the excavation (SB-24-5, SB-24-6, SB-24-7, and SB-24-8). An additional endpoint sample will be collected from a depth of 0 to 6 inches (60 to 66 inches below the ground surface) below the center of the excavation base (SB-24-9). The end-point samples will be analyzed for PCBs.

4.9.20 SB-27 (Sampling Grid B2,5)

The RI sampling results indicate that mercury (17 mg/kg) and PCB (3,200 mg/kg) concentrations were detected exceeding the exceeding the site-specific RAO of 10,000 mg/kg for lead, and the Restricted Use - Industrial SCOs of 25 mg/kg from SB-27 to a depth of 0 to 10 ft-bgs. PCBs were detected at SB-27 with a concentration of 31 mg/kg at a depth of 8 to 10 feet which limits the depth of excavation to 12 ft-bgs. The proposed remedial alternatives for SB-27 will consist of "Hot Spot" excavation and removal of approximately 280 cubic yards from the area surrounding SB-27. The approximate area of excavation will be 25 feet by 25 feet to a depth of 12 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-27.

End-point sampling is proposed for SB-27 to assess whether the reported mercury and PCB concentrations exceeding the Restricted Use - Industrial SCOs have been successfully removed. Four (4) surface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-27-1, SB-27-2, SB-27-3, and SB-27-4) and four (4) subsurface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at 12 to 14 inches below (84 to 86 inches below the ground surface) the mid-point depth (6 ft-bgs) of the excavation (SB-27-5, SB-27-6, SB-27-7, and SB-27-8). An additional endpoint sample will be collected from a depth of 0 to 6 inches (144 to 150 inches below the ground surface) below the center of the excavation base (SB-27-9). The end-point samples will be analyzed for mercury and PCBs.

4.9.21 SB-28 (Sampling Grid A,3)

The RI sampling results indicate that arsenic (104 mg/kg) concentrations were detected exceeding the exceeding the site-specific RAO of 100 mg/kg for arsenic from SB-27 to a depth of 0 to 10 ft-bgs. Arsenic was detected at SB-28 with a concentration of 7.59 mg/kg at a depth of 4 to 8 feet which limits the depth of excavation to 4 ft-bgs. The proposed remedial alternatives for SB-28 will consist of "Hot Spot" excavation and removal of approximately 370 cubic yards from the area surrounding SB-28. The approximate area of excavation will be 50 feet by 50 feet to a depth of 4 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-28.

End-point sampling is proposed for SB-28 to assess whether the reported arsenic concentrations exceeding the site-specific RAO of 100 mg/kg for arsenic have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the southern, eastern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-28-1, SB-28-2, and SB-28-3) and three (3) subsurface end-point sidewall samples will be collected from the southern, eastern, and western sidewalls at 12 to 14 inches (36 to 38 inches below the ground surface) below the mid-point depth (2 ft-bgs) of the excavation (SB-28-4, SB-28-5, and SB-28-6). No surface and subsurface end-point sidewall samples will be collected from the northern sidewall bordering SB-32 as the excavation for this sampling grid will eliminate the surface and subsurface portions of the northern sidewall. An additional endpoint sample will be collected from a depth of 0 to 6 inches (48 to 54 inches below the ground surface) below the center of the excavation base (SB-28-7). The end-point samples will be analyzed for arsenic.

4.9.22 SB-29 (Sampling Grid A,1)

The RI sampling results indicate that arsenic (1,160 mg/kg) concentrations were detected exceeding the site-specific RAO of 100 mg/kg from SB-29 to a depth of 0 to 10 ft-bgs. Arsenic was detected at SB-29 with a concentration of 1,140 mg/kg at a depth of 4 to 10 feet. The proposed remedial alternatives for SB-29 will consist of "Hot Spot" excavation and removal of approximately 1,110 cubic yards from the area surrounding SB-29. The approximate area of excavation will be 50 feet by 50 feet to a depth of 12 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-29.

End-point sampling is proposed for SB-29 to assess whether the reported arsenic concentrations exceeding the exceeding the site-specific RAO of 100 mg/kg for arsenic have been successfully removed. Three (3) surface end-point sidewall samples will be collected from the northern, southern, and western sidewalls at a depth of 12 to 14 inches below the surface (SB-29-1, SB-29-2, and SB-29-3) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (84 to 86 inches below the ground surface) below the mid-point depth (6 ft-bgs) of the excavation (SB-29-4, SB-29-5, SB-29-6, and SB-29-7). One (1) subsurface end-point sidewall will be collected from the eastern sidewall bordering SB-1 as the excavation for this sampling grid will eliminate the surface portion of the eastern sidewall. An additional endpoint sample will be collected from a depth of 0 to 6 inches (144 to 150 inches below the ground surface) below the center of the excavation base (SB-29-8). The end-point samples will be analyzed for arsenic.

4.9.23 SB-32 (Sampling Grid A,2)

The RI sampling results indicate that arsenic (144 mg/kg) and lead (17,000) concentrations were detected exceeding the site-specific RAO of 100 mg/kg for arsenic and the site-specific RAO of 10,000 mg/kg for lead from SB-32 to a depth of 0 to 4 ft-bgs. Arsenic was detected at SB-32 with a concentration of 26.6 mg/kg at a depth of 4 to 10 feet which limits the excavation to 4 ft-bgs. The proposed remedial alternatives for SB-32 will consist of "Hot Spot" excavation and removal of approximately 370 cubic yards from the area surrounding SB-32. The approximate area of excavation will be 50 feet by 50 feet to a depth of 4 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-30.

End-point sampling is proposed for SB-32 to assess whether the reported arsenic and lead concentrations exceeding the exceeding the site-specific RAO of 100 mg/kg for arsenic and the site-specific RAO of 10,000 mg/kg for lead have been successfully removed. Two (2) surface end-point sidewall samples will be collected from the eastern and western sidewalls at a depth of 12 to 14 inches below the surface (SB-32-1 and SB-32-2) and two (2) subsurface end-point sidewall samples will be collected from the eastern and western sidewalls at 12 to 14 inches (36 to 38 inches below the ground surface) below the mid-point depth (2 ft-bgs) of the excavation (SB-32-3 and SB-32-4). No surface and subsurface end-point sidewall samples will be collected from the northern and southern sidewalls (SB-29 and SB-28) bordering SB-32 as the excavation for these sampling grids will eliminate the surface and subsurface portions of the northern and southern sidewalls. An additional endpoint sample will be collected from a depth of 0 to 6 inches (48 to 54 inches below the ground surface) below the center of the excavation base (SB-32-5). The end-point samples will be analyzed for arsenic and lead.

4.9.24 SB-102 (Sampling Grid J,5)

The RI sampling results indicate that lead (17,000 mg/kg) and PCB (37 mg/kg) concentrations were detected exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use -

Industrial SCO of 25 mg/kg for PCBs from SB-102 to a depth of 0 to 6 ft-bgs. The proposed remedial alternatives for SB-102 will consist of "Hot Spot" excavation and removal of approximately 120 cubic yards from the area surrounding SB-102. The approximate area of excavation will be 20 feet by 20 feet to a depth of 8 ft-bgs or groundwater, whichever is encountered first, as presented on Figure 4-31.

End-point sampling is proposed for SB-102 to assess whether the reported lead and PCB concentrations exceeding the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use - Industrial SCO of 25 mg/kg for PCBs have been successfully removed. Four (4) surface end-point sidewall samples will be collected from each sidewall at a depth of 12 to 14 inches below the surface (SB-102-1, SB-102-2, SB-102-3, and SB-102-4) and four (4) subsurface end-point sidewall samples will be collected from each sidewall at 12 to 14 inches (60 to 62 inches below the ground surface) below the mid-point depth (4 ft-bgs) of the excavation (SB-102-5, SB-102-6, SB-102-7, and SB-102-8). An additional endpoint sample will be collected from a depth of 0 to 6 inches (96 to 102 inches below the ground surface) below the center of the excavation base (SB-102-9). The end-point samples will be analyzed for lead and PCBs.

MW-3 and MW-5 will likely require decommissioning to facilitate the excavations of contaminated soils associated with SB-9 and SB-102, respectively. MW-5 will be reinstalled after excavation and endpoint sampling indicate the site-specific RAO of 10,000 mg/kg for lead and the Restricted Use - Industrial SCO of 25 mg/kg for PCBs have been achieved. MW-3 will not be reinstalled because it will be located in the future warehouse expansion footprint. There is little need for MW-3 to be re-installed because it is neither an upgradient nor a downgradient monitoring well and only measures groundwater quality from the middle of the Site. The remaining monitoring well network is sufficient without MW-3 to adequately assess groundwater quality upgradient, downgradient, and on the Site.

The entire endpoint sampling program for all 24 areas is presented on Figure 4-32.

4.10 Soil Contaminants to Remain Exceeding the Restricted Use – Protection of Groundwater and Industrial SCOs at Specific Soil Boring Locations

Soil contaminants will remain on-site that exceed the Restricted Use - Protection of Groundwater for arsenic, and the Restricted Use Industrial SCOs for TAL Metals which will not be excavated as part Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs). These soil contaminants will be covered with the asphalt (engineered) cover system which will prevent exposure (dermal contact, inhalation, and inhalation) to soil concentrations exceeding the Restricted Use - Protection of Groundwater for arsenic and the Restricted Use Industrial SCOs for TAL Metals and SVOCs. Figure 4-33 presents the remaining soil sample concentrations exceeding the Restricted Use - Protection of Groundwater SCOs for arsenic. Figure 4-34 presents the remaining soil sample concentrations exceeding the Restricted Use - Industrial SCOs for TAL Metals.

The range of remaining arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs of 16 mg/kg that will remain on-site after the proposed soil remedial alternative has been completed is 16.2 mg/kg (SB-35 [0-4]) to 69.6 mg/kg (SB-47 [0-4]). The remaining contaminated soil volume was calculated assuming the depth of groundwater or the depth limit of contamination is 11 ft-bgs throughout the entire Site. If there was no available analytical data below the deepest contaminated sampling interval, it was assumed that the soil beneath this interval was contaminated to the depth of groundwater. The total quantity of arsenic concentrations exceeding the Restricted Use – Protection of Groundwater SCOs that will remain on-site beneath the "engineered" cover system is approximately 17,300 cubic yards.

SAMPLE LOCATION	GRID LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)	SQUARE FEET	REMAINING CONTAMINATED SOIL VOLUME
SB-3 (5-7) SB-3 (11-11.5)	A,6	Arsenic	POG=16 mg/kg	36.9 J 25.3 J	40 X 45	734 cubic yards
SB-10 (0-5) SB-10 (9-11)	G,1	Arsenic	POG=16 mg/kg	19.2 J 29.1 J	50 X 50	1,019 cubic yards
SB-13 (9-11)	I,1	Arsenic	POG=16 mg/kg	32.3	50 X 50	1,019 cubic yards
SB-22-1 (0-4) SB-22-1 (4-6)	F4,4	Arsenic	POG=16 mg/kg	25.6 J 16.3 J	25 X 25	255 cubic yards
SB-23-1 (0-4) SB-23-1 (4-6)	D3,4	Arsenic	POG=16 mg/kg	23.1 17.5	25 X 25	255 cubic yards
SB-25 (0-4)	C,3	Arsenic	POG=16 mg/kg	44.8	50 X 50	1,019 cubic yards

SAMPLE LOCATION	GRID LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)	SQUARE FEET	REMAINING CONTAMINATED SOIL VOLUME
SB-30 (0-4) SB-30 (4-10)	D,1	Arsenic	POG=16 mg/kg	23.9 27.6	50 X 50	1,019 cubic yards
SB-33 (0-4) SB-33 (4-10)	E,2	Arsenic	POG=16 mg/kg	26.7 21.3	50 X 50	1,019 cubic yards
SB-34 (0-4) SB-34 (4-10)	F,2	Arsenic	POG=16 mg/kg	16.3 24.7	50 X 50	1,019 cubic yards
SB-35 (0-4) SB-35 (4-10)	H,2	Arsenic	POG=16 mg/kg	16.2 22.5	50 X 50	1,019 cubic yards
SB-36 (0-4)	J,2	Arsenic	POG=16 mg/kg	16.4	50 X 10	204 cubic yards
SB-38 (0-4) SB-38 (4-10)	G,3	Arsenic	POG=16 mg/kg	45.9 25.8	50 X 50	1,019 cubic yards
SB-39 (4-10)	I,3	Arsenic	POG=16 mg/kg	20.2	50 X 50	1,019 cubic yards
SB-42 (0-4) SB-42 (4-10)	D,4	Arsenic	POG=16 mg/kg	67.4 35.8	50 X 25	510 cubic yards
SB-43 (0-4) SB-43 (4-8)	F,4	Arsenic	POG=16 mg/kg	21 29.5	50 X 25	510 cubic yards
SB-44 (4-10)	H,4	Arsenic	POG=16 mg/kg	32.5	50 X 25	510 cubic yards
SB-46 (4-10)	E,5	Arsenic	POG=16 mg/kg	20.1	50 X 25	510 cubic yards
SB-47 (0-4) SB-47 (4-10)	G,5	Arsenic	POG=16 mg/kg	69.6 18.5	50 X 25	510 cubic yards
SB-48 (0-4) SB-48 (4-6)	I,5	Arsenic	POG=16 mg/kg	17.2 18.3	50 X 25	510 cubic yards
SB-50 (0-4) SB-50 (4-10)	C,1	Arsenic	POG=16 mg/kg	23.2 39.8	50 X 50	1,019 cubic yards
SB-53 (4-10)	E,4	Arsenic	POG=16 mg/kg	25.1	25 X 25	255 cubic yards
SB-54 (4-10)	G,4	Arsenic	POG=16 mg/kg	27.1	50 X 50	1,019 cubic yards
SB-56 (0-4) SB-56 (6-8)	I,4	Arsenic	POG=16 mg/kg	16.7 23 J	50 X 50	1,019 cubic yards
SB-57 (0-4) SB-57 (6-8)	J,4	Arsenic	POG=16 mg/kg	17.5 19.1	50 X 15	305 cubic yards

The range of remaining lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg that will remain on-site after the proposed soil remedial alternative has been completed is 3,910 mg/kg (SB-22-2 [0-4]) to 8,760 mg/kg (SB-46 [4-10]). The remaining contaminated soil volume was calculated assuming the depth of groundwater or the depth limit of contamination is 11 ft-bgs throughout the entire Site. If there was no available analytical data below the deepest contaminated sampling interval, it was assumed that the soil beneath this interval was contaminated to the depth of groundwater. The total quantity of lead concentrations exceeding the Restricted Use - Industrial SCOs that will remain on-site beneath the "engineered" cover system is approximately 10,930 cubic yards.

SAMPLE LOCATION	GRID LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)	SQUARE FEET	REMAINING CONTAMINATED SOIL VOLUME
SB-3 (11-11.5)	A,6	Lead	Ind=3,900 mg/kg	4,330 J	40 X 45	734 cubic yards
SB-22-1 (4-6)	F4,4	Lead	Ind=3,900 mg/kg	4,970 J	25 X 25	255 cubic yards
SB-22-2 (0-4) SB-22-2 (4-6)	F1,5	Lead	Ind=3,900 mg/kg	3,910 J 6,660 J	25 X 25	255 cubic yards
SB-30 (0-4)	D,1	Lead	Ind=3,900 mg/kg	5,410	50 X 50	1,019 cubic yards
SB-33 (4-10)	E,2	Lead	Ind=3,900 mg/kg	6,070	50 X 50	1,019 cubic yards
SB-35 (4-10)	H,2	Lead	Ind=3,900 mg/kg	5,120	50 X 50	1,019 cubic yards
SB-36 (6-10)	J,2	Lead	Ind=3,900 mg/kg	4,490	50 X 10	204 cubic yards
SB-39 (4-10)	I,3	Lead	Ind=3,900 mg/kg	4,850	50 X 50	1,019 cubic yards
SB-42 (0-4)	D,4	Lead	Ind=3,900 mg/kg	6,240	50 X 25	510 cubic yards
SB-43 (4-8)	F,4	Lead	Ind=3,900 mg/kg	4,080	50 X 25	510 cubic yards
SB-44 (4-10)	H,4	Lead	Ind=3,900 mg/kg	5,050	50 X 25	510 cubic yards
SB-46 (0-4) SB-46 (4-10)	E,5	Lead	Ind=3,900 mg/kg	5,110 8,760	50 X 25	510 cubic yards
SB-47 (0-4) SB-47 (4-10)	G,5	Lead	Ind=3,900 mg/kg	5,810 6,080	50 X 25	510 cubic yards
SB-48 (4-6)	I,5	Lead	Ind=3,900 mg/kg	4,220	50 X 25	510 cubic yards
SB-54 (4-10)	G,4	Lead	Ind=3,900 mg/kg	4,530	50 X 50	1,019 cubic yards
SB-56 (6-8)	I,4	Lead	Ind=3,900 mg/kg	4,090 J	50 X 50	1,019 cubic yards
SB-57 (0-4)	J,4	Lead	Ind=3,900 mg/kg	4,890 J	50 X 15	305 cubic yards

The range of remaining mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg that will remain on-site after the proposed soil remedial alternative has been completed is 5.8 mg/kg (SB-35 [0-4]) to 14.3 mg/kg (SB-39 [4-10]). The remaining contaminated soil volume was calculated assuming the depth of groundwater or the depth limit of contamination is 11 ft-bgs throughout the entire Site. If there was no available analytical data below the deepest contaminated sampling interval, it was assumed that the soil beneath this interval was contaminated to the depth of groundwater. The total quantity of mercury concentrations exceeding the Restricted Use - Industrial SCOs that will remain on-site beneath the "engineered" cover system is approximately 14,320 cubic yards.

SAMPLE LOCATION	GRID LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)	SQUARE FEET	REMAINING CONTAMINATED SOIL VOLUME
SB-5 (0-5)	C,5	Mercury	Ind=5.7 mg/kg	11.2 J	25 X 25	255 cubic yards
SB-11 (0-5)	G,4	Mercury	Ind=5.7 mg/kg	7 J	50 X 50	1,019 cubic yards
SB-12 (5-7)	H1,3	Mercury	Ind=5.7 mg/kg	9.9 J	25 X 25	255 cubic yards
SB-26 (0-4)	A,5	Mercury	Ind=5.7 mg/kg	7.3 J	50 X 50	1,019 cubic yards
SB-31 (0-4) SB-31 (4-10)	H,1	Mercury	Ind=5.7 mg/kg	9.8 6	50 X 50	1,019 cubic yards
SB-34 (0-4)	F,2	Mercury	Ind=5.7 mg/kg	12.6	50 X 50	1,019 cubic yards
SB-35 (0-4)	H,2	Mercury	Ind=5.7 mg/kg	5.8	50 X 50	1,019 cubic yards
SB-36 (0-4) SB-36 (6-10)	J,2	Mercury	Ind=5.7 mg/kg	7.1 9.1	50 X 10	204 cubic yards

SAMPLE LOCATION	GRID LOCATION	COMPOUND	PART 375 SOIL CLEANUP OBJECTIVES	ANALYTICAL RESULTS (mg/kg)	SQUARE FEET	REMAINING CONTAMINATED SOIL VOLUME
SB-38 (4-10)	G,3	Mercury	Ind=5.7 mg/kg	6.9	50 X 50	1,019 cubic yards
SB-39 (0-4) SB-39 (4-10)	I,3	Mercury	Ind=5.7 mg/kg	9.9 14.3	50 X 50	1,019 cubic yards
SB-43 (4-8)	F,4	Mercury	Ind=5.7 mg/kg	6	50 X 25	510 cubic yards
SB-44 (0-4) SB-44 (4-10)	H,4	Mercury	Ind=5.7 mg/kg	11.6 11.7	50 X 25	510 cubic yards
SB-46 (0-4) SB-46 (4-10)	E,5	Mercury	Ind=5.7 mg/kg	9.2 9.7	50 X 25	510 cubic yards
SB-47 (0-4) SB-47 (4-10)	G,5	Mercury	Ind=5.7 mg/kg	9.6 6	50 X 25	510 cubic yards
SB-48 (0-4) SB-48 (4-6)	I,5	Mercury	Ind=5.7 mg/kg	9.1 13.5	50 X 25	510 cubic yards
SB-52 (0-4)	F,1	Mercury	Ind=5.7 mg/kg	13.6	50 X 50	1,019 cubic yards
SB-53 (4-10)	E,4	Mercury	Ind=5.7 mg/kg	7.9	25 X 25	255 cubic yards
SB-54 (0-4) SB-54 (4-10)	G,4	Mercury	Ind=5.7 mg/kg	12.6 8.5	50 X 50	1,019 cubic yards
SB-56 (6-8)	I,4	Mercury	Ind=5.7 mg/kg	8.6	50 X 50	1,019 cubic yards
SB-57 (6-8)	J,4	Mercury	Ind=5.7 mg/kg	5.8	50 X 15	305 cubic yards
SB-101 (4-6)	J,3	Mercury	Ind=5.7 mg/kg	10.1 J	50 X 15	305 cubic yards

The total contaminated soil volume of arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and the lead and mercury concentrations exceeding the Restricted Use - Industrial SCOs that will remain on-site is approximately 42,500 cubic yards to the depth of groundwater or the depth limit of contamination of 11 ft-bgs, if calculated separately. However, several soil boring locations (SB-3, SB-22-1, SB-30, SB-34, SB-35, SB-36, SB-38, SB-39, SB-42, SB-43, SB-44, SB-45, SB-46, SB-47, SB-48, SB-53, SB-54, SB-56, and SB-57) with concentrations exceeding the appropriate criteria for arsenic, lead, and mercury are located in the same sampling grid. Therefore, the actual soil volume of arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs, and the lead and mercury concentrations exceeding the Restricted Use - Industrial SCOs that will remain on-site upon completion of the remedial action and beneath the "engineered" cover system is approximately 21,425 cubic yards to the depth of groundwater or the depth limit of contamination of 11 ft-bgs.

4.11 Engineering Controls - Engineered Cover System

The proposed remedial action for the Site includes placing an engineered cover system (asphalt) above soils with arsenic concentrations exceeding the Restricted Use - Protection of Groundwater SCOs of 16 mg/kg and below the site-specific RAO of 100 mg/kg, with lead concentrations exceeding the Restricted Use - Industrial SCOs of 3,900 mg/kg and below the site-specific RAO of 10,000 mg/kg, with mercury concentrations exceeding the Restricted Use - Industrial SCOs of 5.7 mg/kg and below the site-specific RAO of 15 mg/kg, and SVOC concentrations exceeding the Restricted Use - Industrial SCOs. The engineered cover system (asphalt) will be at least 12 inches (which includes the sub-base for asphalt) thick above the soil containing arsenic concentrations exceeding the Restricted Use - Protection of Groundwater, and the lead and mercury concentrations exceeding the Restricted Use - Industrial SCOs present in the surficial soils.

The proposed asphalt cover system will consist of (from top to bottom):

- 6 inches of asphalt;
- 6 inches of sub base; and,
- Demarcation barrier.

The proposed engineered cover system can also include buildings and pedestrian walkways that may be constructed as part of Site redevelopment. The approval for any other engineered cover system (other than asphalt) not discussed in the section will require NYSDEC approval prior to Site redevelopment.

The purpose of the asphalt cover system will be to block direct surface contact with the underlying contamination. Asphalt can be acceptable as a barrier to direct contact with the underlying contamination, so long as it is adequately maintained. In addition to requiring proper maintenance, asphalt or concrete used to block surface contact should be designed to handle anticipated vehicle or structural loads. However, asphalt and concrete usually develops cracks, especially in climates similar to Brooklyn where numerous freeze-thaw cycles occur every winter. Cracking can be accelerated by vehicle loading. Even if the cracks represent only a small fraction of the total surface area of the cover, they can allow considerable infiltration if they disrupt normal sheet flow across the surface. The SMP will recommend corrective action necessary to repair asphalt or concrete cracks to eliminate excessive infiltration thus promoting normal sheet flow across the Site. A typical cross-section of the asphalt cover is shown on Figures 4-35.

Orange construction fence will be placed over the surficial soil prior to topsoil or sub base placement, as part of the approved engineered cover system. The construction fence will physically separate the impacted soil from the sub base and act as the demarcation barrier. The construction fence is durable and resists decomposition, and will also provide a visual barrier that will alert construction workers or inspectors if the demarcation barrier has been compromised or as a warning during future redevelopment or during construction activities at the Site.

Before the sub base is placed, the ground surface must be prepared. The surface soil preparation will consist of minor site grading to correct surface problems.

5.0 REMEDIAL ACTION PROCEDURES

5.1 Proposed Remedial Action for Soil

Alternative No. 5 (Hot Spot Excavation, Site-Specific RAO and Restricted Use - Industrial SCOs) and an engineered cover system (asphalt cover system) is the proposed remedial action for the Site. Contaminated soil excavation and removal will occur in 24 individual areas within the Site boundaries that contain concentrations exceeding the site-specific RAO of 100 mg/kg, that contain lead concentrations exceeding the site-specific RAO of 10,000 mg/kg, which contain mercury concentrations exceeding the site-specific RAO of 15 mg/kg, and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs. These areas include soil borings (sampling grid) SB-1 (B,1), SB-6 (D3,3), SB-7 (E1,1), SB-8 (E3,4), SB-8-1 (E2,4), SB-8-2 (E4,4), SB-9 (E1,3), SB-9-3 (E4,3), SB-16 (H3,4), SB-16-1 (H4,4), SB-17 (H4,3), SB-17-1 (H2,3), SB-17-2 (H3,3), SB-19 (E4,1), SB-20 (G1,2), SB-22 (F3,4), SB-23 (D1,5), SB-23-4 (C2,5), SB-24 (D3,2), SB-27 (B2,5), SB-28 (A,3), SB-29 (A,1), SB-32 (A,2), and SB-102 (J,5). Soil boring locations SB-8 (E3,4), SB-8-2 (E4,4), SB-17 (H4,3), SB-20 (G1,2), SB-22 (F3,4), SB-23-4 (C2,5), SB-24 (D3,2), and SB-27 (B2,5) contain potentially hazardous concentrations of lead and PCBs and require special handling, management and off-site disposal/treatment under TSCA regulations. Soil boring locations SB-7 (E1,1), SB-9 (E1,3), SB-9-3 (E4,3), and SB-19 (E4,1) contain PCB concentrations exceed the EPA's HOA of 10 mg/kg within the proposed warehouse expansion location and will be excavated for off-site disposal as part of the proposed remedial action for soil. The excavation limits both horizontally and vertically will be confirmed with the collection of end point sampling. A demarcation barrier will also be placed at the base of the excavation once end-point sampling indicates concentrations at or below the site-specific RAO of 100 mg/kg, that contain lead concentrations exceeding the site-specific RAO of 10,000 mg/kg, which contain mercury concentrations exceeding the site-specific RAO of 15 mg/kg, and the Restricted Use - Industrial SCOs of 25 mg/kg for PCBs prior to the placement of imported clean fill material. Upon completion of backfilling operations, the Site will be covered with asphalt pavement for use as a parking lot to support Frito-Lay operations (see Appendix D).

5.2 Estimated Soil Excavation Quantity

The total quantity of soil and fill material expected to be excavated from the Site for off-site disposed is approximately 9,500 tons (6,200 cubic yards). Approximately, 2,100 tons (1,400 cubic yards) is expected to be disposed as TSCA and/or RCRA contaminated soil at a Subtitle “C” hazardous waste landfill permitted by EPA. Currently, it is anticipated that the PCB contaminated soil with concentrations greater than or equal to the TSCA criteria of 50 mg/kg will be transported to Model City, New York, a TSCA permitted Subtitle “C” hazardous waste landfill. Approximately, 7,200 tons (4,800 cubic yards) is expected to be disposed as metal-petroleum contaminated soil at a solid waste landfill.

5.3 Remedial Action Management

The following is a list of key personnel responsible for management and implementation of the remedial construction activities at the Site, site security provisions, anticipated remedial activity working hours, Health and Safety Plan, workers training, and emergency contacts.

5.3.1 Project Organization

Frito-Lay is the owner of the Site, the Haskell Company will be responsible for construction management during remediation and site improvement activities, and Gannett Fleming will be responsible for environmental remediation oversight. The Professional Engineer (PE) for this project is Vincent Frisina, P.E. Principal personnel from Gannett Fleming who will participate in the remedial action include Michael Brady, P.E., Senior Engineer and Bryan Tiskowitz, Environmental Scientist. The remediation contractor and the accepting disposal facility(ies) has not been selected and will be determined at a later date. The Project Organization Chart and Contact List are presented in Appendix B.

5.3.2 Site Security

Site access will be controlled by Frito-Lay and the Haskell Company through gated entrances to the fenced property. Barriers will be installed as needed to delineate and restrict access to the work area. For work areas of limited size, barrier tape will be sufficient to delineate and restrict access. For larger worker areas, temporary fencing will be provided.

5.3.3 Work Hours

The hours for operation of remedial construction will conform to the New York City Department of Buildings construction code requirements or according to specific variances issued by that agency. Generally, remedial construction activities at the Site will begin at 7:00 A.M. and end at 4:00 P.M.

5.3.4 Health and Safety Plan

All remedial activities performed under this RWP will be in full compliance with all applicable laws and regulations, including Site and OSHA worker safety requirements and hazardous waste operator and emergency response (HAZWOPER) requirements. Confined space entry, if any, will comply with all OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction activities will ensure that performance of work is in compliance with the HASP and all applicable laws and regulations. The HASP pertains to all remedial and invasive work performed at the Site until the issuance of the Certificate of Completion. The Site Safety Coordinator will be Bryan Tiskowitz. The Health and Safety Plan is included in Appendix C.

5.3.5 Workers Training and Safety Meetings

All field personnel involved in remedial activities will participate in all training required under 29 CFR 1910.120, including 40-hour HAZWOPER training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining all workers training records.

All personnel entering the exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. Site-specific training will be provided to all field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each day/shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

5.3.6 Emergency Contact

An emergency contact sheet with names and phone numbers is included in the HASP. That document will define the specific project contacts for use by NYSDEC in the case of emergency. The following organizations are to be contacted for the provision of emergency services:

Agency	Telephone
Police Department	911
Fire Department	911
Poison Control	(800) 222-1222
Project Director Vincent Frisina, P.E.	(516) 364-4140 ext. 1323 (office) (516) 491-6541 (Cell) (631) 361-8994 (residence)
Project Manager Michael Brady, P.E.	(908) 755-0040 ext. 3033 (office) (609) 847-9405 (Cell) (908) 236-2687 (residence)
Insurance Manager Craig Campbell	717-763-7211, ext. 2794
Corporate Safety Manager Paula Loht	717-763-7211 ext. 2846 (office) 717-884-5137 (Cell)

5.4 Soil Remedial Action Plan

Soil excavation and removal activities will be performed to achieve the site-specific RAOs for arsenic, lead, and mercury, and Restricted Use - Industrial SCOs for PCBs. These activities will require the proper planning and implementation of site clearing, soil excavation, endpoint sampling and verification of results, stockpiling, waste characterization, transportation and off-site disposal.

Implementation of the soil remedial action plan generally consists of the following steps:

- Clear the site and remove debris;
- Excavate soil up to the initial excavation limits;
- Perform endpoint sampling in accordance with Section 4.9, determine whether cleanup goals have been satisfied, and if needed, conduct additional excavation followed by another round of endpoint sampling;
- Stage excavated soil, characterize each stockpile and identify an appropriate off-site disposal facility;
- Load stockpiled soil into trucks for off-site disposal;
- Transport for off-site disposal; and,
- Backfilling, grading, and restoring the site.

The remediation plans and specifications have been prepared to provide the remedial contractor with the specific requirements to complete the remedial action for the Site. The specifications provide the remedial contractor with the requirements necessary to prepare a site-specific Health and Safety Plan, Waste Management Plan and Report, Soil Stockpile Plan, Dewatering Plan, Spill Prevention and Response Plan, Fugitive Dust Emissions Control Plan, and Traffic Control Plan. The remediation plans and construction drawings are presented in Appendix D and the specifications are provided in Appendix E.

5.4.1 Pre-Construction Meeting

NYSDEC will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

5.4.2 Utility Mark-Out

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the

Markout Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RWP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RWP.

5.4.3 Traffic Control

All trucks shall use New York State Department of Transportation (NYSDOT) designated local truck routes to and from the Site. The main entrance to the site is through an entranceway located on the east side of Morgan Avenue. Once on-site, the traffic follows the driveway into a gated entranceway along the south side of the Site. Signs will be posted to direct haulers to the appropriate entrance. Flag men will be working to assist with trucks ingoing and outgoing the Site property, therefore, maintaining a systematic traffic pattern.

Truck routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of City mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site. The proposed truck routes are discussed below which has been prepared in accordance with the New York City Department of Transportation (NYCDOT) New York City Truck Route Map (2010).

From the New York City area:

- Take I- 278 eastbound (Brooklyn-Queens Expressway) to exit 32 toward Metropolitan Avenue;
- Take exit 32 toward Metropolitan Avenue/Williamsburg Bridge/Manhattan;

- Merge onto Rodney Street;
- Turn right at Metropolitan Avenue; and
- Turn right at Morgan Avenue (the Site will be on the left)

From the Site:

- Turn right onto Morgan Avenue;
- Turn left at Metropolitan Avenue;
- Merge onto Rodney Street; and,
- Travel north towards I-278 (Brooklyn-Queens Expressway) entrance.

5.4.4 Dust Control

Dust control measures will be implemented by the remedial contractor during excavation and soil-moving activities as required by the Health and Safety Plan. A fugitive dust control plan will be implemented and perpetually managed throughout the remedial work to minimize the generation of particulate dust during RA activities at the Site. This plan includes:

- Using water hoses with firefighting grade nozzles to apply water to the Site prior to and during remedial activities;
- Wetting down any soil stockpile and open excavations at the end of each workday;
- Covering all soil stockpiles with heavy plastic sheeting at the end of each workday;
- Utilizing a cover/tarp system on all trucks hauling fine or dusty material;
- If excessive winds prevent water application from achieving the required controls, a dust suppression foaming agent can be used in unison; and,
- During remedial operations, the contractor shall implement dust control measures from transport vehicles, haul roads, and material stockpiles, etc. as considered necessary.

Dust control measures will also be used to manage soil located in temporary storage areas or stockpile areas which is further discussed in Section 5.4.19.

5.4.5 Noise Control

Temporary construction noise could result from excavation equipment, on-site vehicles, and soil transportation/disposal vehicles traveling to and from the project site. Noise levels could vary depending on phase of construction and task being undertaken. Noise control measures will be implemented by the remedial contractor during excavation, on-site loading/stockpiling, and off-site transportation activities. All equipment and operations shall not exceed permissible sound levels for construction and equipment operations established by all Federal, State and local agencies having jurisdiction. The placement of idling equipment, air compressors, and generators near noise sensitive receptors will be avoided; such equipment not in use will be powered down.

All mechanical equipment utilized on-site will conform to the New York City Noise Control Code, Title 24 of the Administrative Code of the City of New York, New York State, and local noise codes. Haul routes for mobile construction will be selected to provide the maximum distance possible between the construction site and nearby residential receptors. Construction noise levels will be restricted to 85dBA for mobile construction equipment operating near a residential zone. Every reasonable effort shall be made to minimize the effect of the construction operations on nearby residential receptors.

5.4.6 Surveying Activities

The Site will be surveyed multiple times during the removal activities. All surveying activities will be performed under the direction of a New York-licensed surveyor. Survey data will be recorded and documented in the Final Engineering Report.

Surveying will include:

- Pre-excavation survey performed to document the site grade prior to excavation;
- Excavation limits (both pre- and post-excavation);
- Confirmation sample locations; and,
- Post-excavation survey to document the final site grade.

5.4.7 Community Air Monitoring Program

A Community Air Monitoring Program (CAMP) will be implemented during the remedial activities. Specifically, this CAMP outlines the air quality monitoring procedures that will be followed to protect the downwind community (i.e., off-site receptors, including residents and off-site outside workers) from potential airborne contaminant releases that may be as a direct result of the remedial activities. This CAMP is consistent with the NYSDOH Generic CAMP and is provided in Appendix F.

The following sections describe the specific CAMP monitoring procedures for both VOCs and particulates.

5.4.7.1 Particulate Monitoring

The air will be monitored in real-time during remedial activities. Air monitoring for particulates (i.e., dust) will be performed continuously during remedial activities using both air monitoring equipment and visual observations. Monitoring equipment capable of measuring particulate matter smaller than 10 microns (PM-10) and capable of integrating (averaging) over periods of 15 minutes or less, at a minimum, will be set up at one upwind (background) and one downwind location, at heights approximately 4 feet to 5 feet above land surface (i.e., the breathing zone). This equipment will be record the 15-minute average concentrations for subsequent downloading and reporting. An audible alarm on the downwind particulate monitoring device will be set at 100 micrograms per cubic meter ($\mu g/m^3$) above the background level (i.e., the upwind location).

Upwind concentrations will be measured at the start of each workday and periodically throughout the day thereafter to establish background conditions. The CAMP coordinator will record the wind direction and speed as described below. These readings will allow the CAMP coordinator to ensure that CAMP equipment is located appropriately based upon the wind direction. The particulate monitoring equipment will be calibrated at the start of each day and as necessary throughout the day.

The monitoring results will be compared to the following:

- If the downwind PM-10 particulate level is 100 μg/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 (e.g., soil wetting) will be employed. Work may continue with dust suppression techniques, provided that downwind PM-10 particulate levels do not exceed 150 μg/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 μg/m^3 above the upwind level, work will be reevaluated and changes initiated to reduce particulate levels to less than 150 μg/m^3 above background conditions and to prevent visible dust migration, including work stoppage if necessary.

Meteorological Data - Meteorological data consisting of wind speed, wind direction, temperature, and barometric pressure will be recorded at a minimum of three times each day. These results will be utilized to position the particulate monitoring equipment in appropriate upwind and downwind locations. A Davis Corporation wireless instrument station (or equivalent) will be used to collect all meteorological monitoring data.

Potential Suppression Techniques - If the integrated particulate level at the downwind location exceeds the upwind level by more than 150 μg/m^3 at any time during sampling activities, work will be stopped and dust suppression methods will be to be employed.

Work may continue with dust suppression techniques, provided that downwind PM-10 levels are not more than 150 μg/m^3 greater than the upwind levels; all measures necessary to ensure PM-10 levels of less than 150 μg/m^3 above background were utilized. There may also be situations where visible dust is generated by remedial activities and migrates to downwind locations but is not detected by the monitoring equipment at or above the action levels. Therefore, if visible dust is observed leaving the working area, dust suppression methods will be employed. If dust suppression methods did not lower particulates to below 150 μg/m^3 or visible dust persists, additional measures, including work suspension if necessary, will be implemented to remedy the situation. Dust suppression methods will be used throughout the duration of remediation.

5.4.7.2 Volatile Organic Compound Monitoring

VOCs will be monitored at the downwind perimeter of the immediate area surrounding the excavation area on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically thereafter (not less than three times per day) to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present (MiniRAE 2000 PID or equivalent). The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will 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 exceeds 5 parts per million (ppm) above background for the 15-minute average, remedial activities must be temporarily halted in the area of concern 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 persist at levels in excess of 5 ppm over background but less than 25 ppm, remedial 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 at the downwind perimeter of the work area is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is more than 25 ppm above background at the downwind perimeter of the work area, remedial activities must be halted in the area of concern until corrective measures are identified and implemented to reduce emissions as described above.

All air monitoring data and the locations of monitoring equipment will be recorded in the on-site files and are available for review.

5.4.7.3 Mercury Vapor Monitoring

Mercury monitoring in ambient air will be conducted during remedial activities to assess the potential for fugitive mercury vapor concentration in air. This monitoring program will employ two Jerome 431-X Gold Film Mercury Vapor Analyzers manufactured by Arizona Instrument, LLC of Chandler Arizona (Arizona Instruments). The Jerome 431-X is an ambient air analyzer with a range of 0.001 to 0.999 milligrams per cubic meter (mg/m^3 Hg). One unit will be staged upwind and the second unit will be staged downwind, with readings monitored and recorded every fifteen 15 minutes throughout remedial activities. A wind sock will be employed to assist project staff in determining wind direction, and assist with identifying sudden changes in wind direction. Additionally, at least one day of baseline data, prior to the start of remedial activities will be collected along the Site perimeter. Mercury vapor data will be logged in the in a separate CAMP log book during the remedial activities.

Air quality criteria for mercury vapor concentrations in air greater than 0.1 mg/m^3 (OSHA permissible exposure limit [PEL]) above background levels has been established as the work zone perimeter limit. To provide additional assurance, a lower control level 0.05 mg/m^3 above background levels has also been established. If this lower level is exceeded for a 15-minute period, additional vapor suppression measures (such as increasing the use of water, reducing equipment speeds, or work stoppage) will be implemented. If the perimeter limit is exceeded, remedial activities will be immediately halted and subsequently re-evaluated.

5.4.8 Mobilization

The first step in site preparation is mobilization. Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

5.4.9 Stabilized Construction Entrance

Steps will be taken to ensure that trucks departing the site are not tracking soil fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck wash and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

5.4.10 Site Clearing and Debris Removal

Prior to beginning soil excavation, the remedial areas will be cleared of obstructing features and vegetation. All surface debris scattered throughout the area of disturbance of the Site shall be collected and temporarily staged within an established staging areas. Any debris that has the potential to decay, compose, or cause odors shall be properly collected, containerized, labeled and disposed off-site. Site clearing consists of the following activities:

- removal of general surface debris to complete the Work;
- removal of trees, shrubs, twigs, and grubbing of vegetation as needed to perform the Work, and transporting vegetation to a designated staging area for off-site disposal; and,
- removal and disposal/storage of all other wastes, at or above grade, as required to perform the Work.

5.4.11 Equipment and Material Staging

Implementation of this plan will require front loaders, backhoes, and other types of excavation equipment needed to achieve the final depth of excavation for all remedial areas. Operation of equipment will require trained construction workers.

Equipment and materials will be stored and staged in a manner that is consistent with City, State, and Federal regulations. A Site map showing the location(s) of proposed equipment and material staging areas, decontamination pad, stockpile areas, and other pertinent remedial management features will be prepared by the Contractor prior to start of construction activities.

5.4.12 Decontamination Pad

A decontamination pad will be constructed within the limits of the Site and close to the Site exit which will be constructed to allow rinsate water to drain for the collection of samples for classification and off-site disposal. The decontamination pad shall be constructed by modifying an area of ground surface to accommodate the anticipated construction equipment at an appropriate location. The decontamination pad shall provide complete secondary containment, be constructed by considering the balance between sump pump removal rates and the amount of fluid generated, be lined with double layer of geotextile fabric and with a thickness greater than 8 mil, drain in one general direction for sump pump collection, and covered with crushed stone in a manner that allows the rinsate water to be collected for classification and off-site disposal.

The decontamination pad shall be graded for easy entrance and exit for vehicles and equipment. Wood planks may be placed over the crushed stone to provide a traveling surface for vehicle wheels and equipment tracks. The decontamination pad will be of sufficient size to handle the largest piece of equipment or any other item scheduled for handling at the decontamination pad. The Contractor shall prevent overspray outside the limits of the pad and the Exclusion Zone.

Before exiting the NYC BCP Site, trucks will be required to stop at the truck wash pad and will be inspected for evidence of contaminated soil on the undercarriage, body, and wheels. Soil will be removed. After wetting with potable water, brooms or shovels will be utilized for the bulk removal of soil from vehicles and equipment. The procedure for the removal of the remaining soil and liquids will consist of washing with potable water. Odor suppressant foam will be applied, if necessary, to control odors from soil in trucks. Soil generated by the truck wash process will be stockpiled and tested, and based on the results of the testing will be either reused on-Site or transported off-Site for disposal.

Maintenance of the decontamination pad to minimize dust and mud accumulation shall be performed by the Contractor. For small equipment and personnel protective equipment (PPE) decontamination a smaller station shall be established in the contaminant reduction zone, between the exclusion zone and buffer zone.

5.4.13 Erosion and Runoff Control

All applicable laws and regulations pertaining to stormwater pollution prevention will be addressed during the remedial program. Erosion control measures will be in accordance with

New York State Standards and Specifications for Erosion and Sediment Control (2005). A New York's State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) will be obtained for the remedial action.

Erosion and sediment control measures will be implemented to control incidental run-off from the excavation areas. Erosion and sediment control measures (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Where discharge locations or points are accessible, they will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

5.4.14 Dewatering

Due to the shallow depth of groundwater in certain section of the Site, dewatering may be required by the remedial contractor to ensure that excavation and sampling is performed in the "dry." Soil boring locations (SB-8, SB-8-2, SB-17, SB-20, SB-22, SB-23-4, SB-24, and SB-27) contain potentially hazardous concentrations of lead and PCBs will require excavation for off-site disposal and dewatering may be necessary in these areas of the Site. The remedial contractor will be required to develop a method for the collection, treatment, and disposal of dewatering fluids that are generated during soil excavation activities. A dewatering plan will be prepared by the remedial contractor and submitted to GF for review and approval prior to the implementation of remedial activities.

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by

NYCDEP. Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-Site. Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream or river) is prohibited without a New York State Pollutant Discharge Elimination System (SPDES) permit.

5.4.15 Shoring

The excavations will be shored where the depth of excavation could endanger nearby structures, equipment, excavation areas, or site personnel during construction. The excavation will be shored where necessary and the actual shoring method will be designed by a Professional Engineer licensed in the State of New York. Shoring or other measures will be implemented as necessary within the excavation to ensure that the excavation meets OSHA safety standards for construction personnel.

5.4.16 Remedial Excavation Procedures

Each remedial area will be excavated to the excavation depth and extent identified in Section 4.9. Excavated areas will be widened or deepened if soil endpoint sampling data indicate that the excavation objective has not been achieved. Excavation will continue until the site-specific RAO and/or Industrial SCO is achieved.

Soil will be excavated with a front-loader or backhoe and moved to a temporary soil stockpile area. Temporary soil stockpile location will shift as the work and excavation progresses. Open excavations will be covered with polyethylene sheeting if rain is anticipated. An absorbent agent will be used to absorb free liquids from stockpiled soil or the stockpiles will be bermed and spread-out to promote drying. The drying agent will be thoroughly mixed into the wet soils and the resultant mixture will be staged for load-out. All drying agent will be incorporated into the wet soils and will be removed as part of the offsite transportation and disposal. Lime, fly ash, cement, or calcium chloride could be used as a drying agent which is dependent on whether these materials would change the waste classifications of the soil to be disposed.

Soils will be managed for dust control as necessary based on air monitoring measurements and physical conditions. If wetting is insufficient for dust control, soil may be covered or removed.

Loaded trucks will move to the truck decontamination station where soil will be removed from fenders and tires and the bed will be covered. Each loaded truck will leave the site with a completed manifest or bill of lading for transport of soil or other material to the disposal location. Soil loading and off-haul routes will be provided by the remedial contractor prior to the removal of any soil from the Site.

Personnel on site will observe OSHA safety standards and follow the approved Health and Safety Plan (see Appendix C), which addresses the safety of personnel entering excavations for the purposes of surveying and operating equipment.

5.4.17 End-Point Sampling

End-point soil samples will be collected to demonstrate that soil exceeding the site-specific RAOs and/or the Industrial SCOs has been removed. Upon reaching the initial excavation limits, end-point samples will be collected analyzed in accordance with Section 4.9. The results of the end-point sampling will direct termination or continuation of the excavation. If additional excavation is conducted, it will be followed by additional round(s) of end-point sampling. The end-point sampling results will determine whether the excavation has met the site-specific RAOs and/or the Industrial SCOs or whether additional excavation is needed.

The integrity, representativeness and usability of the data generated by the endpoint sampling program will be evaluated, maintained and controlled through the use of various quality assurance and quality control (QA/QC) procedures in the field, including equipment calibration checks, decontamination of non-dedicated sampling equipment, and collection of field duplicates, and field and trip blank samples.

GF personnel will document soil lithology and field screen soil vapor headspace in sealable plastic bags using a PID calibrated to a 100 parts per million (ppm) isobutylene standard. Endpoint soil samples will be collected at the midpoint and base of the sidewalls from each excavation area, and from the excavation base. Sample depths may be altered due to field limitations and the actual depth of groundwater at the time of sampling. The actual depth and location of each endpoint sample, as well as the specific analytical analysis is discussed in Section 4.9. Each endpoint sample will be collected using a dedicated sampling Endpoint soil samples will be placed into laboratory-supplied glassware, immediately stored in an ice-filled cooler, and shipped with chain-of-custody documentation to a NYSDOH-certified laboratory.

Disposable sampling equipment will be used to the extent practicable to minimize the need for field decontamination. When non-dedicated equipment is necessary, the decontamination process consisted of a potable water rinse followed by scrubbing in a solution of potable water and laboratory-grade detergent. The equipment will then be rinsed again with potable water followed by distilled water. Soil sampling equipment used for PCB sample collection will be decontaminated in the field following the procedures outlined in 40 CFR 761.79 (PCB Decontamination Standards and Procedures).

Field blanks, trip blanks, field duplicates and MS/MSD samples will be collected to provide additional QA/QC support. Field blanks will document the adequacy of the field decontamination process. The blanks will be collected by pouring analyte-free water provided by the laboratory over cleaned field equipment, capturing the rinsate in sample containers and submitting the samples to the laboratory for analysis. The field blanks will analyzed for the same suite of parameters as the field samples collected that day. The blanks will be prepared by the laboratory, shipped to the Site with the sample containers then returned to the laboratory unopened with the field samples. MS/MSD samples will document sample matrix effects on the analytical process. The MS/MSD samples will consist of a three volume sample set from one sample location.

5.4.17.1 Laboratory Analysis

Endpoint soil samples will be analyzed by a laboratory certified by the NYSDOH ELAP. Sample analysis were performed primarily using methodology contained in *Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Office of Solid Waste, EPA (with latest updates).* Additional methodology is contained in *Methods for the Evaluation of Water and Waste, EPA 600/4- 79-02, revised March 1983 (with latest updates).* The laboratory methods for the selected analysis and recommended holding times for soil are presented in the following table.

Sample Parameters, Analytical Methods, Containers, Holding Times			
Parameter	**Analytical Method**	**Containers/ Preservation**	**Holding Time**
Matrix: Soil			
VOCs	8260 1	1-4oz glass, w/septum cap Cool to 4°C	14 days to extraction and analysis
SVOCs	8270 1	1-8oz glass, Teflon lined cap 0.008% Na2S2O3 Cool to 4°C	14 days to extraction and analysis
PCB	8082 1	1-8oz glass, Teflon lined cap Cool to 4°C	14 days
TAL Metals	6010/7471 1	1-8oz glass, Teflon lined cap Cool to 4°C	6 months
TCLP Metals	1311 1	1-8oz plastic Cool to 4°C	180 days to extraction and analysis

Notes: **1. Test Methods for Evaluating Solid Waste, SW-846, Office of Solid Waste, USEPA (latest update)**

End point soil samples will be analyzed for TAL metals by EPA Method 6010/7471 and PCBs by EPA method 8082 in conformance with Category B protocol. Additional laboratory analysis will be required for disposal purposes. It is anticipated that TCLP, total halogen (TOX), RCRA characteristics, VOCs, SVOCs, and TAL Metal analysis will be required for disposal purposes. However, until an accepting disposal facility is identified, the actual laboratory analytical requirements cannot be determined. A Data Usability Summary Report (DUSR) will be prepared for inclusion in the Final Engineering Report. In addition, holding times for VOCs (EPA Method 8260), SVOCs (EPA Method 8270), TAL Metals (EPA Method 6010/7471), PCB samples (EPA Methods 8081A/8082), and TCLP (EPA Method 1311) analysis will conform to New York State Analytical Service Protocol.

The laboratory turnaround proposed for the remedial activities will be accelerated to allow for the effective management of excavated soil and to allow waste characterization and disposal activities to proceed with minimal delays. It is anticipated that most sample analysis will be completed within one (1) working day.

5.4.18 Off-Site Materials Transport

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate tarping, secure covering, manifests, and placards) in accordance with City, State, and Federal laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. Loose or incomplete truck covers will be prohibited. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-site, when possible in order to minimize off-site disturbance. Off-Site queuing by the remediation contractor will be discouraged.

5.4.19 Waste Management

Waste management will include management of materials generated from clearing and debris removal, and excavation of contaminated soil, decontamination liquids, trash generation during remedial activities.

5.4.19.1 Soil Management, Stockpiling and Characterization

Waste materials generated during soil excavation include soil, water used to decontaminant personnel and equipment, TSCA waste for PCB concentrations exceeding 50 mg/kg, PCB soils with concentrations below 50 mg/kg, hazardous waste for lead with concentrations exceeding the RCRA Hazardous Criteria of 5 mg/L, and as metal-impacted soils exceeding the site-specific RAOs and/or the Industrial SCOs.

The contaminated soils will be temporarily stockpiled within a designated stockpile area according to whether the PCB soil is designated as containing TSCA waste with concentrations exceeding 50 mg/kg, PCB soils with concentrations less than 50 mg/kg and greater than 25 mg/kg, hazardous waste for lead with concentrations exceeding the RCRA Hazardous Criteria of 5 mg/L, and as metal-impacted soils exceeding the site-specific RAOs and/or the Industrial SCOs. Stockpiles will be placed-on and covered with a minimum of 8-mil polyethylene sheeting. Soils with visual or olfactory evidence of petroleum contamination or with PID readings greater than 100 ppm will also be stockpiled separately. All stockpiles will include berms for containment of any water that drains from the soil. Stockpiles will be inspected at least three times a day and repaired as needed. At the end of each shift or when the stockpile is not in use for 2 hours or longer, the pile(s) will be securely covered with a heavy duty plastic and tear resistant (fiber reinforced) liner and inspected. The surface of stockpile area will be clean and free of debris prior to the placement of the bottom polyethylene sheeting. Stockpile height will be limited to a maximum height of 10 feet.

All stockpiles will be handled as to prevent and/or reduce potential dust generation. A water spray will be utilized for dust suppression and foam or surfactant will be utilized for stabilization of stockpiles, if necessary. Containment area will be maintained for the duration of the staging period in order to prevent runoff from contaminated soil, leaching of contaminants into runoff water and fugitive dust emissions. Any stockpiles which may receive saturated soil will be equipped with diversionary structures in order to contain and collect all water which may drain from the soils. Stormwater which enters any active excavation or stockpile location will be collected and containerized for disposal as needed.

The remedial contractor will prepare a Stockpile Sampling Plan provides guidance as to how to sampling results will be interpreted to make a profile decision for stockpiled soil. The Stockpile Sampling Plan will be prepared by the remedial contractor and submitted to GF for review and approval prior to the implementation of remedial activities.

A tracking and record keeping system will be implemented to manage each stockpile generated from the excavation. The recordkeeping system will track the stockpiled soil from the time of excavation until it is placed in a truck for off-transportation and disposal. The information that will be recorded and tracked includes:

- Identification number that links the stockpile with the excavation source;
- Location of the stockpile within the Site;
- Date(s) stockpile was generated and approximate volume;
- Sampling information, including number of samples collected, sample identifiers, date of sampling, and requested analyses; and,
- Analytical data that characterizes the stockpile.

Stockpiled materials will be sampled to verify that the materials meet the requirements of the receiving facility prior to loading for transport. Initially, a minimum of one sample will be collected for every 500 to 1,000 tons (or 300 to 600 cubic yards) of material within a given stockpile. Composite samples will be collected from a minimum of three (3) to five (5) locations within each stockpile and biased to the location(s) of greatest contamination based on field screening results and visual observations. Field blanks and field duplicates are not required for waste classification sampling.

Waste characterization will be performed for off-site disposal in a manner required by the receiving facility and in conformance with applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the Final Engineering Report (FER). A Bill of Lading system or equivalent to oversee off-Site transportation of exported materials is required. This information will be reported in the RAR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in full compliance with applicable City, State, and Federal laws and regulations. Each sample will be analyzed for the parameters required by the receiving disposal facility. Each waste classification sample may be collected and analyzed for the following anticipated parameters: Full TCLP Waste Classification (Method SW846/EPA 1311), RCRA characteristics (Method SW846/EPA), Polychlorinated Biphenyls (Method SW846 8081/8082), volatile organic compounds (Method SW846 8260B), semi-volatile organic compounds (Method SW846 8270C), and TAL Metals (Method SW846/EPA 6010/7471). Specific disposal facility sampling requirements will be forwarded to NYSDEC upon selection of facilities, prior to the commencement of remedial activities.

Information regarding each stockpile sample will be appropriately documented. At a minimum, the following will be recorded in the site field book: name of sample collected following the nomenclature described above, parameters sampled, a sketch indicating the time and location of sample collected, and screening results/visual observations, if appropriate. Samples for laboratory analysis will be placed in pre-cleaned containers. The containers will be clearly labeled with the same identification, date of collection, and analysis to be performed. Samples will be submitted to a NYSDOH certified laboratory for analysis. Analyses will be performed in accordance with EPA and NYSDEC-approved analytical protocols. Standard chain-of-custody procedures will be followed. All chain of custodies shall be scanned and filed prior to the next workday.

Once the soil had been characterized, the soil will be acceptable for off-site disposal. Excavated soil will be loaded into trucks for off-site transportation and disposal. Frito-Lay intends to excavate, transport, and dispose PCB contaminated soil with concentrations exceeding 50 mg/kg at a Subtitle "C" hazardous waste landfill permitted by EPA. Currently, it is anticipated that the PCB contaminated soil with concentrations greater than or equal to the TSCA criteria of 50 mg/kg will be transported to Model City, New York, a TSCA permitted Subtitle "C" hazardous waste landfill.

Frito-Lay also intends to excavate, transport, and dispose PCB contaminated soil with concentrations less than the TSCA criteria of 50 mg/kg and greater than 25 mg/kg or 10 mg/kg (in the proposed future warehouse expansion location) and metal-impacted soils exceeding the site-specific RAOs and/or the Restricted Use - Industrial SCOs at a NYSDEC-permitted solid waste landfill that is permitted to accept such waste. Currently, no solid waste landfill has been identified for the PCB contaminated soil with concentrations less than 50 mg/kg and greater than 25 mg/kg or 10 mg/kg (in the proposed future warehouse expansion location) and the metal-impacted soils exceeding the site-specific RAOs and/or the Industrial SCOs. The selection of the solid waste disposal facility or landfill will be made prior to awarding the soil remediation contract.

5.4.19.2 Load-Out Verification

Waste transportation will be documented by manifest or bill of lading and recorded in the field book. A manifest or bill of lading will be prepared for each truck leaving the Site. The truck will be inspected to ensure that the load is properly covered and that the truck has been property decontaminated. Each loaded truck will leave the Site with a completed manifest or bill of lading for transport of soil or other material to the disposal location. All manifests or bills of lading will be scanned and filed prior to the next workday. In addition, information regarding waste transportation will be recorded in the field book including: time in, time out, truck name, truck number, truck license plate number, the receiving facility, and the classification of the stockpile that was loaded in the truck for off-site disposal.

Soil loading and off-haul routes will be designated in the Transportation Plan that will be prepared by the remedial contractor and submitted to GF for review and approval prior to site mobilization activities.

5.4.19.3 Investigative Derived Waste Management

Soil stockpiles that exhibit VO contamination by field screening methods will be sampled and analyzed for VOCs to determine whether special handling/disposal procedures will be required. Soil stockpiles that exhibit field screening evidence of VO contamination will be segregated, sampled, and transported for disposal by the remediation contractor to an appropriate disposal facility. Dewatering effluent and rinsate from the decontamination pad will be containerized, sampled, characterized, and disposed off-site by the remedial contractor.

Project generated trash will be segregated into two categories, potentially contaminated trash, and general trash. Potentially contaminated trash includes disposable personal protective equipment (PPE) and disposable sampling supplies such as well purge tubing, bailers, and plastic scoopulas. Potentially contaminated trash from the remedial activities will be containerized, managed, and disposed as a contaminated material.

General trash includes items such lunch debris, or other miscellaneous trash that does not come in contact with potentially contaminated materials. The remediation subcontractor will be responsible for properly disposing of general trash.

5.4.20 Demarcation

After the completion of soil removal and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material or equivalent material will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the "Remaining

Contamination Management Zone", the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the "Remaining Contamination Management Zone" in the SMP. A map showing the survey results will be included in the FER and the SMP.

5.4.21 Clean Fill Source Verification

Fill material will be used to backfill the excavation. Sources of fill will be inspected and samples analyzed for the presence of soil contaminants with concentrations exceeding the Restricted Use - Industrial SCOs before the fill is brought to the Site. Sample collection and QA/QC procedures will be in accordance with Table 5.4(e) 10 which is provided in DER-10. Potential fill material stockpiles will be sampled at the fill source at a frequency specified in Table 5.4(e) 10. The fill material cannot contain soil concentrations exceeding the Commercial or Industrial Use criteria provided in Appendix 5 (Allowable Constituents Levels for Imported Fill or Soil – Subdivision 5.4 [e]) of DER-10; otherwise it will be rejected and replaced with soil containing concentrations that do not exceed these criteria. If ecological resources are present then the appropriate criteria should be used. However, ecological resources have not been identified at the Site.

5.4.22 Site Restoration Activities

Backfilling operations will begin after confirmation sampling determines that cleanup goals have been achieved. Fill will be placed into the excavation in lifts and compacted to compaction standard to be consistent with the construction of an engineered asphalt cover system on the Site. The ground surface will be graded to match existing grades at the edge of the excavation.

5.4.23 Field Oversight and Daily Reporting

Field oversight of the excavation, disposal, and restoration cleanup and associated activities is the responsibility of GF. GF will be responsible for ensuring appropriate documentation of field activities, preparing periodic reports of cleanup progress, notifying other project team members as issues arise, and preparing the Final Engineering Report.

Daily reports providing a summary of activities for each day of active remedial work will be emailed to the NYSDEC Case Manager at the end of each week. Those reports will include:

- A statement of the activities and an update of progress made;
- Locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions; and,
- Photographs of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with NYSDEC Case Manager based on planned project tasks. Email reports are not intended to be the primary mode of communication for notification to NYSDEC of emergencies (accidents, spills), requests for changes to the RWP or other sensitive or time critical information. However, such information will be included in the email reports. Emergency conditions and changes to the RWP will be communicated directly to the NYSDEC Case Manager by personal communication.

5.4.24 Documentation

Field documentation of the remedial activities will consist of:

- Daily field reports,
- Documentation associated with endpoint sampling;
- Documentation the characterization of each soil stockpiles; and
- Copies of manifests or bill of lading for each off-haul.

5.4.25 Deviations from the Remedial Work Plan

All changes to the RWP will be reported to the NYSDEC Case Manager and will be documented in daily reports and in the FER. The process to be followed if there are any deviations from the

RWP, at a minimum, will include a written submission to the NYSDEC with the following information:

- A request for NYSDEC approval regarding the deviation.
- Reasons for deviating from the approved RWP;
- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

5.4.26 Health and Safety Monitoring

Remedial activities include soil excavation and shoring, soil loading and off-hauling, backfilling and grading, and installation of the engineered cover system (asphalt cover). The Health and Safety Plan (Appendix C) establishes site-specific health and safety procedures to be followed during the remedial action.

GF will perform worker and perimeter/environmental air monitoring during the remedial action activities most likely to generate higher concentrations of airborne dust and air emissions. The Air Monitoring Plan is discussed in Section 5.4.7 presents the requirements and methods to collect air monitoring data during remediation activities. If specific action levels are exceeded, corrective action including worker upgrade to a higher PPE and/or stopping work and implementing control measures such as dust suppression will be implemented.

A CHASP has been developed to address potential community health and safety issues for the public in the vicinity of the Site during the performance of field activities required by the RWP. The objective of the CHASP will be met by establishing guidelines to minimize community exposure to hazards during RWP field activities, facilitate community awareness of the potential hazards, and plan for emergency response and responding, if necessary, to emergencies. The CHASP is provided in Appendix F.

5.5 Data Quality Objectives

The data obtained from the samples collected at the site will be used to provide information to satisfy the data quality objective (DQO) of investigating and delineating the potentially impacted soil, groundwater and soil vapor.

DQOs are based on the concept that different data uses may require different levels of data quality. DQOs are defined with respect to the types, number, and locations of samples that will be collected, and the QA levels associated with the analysis. Soil samples will be analyzed for VOCs, SVOCs, pesticides, PCBs, and metals. Groundwater samples will be analyzed for VOCs, SVOCs, pesticides, PCBs, and metals.

The overall QA objective is to develop and implement procedures for field measurements, sampling, and analytical testing that will provide data of known quality that is consistent with the intended use of the information. This section defines the objectives by:

(1) describing the use of the data
(2) specifying the applicable QC effort (field checks and analytical support levels), and
(3) defining the QC objectives (data quality acceptance criteria).

5.5.1 Data Usage and Requirements

The laboratory analyses will be used to support the remedial process. The intended uses of the data from the sample collection are to characterize and delineate on-site impacted soil for disposal purposes. The data will be quantitative laboratory analyses.

The end-point samples will be collected with hand augers. All soil samples will be collected as grab samples from the specified depth intervals. Additional end-point samples may be collected based on field observations (staining, odors, etc.). The groundwater samples will be collected using a submersible or peristaltic pump.

Soil and groundwater samples will be submitted to the laboratory certified by the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) for VOCs, SVOC, pesticides, PCBs, and metals analysis.

Quantification limits for the laboratory analyses will be in conformance with the appropriate EPA methodology for the specified analyses unless dilution or interference effects make it necessary to raise them. The laboratory will make every effort to achieve quantification limits as low as practicable and will report estimated concentration values at less than the detection limit by flagging the value with a “J”.

5.5.2 Level of Quality Control Effort

The sampling team will collect QA/QC samples including field and trip blank samples to ensure and document the integrity of the sampling procedures, laboratory sample handling procedures, and the validity of the measurement data.

Analyte-free deionized water will be obtained from the laboratory to be used for trip blanks, collecting field blanks, and the final decontamination rinse where required. This water will be prepared and analyzed by the laboratory on a routine basis and a record of this data will be kept on file. Protocols for the handling of trip blanks, collection of field blanks, and decontamination of equipment are provided in the Work Plan. Field blanks will be prepared and analyzed for the same parameters as the samples to determine if cross-contamination has occurred during sampling.

One trip blank, consisting of two 40-ml vials filled with analyte-free deionized water, will be provided by the laboratory for each cooler used to ship and store volatile organic samples during each sampling event. Field blank samples will be collected at a frequency of one per 20 samples collected.

The level of QC effort provided by the laboratory when analyzing the samples collected at the site will conform to standard NYSDEC protocols (NYSDEC 2000).

5.5.3 Quality Control Objective

The QC objective for the investigation is to provide data of known and acceptable quality. Several different types of QC check samples will be analyzed and the results will be compared to data quality acceptance criteria and/or QC control limits that are specified for each method. The laboratory will routinely run these QC samples in accordance with the protocols and frequencies specified in the analytical methods. The QC check samples may include the following:

- Blank samples,
- Initial and continuing calibrations,
- Surrogate spikes,
- Matrix spikes/analytical spikes,
- Duplicate samples, and
- Control samples.

The specific types and frequencies of QC checks which will be performed in support of each test method, the calibration procedures for each instrument, and the QC control limits and/or data quality acceptance criteria for each of the types of QC check samples, are specified in the laboratory's QAPP and shall be in accordance with ELAP protocol.

5.5.4 Sampling Methodology

Sampling Methodology: Samples will be collected in accordance with the Work Plan. The protocols for sampling methodology are described in Section 5.

Decontamination of Sampling Equipment: All non-dedicated sampling equipment will be decontaminated prior to and following sample collection using a phosphate-free detergent wash and then rinsed with water.

Sample Packaging and Shipment. Samples will be shipped to the laboratory at the completion of each day of sampling. Custody of the samples must be maintained through the shipment of samples to the laboratory. Samples will be in the custody of the sampling crew until relinquished directly to the laboratory in person or shipped via overnight courier using the following procedures:

- Place about three inches of inert cushioning material (i.e. bubble wrap) in the bottom of the cooler,
- Place and seal the sample containers in clear, reusable plastic bags and pack the containers in the cooler,
- Place suitable cushioning material around the sample containers,
- Place ice cubes into reusable plastic bags and pack the ice in the cooler; use sufficient ice to maintain 4^{o}C until the samples arrive at the laboratory,
- Sign and retain a copy of the Chain-of-Custody form; place the form into a reusable plastic bag and pack in the cooler,
- Apply signed custody seals to the front and back of the cooler so the seals bridge the cooler and lid,
- Secure the lid by completely wrapping it with clear plastic packaging tape, and
- Attach the completed shipping label to the top of the cooler; retain the shipment tracking number on the copy of the Chain-of Custody form, and ship the cooler via overnight to the laboratory.

5.5.5 Sample Labeling

Sample labels are required to include the following information:

- Site name,
- Sample number,
- Sample matrix,
- Parameters to be analyzed,
- Date of collection,
- Time of collection,
- Type of preservative, and
- Sampler's name.

5.5.6 Sample Numbering

A unique sample number will be used to identify a location (e.g. grid node), sample matrix, a sequential number for each sample type, a sample depth, and the date and time the sample was collected. The typical format for designating the sample number will be X/XX/XX-XX/MMDDYY, where:

X = Sample Location

XX = a two-digit sequential number for each sample

XX-XX = sample depth interval (in feet) from which the sample was collected

MMDDYY = month, day, and year of the sample collection

QA/QC samples will be collected at a rate of one per 20 total samples collected. QA/QC samples will be labeled as indicated below:

Blanks = B-XX/MMDDYY

If conditions require re-sampling of a sample location (i.e. the sample is not retrieved properly), the sample will be labeled as described above with a "RS" placed at the end of the sample number.

5.5.7 Chain-of-Custody Record

The Chain-of-Custody provides an accurate written record that can be used to trace the possession and handling of the sample from the time of collection to analysis. The Chain-of-Custody form will be completed for each sample at the time of collection and will be maintained while shipping the sample to the laboratory. The following information must be entered on the Chain-of-Custody form:

- Project number,
- Project name,
- Signature of sampler,
- Sample number,
- Date and time,
- Sample matrix,
- Parameters for analysis, and
- Remarks, as needed.

All samples will be delivered to the laboratory within 24 hours from time of collection.

5.5.8 Sample Custody

A chain-of-custody record will be maintained for each sample collected and will provide an accurate written record that can be used to trace the possession of samples from collection through analysis and reporting. Sample bottles to be used for this project will be selected, prepared, and quality controlled according to OSWER Directive #9240-0-005 "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers" (USEPA 1989b).

The procedures that will be followed to provide the chain-of-custody in the field from sample collection through shipment to the laboratory (including sample preservation) are specified in the Work Plan. The procedures that will be used to continue the chain-of-custody for each sample from its arrival in the laboratory through analysis and reporting will be specified in the laboratory QAPP. The laboratory sample custody procedures will conform to USEPA guidelines. The project samples will be retained by the laboratory for 30 days after completion of analyses.

5.5.9 Analytical Procedures

Samples will be analyzed by a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. The laboratory must maintain current NYSDOH certifications during the project. All analyses will be performed in accordance with the EPA protocol established for the specified analyses. The specific parameters, and analytical methods to be used for analysis of the samples are provided in Section 5.

5.5.10 Data Reduction and Reporting

Data collected during the remedial investigation, including field and laboratory results, will be reduced, reviewed, summarized, and reported. The reduction of the field data will consist of summarizing the raw field data, which may be presented in the form of tables, logs, illustrations, and graphs, as deemed appropriate by the project manager. The laboratory data will also be reduced and tabulated electronically. The data will then be suitable for inclusion in reports and will be designed to facilitate comparison and evaluation of the results.

5.5.11 Data Usability Summary Report

The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data without third party data validation including post remedial samples. The primary objective of a DUSR is to determine whether or not the data meets the site/project specific criteria for data quality and data use. The DUSR for post-remedial samples collected during implementation of this RWP will be included in the Final Engineering Report (FER).

5.6 Reporting Requirements

In accordance with the BCP Agreement, monthly progress reports will continue to be submitted on the 10th day of each month. The monthly progress reports include descriptions of actions taken during the reporting period, anticipated actions for the next reporting period, approved modifications or changes to the scope, sampling and analytical results, if any, information regarding percentage of completion, unresolved delays, and citizen participation activities. The monthly progress reports during the remedial actions shall also include:

1. Requests for Modifications, if any
2. Tabulation of Sample Results
3. Air monitoring report
4. Tabulation and Documentation of Waste Characterization Sampling
5. Disposal Documentation
6. Types and Quantities of Waste Generated and Disposed

Additional information will be provided to NYSDEC in the monthly progress report during remedial action as deemed necessary or requested by the Case Manager.

5.7 Institutional Controls

After the remedy is complete, the Site will have residual contamination remaining in place. Engineering Controls (ECs) for the residual contamination have been incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and a SMP. These elements are described in this Section. A Site -specific Environmental Easement will be recorded with Queens County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs/ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

5.8 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. Since the Site will have residual contamination after completion of all Remedial Actions than an Environmental Easement is required. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the Queens County Clerk. The Environmental Easement will be submitted as part of the FER.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the Queens County Clerk before the Certificate of Completion can be issued by NYSDEC. A series of Institutional Controls are required under this remedy to implement, maintain and monitor these Engineering Control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to [usage type] use(s) only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering

Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The Institutional Controls that support Engineering Controls are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Site must be inspected and certified at a frequency and in a manner defined in the SMP;
- A composite cover system consisting of asphalt covered roads, concrete covered sidewalks, and concrete building slabs must be inspected, certified and maintained as required in the SMP;
- A soil vapor mitigation system consisting of a sub-slab depressurization system under all building structures, when constructed as part of the future warehouse expansion, must be inspected, certified, operated and maintained as required by the SMP;
- Groundwater, soil vapor, and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management for the Site must be reported at the frequency and in a manner defined in the SMP;
- On-Site environmental monitoring devices, including but not limited to, groundwater monitor wells and soil vapor probes, must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP; and,
- Engineering Controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

Adherence to these Institutional Controls for the Site is mandated by the Environmental Easement and will be implemented under the Site Management Plan (discussed in the next section). The Controlled Property (Site) will also have a series of Institutional Controls in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Restriction of use of the property for commercial/industrial use only as stipulated in the signed BCA;
- The Site may be used for commercial/industrial use only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Site that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Site may not be used for a higher level of use, such as restricted residential use without an amendment or extinguishment of this Environmental Easement; and,
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access the Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This time period statement must be certified by an expert that the NYSDEC finds acceptable.

5.9 Site Management Plan

A SMP will be prepared for the Site to provide a detailed description of all procedures required for the removal of contaminated materials form the Site, to monitor the engineered asphalt cover system, for groundwater monitoring, groundwater monitoring well repairs, replacement, and decommissioning, for soil vapor monitoring/mitigation, for site-wide inspections, for monitoring schedules, and to manage remaining contamination at the Site after completion of the remedial action. The SMP will include: 1) implementation and management of all EC/ICs; 2) media monitoring; 3) operation and maintenance for implementation and maintaining ECs as part of the remedial action; 4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and 5) defining criteria for termination of treatment system operations.

The SMP will include three (3) plans: 1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; 2) a Monitoring Plan for implementation of Site Monitoring; and 3) an Operation and Maintenance Plan for implementation and maintaining ECs as part of the remedial action.

This plan will also include a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared and submitted to NYSDEC review after remedial action have been completed at the Site and prior to issuance of the Final Engineering Report.

5.10 Final Engineering Report

A Final Engineering Report (FER) and Certificate of Completion (COC) will be submitted to NYSDEC following implementation of the Remedial Action defined in this RWP. The FER provides the documentation that the remedial work required under this RWP has been completed and has been performed in compliance with this plan. The FER will provide:

- a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources;
- as-built drawings for all constructed elements, certifications, manifests, bills of lading, as well as, the complete Site Management Plan;
- provide a description of the changes in the Remedial Action from the elements provided in the RWP and associated design documents;
- a tabular summary of all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action;
- written and photographic documentation of all remedial work performed under this remedy;

- an itemized tabular description of actual costs incurred during all aspects of the Remedial Action;
- a thorough summary of all remaining contamination left on the Site after the remedy is complete. Remaining contamination includes all contamination that exceeds the Track 4 Restricted Use - Industrial SCO in 6NYCRR Part 375-6;
- a table that shows exceedances from Track 4 Restricted Use - Industrial SCO for all soil/fill remaining at the Site after the Remedial Action and a map that shows the location and summarizes exceedances from Track 4 Restricted Use - Industrial SCO for all soil/fill remaining at the Site after the Remedial Action will be included in the FER;
- account of the source area locations and characteristics of all contaminated material removed from the Site including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids, including a map showing all source areas;
- an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids; and,
- All reports and supporting material will be submitted in digital form (pdf format) and other digital formats as required by NYSDEC.

6.0 PERMITS AND OTHER AUTHORIZATIONS

Several permits may be required on a local level primarily associated with the proposed site improvements (parking lot) rather than for the excavation, removal/transportation, and disposal of contaminated soil. However, several permits will be required on a State and/or Federal level for the installation of the required infrastructure required to address stormwater generation from the Site. The following State and/or Federal Permits have been identified as required for the Site:

1) Outfall & timber bulkhead:
   Joint Application Form to NYSDEC, USACOE and NYSDOS

2) Stormwater (SWPPP)
   Storm Water Pollution Prevention Plan and Notice of Intent to NYSDEC

USEPA - Region 2 approved the "Notification of Self-Implementing Cleanup and Disposal of PCB Remediation Waste (January 2011)" on May 3, 2011 for the excavation and off-site disposal of PCB contaminated soil which will likely be managed as hazardous waste.

7.0 SCHEDULE

The remedial activities related to the excavation and removal of soil containing concentrations exceeding the site-specific RAO for arsenic, lead, and mercury, and soil containing concentrations exceeding the Restricted Use - Industrial SCOs for PCBs are expected to be performed over an 6 to 8 week period or longer, assuming 1,000 cubic yards are excavated and transported off-site on a weekly basis. Prior to the soil excavation activities, several groundwater monitoring wells will be decommissioned to allow for the excavation of contaminated soil. It is also anticipated that the placement and compaction of imported clean fill material, as well as the required sub base for the asphalt paving, will take another 4 to 6 weeks to complete. Once the imported clean fill material and asphalt pavement has been completed, the monitoring wells decommissioned will be re-installation to provide require the groundwater monitoring as part of the remedial action for the Site.

Since, the actual remedial schedule is dependent on the receipt of NYSDEC approval and Public Notification procedures (45-day comment period from RWP approval), it is not possible to predict when construction will commence at the Site. However, it is reasonable to anticipate that construction could begin in mid- to late July 2011 with an anticipated completion date in the early- to late-October 2011. It is anticipated that remedial/construction activities will stop for the winter months and then restart in early spring 2012. The asphalt cover system is anticipated to being in March 2012 and be completed by mid-April 2012. The proposed schedule is presented in Appendix G.

TABLE 2-1
SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Brownsfields Restricted Use-Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	NYSDEC Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-1		SB-2			SB-3			SB-4			SB-5			SB-6			SB-7		SB-8		
		SB-1 (0-5)	SB-1 (7-9)	SB-2 (0-5)	SB-2 (5-7)	SB-2 (9-11)	SB-3 (0-5)	SB-3 (5-7)	SB-3 (11-11.5)	SB-4 (0-5)	SB-4 (5-7)	SB-4 (9-11)	SB-5 (0-5)	SB-5 (5-7)	SB-5 (11-11.5)	SB-6 (0-5)	SB-6 (5-7)	SB-6 (7-9)	SB-7 (0-5)	SB-7 (9-11)	SB-8 (0-5)	SB-8 (5-7)	SB-8 (9-11)
Date		12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
SVOC's (µg/kg) - EPA Method 8270																							
2,2-oxybis(1-Chloropropane)	…	17 U	82 U	400 U	15 U	15 U	160 U	19 U	23 U	79 U	77 U	17 U	36 U	19 U	19 U	81 U	83 U	16 U	160 U	84 U	840 U	19 U	820 U
2,4,5-Trichlorophenol	…	12 U	59 U	290 U	11 U	11 U	120 U	13 U	16 U	57 U	55 U	12 U	26 U	13 U	13 U	59 R	60 U	12 U	120 U	60 U	600 U	14 U	590 U
2,4,6-Trichlorophenol	…	9.8 U	46 U	230 U	8.6 U	8.7 U	91 U	10 U	13 U	45 U	43 U	9.6 U	20 U	11 U	11 U	46 R	47 U	9.2 U	92 U	47 U	470 U	11 U	460 U
2,4-Dichlorophenol	…	10 U	47 U	230 U	8.8 U	8.9 U	93 U	11 U	13 U	46 U	44 U	9.8 U	21 U	11 U	11 U	47 R	48 U	9.4 U	94 U	48 U	480 U	11 U	470 U
2,4-Dimethylphenol	…	13 U	59 U	290 U	11 U	11 U	120 U	13 U	16 U	57 U	56 U	12 U	26 U	14 U	14 U	59 R	60 U	12 U	120 U	61 U	610 U	170 J	590 U
2,4-Dinitrophenol	…	22 U	110 U	520 U	20 U	20 U	210 U	24 U	29 U	100 U	99 U	22 U	46 U	24 U	24 U	110 R	110 U	21 U	210 U	110 U	1,100 U	25 U	1,100 U
2,4-Dinitrotoluene	…	14 U	66 U	320 U	12 U	12 U	130 U	15 U	18 U	63 U	62 U	14 U	29 U	15 U	15 U	66 U	67 U	13 U	130 U	67 U	670 U	16 U	660 U
2,6-Dinitrotoluene	…	15 U	71 U	350 U	13 U	13 U	140 U	16 U	20 U	68 U	67 U	15 U	31 U	16 U	16 U	71 U	72 U	14 U	140 U	73 U	730 U	17 U	710 U
2-Chloronaphthalene	…	10 U	48 U	240 U	9 U	9.1 U	95 U	11 U	13 U	47 U	45 U	10 U	21 U	11 U	11 U	48 U	49 U	9.6 U	96 U	49 U	490 U	11 U	480 U
2-Chlorophenol	…	11 U	54 U	260 U	10 U	10 U	110 U	12 U	15 U	52 U	51 U	11 U	24 U	12 U	12 U	54 R	54 U	11 U	110 U	55 U	550 U	13 U	540 U
2-Methylnaphthalene	…	390 J	1,200 J	2,100 J	450	130 J	110 U	73 J	15 U	820 J	240 J	160 J	170 J	260 J	13 U	56 U	57 U	58 J	5,200 J	1,000 J	43,000 J	2,000	560 U
2-Methylphenol (o-cresol)	1,000,000	11 U	53 U	260 U	9.9 U	10 U	100 U	12 U	15 U	51 U	50 U	11 U	23 U	12 U	12 U	53 R	53 U	11 U	110 U	54 U	540 U	110 J	530 U
2-Nitroaniline	…	20 U	93 U	460 U	17 U	18 U	180 U	21 U	26 U	90 U	88 U	19 U	41 U	21 U	21 U	93 U	94 U	19 U	190 U	95 U	960 U	22 U	930 U
2-Nitrophenol	…	15 U	73 U	360 U	14 U	14 U	140 U	17 U	20 U	70 U	68 U	15 U	32 U	17 U	17 U	73 R	74 U	15 U	150 U	74 U	750 U	17 U	730 U
3,3-Dichlorobenzidine	…	32 U	150 U	730 U	28 U	28 U	300 U	34 UJ	41 U	140 U	140 U	31 U	65 U	34 U	34 U	150 UJ	150 UJ	30 UJ	300 U	150 U	1,500 U	36 UJ	1,500 U
3+4-Methylphenols**	2,000,000	13 U	60 U	300 U	60 J	11 U	120 U	86 J	370 J	58 U	57 U	13 U	26 U	14 U	14 U	60 R	61 U	12 U	420 J	62 U	2,300 J	240 J	600 U
3-Nitroaniline	…	28 U	130 U	650 U	25 U	25 U	260 U	30 U	36 U	130 U	120 U	27 U	58 U	30 U	30 U	130 U	130 U	26 U	260 U	130 U	1,400 U	31 U	1,300 U
4,6-Dinitro-2-methylphenol	…	57 U	270 U	1,300 U	50 U	51 U	530 U	61 U	74 U	260 U	250 U	56 U	120 U	61 U	61 U	270 R	270 U	54 U	540 U	270 U	2,800 U	64 U	2,700 U
4-Bromophenyl phenyl ether	…	19 U	90 U	440 U	17 U	17 U	180 U	21 U	25 U	87 U	85 U	19 U	40 U	21 U	21 U	90 U	92 U	18 U	180 U	93 U	930 U	21 U	900 U
4-Chloro-3-methylphenol	…	12 U	58 U	290 U	11 U	11 U	120 U	13 U	16 U	56 U	55 U	12 U	25 U	13 U	13 U	58 R	59 U	12 U	120 U	60 U	600 U	14 U	580 U
4-Chloroaniline	…	28 U	130 U	640 U	24 U	25 U	260 U	30 U	36 U	130 U	120 U	27 U	57 U	30 U	30 U	130 U	130 U	26 U	260 U	130 U	1,300 U	31 U	1,300 U
4-Chlorophenyl phenyl ether	…	16 U	76 U	370 U	14 U	14 U	150 U	17 U	21 U	73 U	71 U	16 U	33 U	17 U	17 U	75 U	77 U	15 U	150 U	77 U	780 U	18 U	760 U
4-Nitroaniline	…	33 U	160 U	770 U	29 U	30 U	310 U	35 U	43 U	150 U	150 U	33 U	68 U	36 U	36 U	160 U	160 U	31 U	310 U	160 U	1,600 U	37 U	1,600 U
4-Nitrophenol	…	25 U	120 U	580 U	22 U	22 U	230 U	27 U	32 U	110 U	110 U	25 U	51 U	27 U	27 U	120 R	120 U	24 U	240 U	120 U	1,200 U	28 U	1,200 U
Acenaphthene*	1,000,000	430	520 J	2,200 J	840	230 J	85 U	160 J	12 U	1,100 J	290 J	240 J	220 J	200 J	9.8 U	560 J	370 J	120 J	3,000 J	1,100 J	18,000 J	950	430 U
Acenaphthylene*	1,000,000	83 J	690 J	2,300 J	300 J	60 J	57 U	82 J	8 U	230 J	27 U	89 J	120 J	78 J	6.6 U	29 U	270 J	160 J	3,400 J	430 J	15,000 J	550	290 U
Anthracene*	1,000,000	730 U	1,700 J	6,000 J	1,500	450 U	490 J	350 J	66 J	2,600	800 J	530	540 J	440 J	15 U	1,200 J	760 J	340 J	7,500	2,700 U	56,000 J	1,900	4,400 J
Azobenzene	…	15 U	69 U	340 U	13 U	13 U	140 U	16 U	19 U	67 U	65 U	14 U	30 U	16 U	16 U	69 U	70 U	14 U	140 U	71 U	710 U	16 U	690 U
Benzo(a)anthracene*	11,000	1,400	3,800	11,000 J	3,200 J	810	1,100 J	1,000 J	170 J	4,500	1,500 J	1,200	1,200	1,000	11 U	2,300 J	1,500 J	1,300 J	12,000	4,800	**75,000 J**	3,100 J	8,800 J
Benzo(a)pyrene*	1,100	**1,200**	**3,500**	**9,100 J**	**2,600**	700	1,000 J	900 J	140 J	**3,600**	**1,300 J**	1,000	960	800	13 U	**2,000 J**	59 UJ	900 J	**10,000**	**3,700**	**47,000 J**	**2,100 J**	**7,200 J**
Benzo(b)fluoranthene*	11,000	1,500	4,900	11,000 J	3,200 J	860	1,300 J	1,200 J	180 J	4,700	1,700 J	1,300	1,300	1,100	33 U	2,900 J	140 UJ	930 J	**12,000**	5,000	**57,000 J**	2,800 J	9,600 J
Benzo(ghi)perylene*	1,000,000	740	1,900 J	5,300 J	1,600 U	400	720 J	920 J	92 J	2300 U	830 J	620	590 J	440 J	33 U	1,400 J	150 UJ	700 J	5,500	2,100 U	22,000 J	1,300 J	3,900 J
Benzo(k)fluoranthene*	110,000	490	1,300 J	3,300 J	970	230 J	460 J	340 J	69 J	1,500 J	560 J	420	480 J	330 J	21 U	660 J	92 UJ	770 J	4,000	1,300 J	21,000 J	820 J	2,900 J
Benzoic acid	…	52 UJ	240 UJ	1,200 UJ	46 UJ	46 UJ	480 UJ	55 UJ	67 UJ	240 UJ	230 UJ	51 UJ	110 UJ	55 UJ	56 UJ	240 R	250 UJ	49 UJ	490 UJ	250 UJ	2,500 UJ	58 UJ	2400 UJ
Benzyl Alcohol	…	30 U	140 U	690 U	26 U	26 U	280 U	32 U	39 U	140 U	130 U	29 U	61 U	32 U	32 U	140 R	140 U	28 U	280 U	140 U	1,400 U	33 U	1,400 U
Bis(2-chloroethoxy)methane	…	9.7 U	46 U	220 U	8.5 U	8.6 U	90 U	10 U	13 U	44 U	43 U	9.5 U	20 U	10 U	10 U	45 U	46 U	9.1 U	91 U	47 U	470 U	11 U	460 U
Bis(2-chloroethyl)ether	…	5.5 U	26 U	130 U	4.8 U	4.9 U	51 U	5.9 U	7.2 U	25 U	24 U	5.4 U	11 U	5.9 U	5.9 U	26 U	26 U	5.2 U	52 U	27 U	270 U	6.2 U	260 U
Bis(2-ethylhexyl)phthalate	…	16 U	720	23,000 J	560	110 J	510 J	17 UJ	72 J	4,800	5,400 U	560	2,000	3,500	17 U	3,600 J	5,900 J	1,600 J	33,00 J	60,000 D	72,000 J	100,000 D	29,000 J
Butylbenzylphthalate	…	27 U	130 U	2,200 J	23 U	24 U	250 U	29 UJ	35 U	120 U	660 J	26 U	3,400	3,200	29 U	720 J	130 UJ	25 UJ	94,000 J	5,200 U	46,000 J	30 UJ	6,500 J
Chrysene*	110,000	1,500	4,400	11,000 J	3,300 J	880	1,200 J	1,100 J	170 J	4,500	1,500 J	1,300	1,300	1,100	8.4 U	2,300 J	1,500 J	1,300 J	12,000	4,700	75,000 J	3,000 J	9,300 J
Dibenz(a,h)anthracene*	1,100	73 J	150 U	710 U	170 J	28 U	290 U	65 J	40 U	240 J	140 U	60 J	64 U	33 U	33 U	150 UJ	150 UJ	29 UJ	520 J	150 U	**2,400 J**	130 J	1,500 U
Dibenzofuran	…	260 J	380 J	1,400 J	610 U	170 J	120 U	120 J	17 U	760 U	210 J	170 J	140 J	130 J	14 U	310 J	220 J	57 J	3,000 J	820 J	12,000 J	680	610 U
Diethyl Phthalate	…	14 U	68 U	330 U	13 U	13 U	130 U	15 U	19 U	65 U	64 U	14 U	30 U	15 U	15 U	67 U	68 U	14 U	140 U	69 U	690 U	16 U	680 U
Dimethyl Phthalate	…	12 U	58 U	280 U	11 U	11 U	110 U	13 U	16 U	56 U	55 U	12 U	25 U	13 U	13 U	58 U	59 U	12 U	120 U	59 U	590 U	14 U	580 U
Di-n-Butyl Phthalate	…	20 U	93 U	1,300 J	17 U	18 U	180 U	21 U	26 U	240 J	88 U	19 U	95 J	21 U	21 U	93 U	94 U	19 U	190 U	3,700	960 U	22 U	930 U
Di-n-octyl Phthalate	…	15 U	70 U	340 U	13 U	13 U	140 U	16 UJ	19 U	67 U	66 U	14 U	30 U	16 U	16 U	69 UJ	70 UJ	14 UJ	140 U	71 U	710 U	17 UJ	690 U
Fluoranthene*	1,000,000	3,200 U	7,000	20,000 J	6,600 J	1,700	2,300 J	1,700 U	290 J	9,600 U	3,400 U	2,500	2,600 U	1,800	53 J	4,400 J	2,500	1,800	25,000	10,000	200,000 D	7,300 D	21,000 J
Fluorene*	1,000,000	420 J	1,100 J	4,400 J	940	250 J	110 U	130 J	15 U	1,300 J	410 J	310 J	310 J	290 J	12 U	630 J	570 J	130 J	6,800	1,700 J	42,000 J	1,800	530 U
Hexachlorobenzene	…	13 U	60 U	290 U	11 U	11 U	120 U	14 U	17 U	58 U	56 U	12 U	26 U	14 U	14 U	60 U	61 U	12 U	120 U	61 U	610 U	14 U	600 U
Hexachlorobutadiene	…	17 U	80 U	390 U	15 U	15 U	160 U	18 U	22 U	78 U	76 U	17 U	35 U	18 U	18 U	80 U	81 U	16 U	160 U	82 U	820 U	19 U	800 U
Hexachlorocyclopentadiene	…	22 U	100 U	500 U	19 U	19 U	200 U	23 U	28 U	98 U	96 U	21 U	45 U	23 U	23 U	100 U	100 U	20 U	200 U	100 U	1,000 U	24 U	1,000 U
Hexachloroethane	…	14 U	65 U	320 U	12 U	12 U	130 U	15 U	18 U	63 U	61 U	14 U	28 U	15 U	15 U	65 U	66 U	13 U	130 U	66 U	670 U	15 U	650 U
Indeno(1,2,3-cd)pyrene*	11,000	640	1,500 J	4,700 J	1,300	320 J	620 J	710 J	67 J	2,000	700 J	500	520 J	400 J	11 U	1000 J	51 UJ	660 J	4,900	1,900 J	**22,000 J**	1,200 J	3,900 J
Isophorone	…	14 U	65 U	320 U	12 U	12 U	130 U	15 U	18 U	63 U	61 U	14 U	28 U	15 U	15 U	65 U	66 U	13 U	130 U	67 U	670 U	15 U	650 U
Naphthalene*	1,000,000	290 J	740 J	2,800 J	790	250 J	95 U	130 J	13 U	1,200 J	310 J	290 J	260 J	300 J	11 U	240 J	48 U	110 J	8,700 J	1,000 J	57,000 J	2,900	480 U
Nitrobenzene	…	9.9 U	47 U	230 U	8.7 U	8.8 U	92 U	11 U	13 U	45 U	44 U	9.7 U	20 U	11 U	11 U	46 U	47 U	9.3 U	93 U	48 U	480 U	11 U	460 U
N-Nitrosodi-n-propylamine	…	15 U	72 U	350 U	13 U	14 U	140 U	16 U	20 U	69 U	68 U	15 U	31 U	16 U	16 U	72 U	73 U	14 U	140 U	74 U	740 U	17 U	720 U
N-Nitrosodiphenylamine	…	32 U	150 U	730 U	28 U	28 U	290 U	34 U	41 U	140 U	140 U	31 U	65 U	34 U	34 U	150 U	150 U	30 U	300 U	150 U	1,500 U	35 U	1,500 U
Pentachlorophenol (ms)	55,000	48 U	220 U	1,100 U	42 U	43 U	440 U	51 U	62 U	220 U	210 U	47 U	98 U	51 U	51 U	220 R	230 U	45 U	450 U	230 U	2,300 U	53 U	2,200 U
Phenanthrene*	1,000,000	3,600 D	5,200	20,000 J	6,900 J	1,800	1,800 J	1,700	200 J	9,800	3,100	2,200	2,000	1,700	47 J	3,400 J	1,900 J	1,300	29,000	9,800	240,000 D	9,200 D	15,000 J
Phenol	1,000,000	12 U	55 U	270 U	10 U	10 U	110 U	13 U	15 U	53 U	52 U	11 U	24 U	13 U	13 U	55 R	56 U	11 U	400 J	56 U	570 U	13 U	550 U
Pyrene*	1,000,000	3,300 D	7,900	26,000	7,300 J	1,900	2,700 J	2,200 J	310 J	11,000	3,500	2,900	2,800	2,100	48 J	5,700 J	6,200 J	3,800 D	32,000	11,000	200,000 D	8,700 D	21,000 J
Total SVOCs		16,056	48,450	169,100	40,980	10,800	14,200	11,266	2196	54,130	17,400	16,349	18,405	19,168	148	33,320	21,690	15,265	273,840	121,950	1,324,700	150,950	142,500

NOTES:
NYSDEC - New York State Department of Environmental Conservation
All units are ug/kg (parts per billion)
Concentrations reported on a dry-weight basis
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* - Compound is on the NYSDEC list of Recommended Soil Cleanup Objectives for fuel oil contaminated soil (rev. 8/22/01)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified
** = Objective equals the sum of cleanup objectives for 3-methylphenol
(m-cresol) and 4-methylphenol (p-cresol)
ND = Not Detected

TABLE 2-1
SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Brownsfields Restricted Use-Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	NYSDEC Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-9			SB-10			SB-11			SB-12		SB-13		SB-14			SB-15		
		SB-9 (0-5)	SB-9 (7-8)	SB-9 (11-12)	SB-10 (0-5)	SB-10 (5-7)	SB-10 (9-11)	SB-11 (0-5)	SB-11 (5-7)	SB-11 (9-11)	SB-12 (0-5)	SB-12 (5-7)	SB-13 (0-5)	SB-13 (9-11)	SB-14 (0-5)	SB-14 (7-9)	SB-14 (9-11)	SB-15 (0-5)	SB-15 (7-9)	SB-15 (9-11)
Date		12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
SVOC's (µg/kg) - EPA Method 8270																				
2,2-oxybis(1-Chloropropane)	…	82 U	79 U	17 U	170 U	470 U	83 U	85 U	810 U	19 U	440 U	350 U	480 U	460 U	440 U	380 U	180 U	110 U	16 U	16 U
2,4,5-Trichlorophenol	…	59 U	57 U	12 U	120 U	340 U	60 U	61 U	580 U	13 U	320 U	250 U	340 U	330 U	320 U	270 U	130 U	78 U	12 U	12 U
2,4,6-Trichlorophenol	…	46 U	44 U	9.6 U	97 U	260 U	47 U	48 U	460 U	10 U	250 U	200 U	270 U	260 U	250 U	210 U	100 U	61 U	9.2 U	9.1 U
2,4-Dichlorophenol	…	47 U	45 U	9.8 U	99 U	270 U	48 U	49 U	470 U	11 U	250 U	200 U	270 U	270 U	260 U	220 U	100 U	62 U	9.4 U	9.3 U
2,4-Dimethylphenol	…	59 U	57 U	12 U	120 U	340 U	60 U	61 U	590 U	13 U	320 U	250 U	350 U	340 U	320 U	280 U	130 U	78 U	12 U	12 U
2,4-Dinitrophenol	…	110 U	100 U	22 U	220 U	610 U	110 U	110 UJ	1,000 U	24 U	570 U	450 U	620 U	600 U	580 U	490 U	230 U	140 U	21 U	21 U
2,4-Dinitrotoluene	…	66 U	63 U	14 U	140 U	380 U	67 U	68 U	650 U	15 U	350 U	280 U	380 U	370 U	360 U	310 U	140 U	87 U	13 U	13 U
2,6-Dinitrotoluene	…	71 U	68 U	15 U	150 U	410 U	72 U	73 U	700 U	16 U	380 U	300 U	410 U	400 U	390 U	330 U	150 U	94 U	14 U	14 U
2-Chloronaphthalene	…	48 U	46 U	10 U	100 U	280 U	49 U	50 U	480 U	11 U	260 U	210 U	280 U	270 U	260 U	220 U	110 U	64 U	9.6 U	9.5 U
2-Chlorophenol	…	54 U	52 U	11 U	110 U	310 U	55 U	56 U	530 U	12 U	290 U	230 U	310 U	300 U	290 U	250 U	120 U	71 U	11 U	11 U
2-Methylnaphthalene	…	12,000 J	580 J	140 J	800 J	6,500 J	1,100 J	1,000 J	550 U	110 J	2,700 J	950 J	330 U	320 U	300 U	1,600 J	760 J	400 J	11 U	11 U
2-Methylphenol (o-cresol)	1,000,000	53 U	51 U	11 U	110 U	300 U	53 U	55 U	520 U	12 U	280 U	230 U	310 U	300 U	290 U	250 U	120 U	70 U	11 U	10 U
2-Nitroaniline	…	93 U	90 U	19 U	200 U	530 U	94 U	97 U	920 U	21 U	500 U	400 U	540 U	530 U	510 U	430 U	200 U	120 U	19 U	18 U
2-Nitrophenol	…	73 U	70 U	15 U	150 U	420 U	74 U	75 U	720 U	17 U	390 U	310 U	420 U	410 U	400 U	340 U	160 U	96 U	15 U	14 U
3,3-Dichlorobenzidine	…	150 UJ	140 U	31 U	320 U	860 U	150 U	160 U	1,500 U	34 U	810 U	640 U	870 U	850 U	810 U	700 U	330 U	200 U	30 U	30 U
3+4-Methylphenols**	2,000,000	60 U	58 U	13 U	130 U	350 U	330 J	62 U	600 U	14 U	320 U	260 U	350 U	340 U	330 U	280 U	130 U	80 U	12 U	12 U
3-Nitroaniline	…	130 U	130 U	27 U	280 U	750 U	130 U	140 U	1,300 U	30 U	710 U	570 U	770 U	750 U	720 U	610 U	290 U	170 U	26 U	26 U
4,6-Dinitro-2-methylphenol	…	270 U	260 U	56 U	570 U	1,500 U	270 U	280 R	2,700 U	61 U	1,400 U	1,200 U	1,600 U	1,500 U	1,500 U	1,200 U	590 U	350 U	54 U	53 U
4-Bromophenyl phenyl ether	…	91 U	87 U	19 U	190 U	520 U	92 U	94 U	890 U	21 U	490 U	390 U	530 U	510 U	490 U	420 U	200 U	120 U	18 U	18 U
4-Chloro-3-methylphenol	…	58 U	56 U	12 U	120 U	330 U	59 U	60 U	580 U	13 U	310 U	250 U	340 U	330 U	320 U	270 U	130 U	77 U	12 U	12 U
4-Chloroaniline	…	130 U	130 U	27 U	280 U	750 U	130 U	140 U	1,300 U	30 U	700 U	560 U	760 U	740 U	710 U	610 U	290 U	170 U	26 U	26 U
4-Chlorophenyl phenyl ether	…	76 U	73 U	16 U	160 U	430 U	77 U	78 U	750 U	17 U	410 U	320 U	440 U	430 U	410 U	350 U	170 U	100 U	15 U	15 U
4-Nitroaniline	…	160 U	150 U	32 U	330 U	890 U	160 U	160 U	1,500 U	35 U	840 U	670 U	910 U	880 U	850 U	730 U	340 U	210 U	31 U	31 U
4-Nitrophenol	…	120 U	110 U	24 U	250 U	670 U	120 U	120 U	1,200 U	27 U	630 U	510 U	690 U	670 U	640 U	550 U	260 U	160 U	23 U	23 U
Acenaphthene*	1,000,000	3,000 J	270 J	93 J	610 J	34,000 J	1,400 J	2,700 J	420 U	69 J	8,000 J	2,600 J	250 U	240 U	6,500 J	5,200 J	2,000 J	2,400 J	8.6 U	8.5 U
Acenaphthylene*	1,000,000	1800 J	610 J	6 U	61 U	170 U	260 J	590 J	290 U	180 J	160 U	120 U	170 U	160 U	160 U	140 U	63 U	290 J	5.8 U	5.7 U
Anthracene*	1,000,000	5,200 J	760 J	190 J	1,400 J	58,000 J	3,000 J	5,800 J	660 U	270 J	17,000 J	5,700 J	1,800 J	380 U	16,000 J	8,200 J	4,600	4,300	41 J	64 J
Azobenzene	…	69 U	66 U	14 U	150 U	390 U	70 U	72 U	680 U	16 U	370 U	300 U	400 U	390 U	380 U	320 U	150 U	91 U	14 U	14 U
Benzo(a)anthracene*	11,000	9,600 J	1,900	260 J	2,900 J	**100,000 D**	6,600 J	**14,000 J**	7,000 J	880	**28,000**	**14,000**	4,800 J	2,800 J	**37,000 J**	**23,000 J**	9,800	9,100	140 J	140 J
Benzo(a)pyrene*	1,100	**7,000 J**	**1,900 J**	230 J	**2,400 J**	**75,000**	**5,200 J**	**10,000 J**	**6,900 J**	650	**21,000**	**9,700**	**4,400 J**	**2,800 J**	**28,000 J**	**17,000 J**	**7,600**	**6,500**	150 J	110 J
Benzo(b)fluoranthene*	11,000	10,000 J	2,600	260 J	3,000 J	110,000 D	7,100 J	**15,000 J**	8,100 J	720	**28,000**	**13,000**	6,200 J	3,900 J	**39,000 J**	**27,000 J**	10,000	8,800	190 J	140 J
Benzo(ghi)perylene*	1,000,000	4,400 J	1,600 J	160 J	1,600 J	36,000	2,800 J	5,000 J	6,100 J	370 J	12,000	4,300 J	2,800 J	2,000 J	15,000 J	9,500 J	4,100 J	3,100	90 J	70 J
Benzo(k)fluoranthene*	110,000	2,800 J	830 J	110 J	1,100 J	33,000	2,300 J	4,100	2,000 J	200 J	8,000 J	5,000 J	1,900 J	1,200 J	12,000 J	6,900 J	3,800 J	3,100	69 J	58 J
Benzoic acid	…	240 UJ	230 UJ	51 UJ	510 UJ	1,400 UJ	250 UJ	250 R	2,400 UJ	55 UJ	1,300 UJ	1,000 UJ	1,400 UJ	1,400 UJ	1,300 UJ	1,100 UJ	530 UJ	320 UJ	49 UJ	48 UJ
Benzyl Alcohol	…	140 U	130 U	29 U	290 U	800 U	140 U	150 U	1,400 U	32 U	750 U	600 U	820 U	790 U	760 U	650 U	310 U	180 U	28 U	28 U
Bis(2-chloroethoxy)methane	…	46 U	44 U	9.5 U	96 U	260 U	46 U	47 U	450 U	10 U	250 U	200 U	270 U	260 U	250 U	210 U	100 U	60 U	9.1 U	9 U
Bis(2-chloroethyl)ether	…	26 U	25 U	5.4 U	55 U	150 U	26 U	27 U	260 U	5.9 U	140 U	110 U	150 U	150 U	140 U	120 U	57 U	34 U	5.2 U	5.1 U
Bis(2-ethylhexyl)phthalate	…	52,000 J	1,700 J	720	110,000 D	29,000	59,000 D	16,000 J	30,000	570	47,000	11,000	30,000	450,000 D	32,000 J	33,000 J	57,000 D	70,000 D	470	220 J
Butylbenzylphthalate	…	2,900 J	510 J	220 J	26,000	3,300 J	96,000 D	9,500 J	4,100 J	490	48,000	540 U	1,800 J	710 U	34,000 J	5,000 J	5,500	4,900	140 J	54 J
Chrysene*	110,000	9,800 J	2,200	270 J	3,100 J	97,000 D	6,700 J	13,000 J	8,700 J	890	26,000	13,000	5,400 J	3,200 J	36,000 J	23,000 J	9,700	8,400	160 J	150 J
Dibenz(a,h)anthracene*	1,100	390 J	140 U	30 U	310 U	**3,700 J**	260 J	450 J	1,400 U	33 U	**1,400 J**	630 U	850 U	830 U	1,100 J	960 J	320 U	310 J	29 U	29 U
Dibenzofuran	…	2,200 J	420 J	64 J	130 U	23,000	970 J	2,000 J	610 U	59 J	5,900 J	1,300 J	360 U	350 U	5,200 J	2,700 J	1,500 J	1,700 J	12 U	12 U
Diethyl Phthalate	…	68 U	65 U	14 U	140 U	390 U	69 U	70 U	670 U	15 U	360 U	290 U	390 U	380 U	370 U	310 U	150 U	89 U	13 U	13 U
Dimethyl Phthalate	…	58 U	56 U	12 U	120 U	330 U	59 U	60 U	570 U	250 J	310 U	250 U	340 U	330 U	320 U	270 U	130 U	77 U	64 J	11 U
Di-n-Butyl Phthalate	…	1,500 J	530 J	1,600	200 U	530 U	340 J	97 U	920 U	21 U	500 U	8,700	2,700 J	530 U	3,300 J	2,700 J	800 J	120 U	19 U	18 U
Di-n-octyl Phthalate	…	70 UJ	67 U	14 U	150 U	400 U	71 U	300 J	690 U	16 U	370 U	300 U	410 U	390 U	380 U	320 U	34,000	92 U	14 U	14 U
Fluoranthene*	1,000,000	15,000 J	3,600	670	6,400	240,000 D	11,000 J	28,000 D	7,900 J	1300 U	62,000	32,000	9,800 J	5,400 J	71,000 J	43,000 J	20,000	20,000	240 J	330 J
Fluorene*	1,000,000	7,400 J	400 J	110 J	830 J	38,000	1,700 J	3,600 J	530 U	150 J	11,000 J	2,500 J	310 U	300 U	9,500 J	5,300 J	2,700 J	3,400	11 U	11 U
Hexachlorobenzene	…	60 U	58 U	12 U	130 U	340 U	61 U	62 U	590 U	14 U	320 U	260 U	350 U	340 U	330 U	280 U	130 U	79 U	12 U	12 U
Hexachlorobutadiene	…	81 U	77 U	17 U	170 U	460 U	81 U	83 U	790 U	18 U	430 U	350 U	470 U	460 U	440 U	370 U	180 U	110 U	16 U	16 U
Hexachlorocyclopentadiene	…	100 U	98 U	21 U	210 U	580 U	100 U	110 R	1,000 U	23 U	550 U	440 U	590 U	580 U	550 U	470 U	220 U	130 U	20 U	20 U
Hexachloroethane	…	65 U	63 U	13 U	140 U	370 U	66 U	67 U	640 U	15 U	350 U	280 U	380 U	370 U	350 U	300 U	140 U	86 U	13 U	13 U
Indeno(1,2,3-cd)pyrene*	11,000	3,300 J	1,200 J	150 J	1,400 J	**37,000**	2,600 J	4,700 J	3,000 J	290 J	10,000 J	3,900 J	2,400 J	1,700 J	**15,000 J**	7,900 J	3,800 J	3,000	77 J	64 J
Isophorone	…	65 U	63 U	13 U	140 U	370 U	66 U	67 U	640 U	15 U	350 U	280 U	380 U	370 U	350 U	300 U	140 U	86 U	13 U	13 U
Naphthalene*	1,000,000	9,400 J	680 J	110 J	440 J	20,000	1,800 J	2,500 J	470 U	150 J	5,300 J	1,400 J	280 U	270 U	2,600 J	3,300 J	1,700 J	960 J	9.6 U	9.5 U
Nitrobenzene	…	47 U	45 U	9.7 U	98 U	270 U	47 U	48 U	460 U	11 U	250 U	200 U	270 U	260 U	250 U	220 U	100 U	62 U	9.3 U	9.2 U
N-Nitrosodi-n-propylamine	…	72 U	69 U	15 U	150 U	410 U	73 U	75 U	710 U	16 U	390 U	310 U	420 U	410 U	390 U	330 U	160 U	95 U	14 U	14 U
N-Nitrosodiphenylamine	…	150 U	140 U	31 U	310 U	850 U	150 U	150 U	1,500 U	34 U	800 U	640 U	870 U	840 U	810 U	690 U	330 U	200 U	30 U	29 U
Pentachlorophenol (ms)	55,000	230 U	220 U	47 U	470 U	1,300 U	230 U	230 U	2,200 U	51 U	1,200 U	970 U	1,300 U	1,300 U	1,200 U	1,000 U	490 U	300 U	45 U	44 U
Phenanthrene*	1,000,000	26,000 J	3,200	710	5,100	200,000 D	11,000 J	24,000 D	5,000 J	1100	59,000	21,000	7,600 J	3,400 J	49,000 J	32,000 J	16,000	9,200	99 J	170 J
Phenol	1,000,000	55 U	53 U	11 U	120 U	320 U	880 J	57 U	3,000 J	13 U	300 U	240 U	320 U	3,000 J	300 U	260 U	120 U	73 U	11 U	11 U
Pyrene*	1,000,000	26,000 J	4,100	640	6,400	180,000 D	13,000 J	26,000 D	13,000 J	2100	56,000	30,000	9,600 J	5,700 J	65,000 J	48,000 J	19,000	17,000	290 J	300 J
Total SVOCs		210,190	29,590	6,707	173,480	1,323,500	235,340	175,240	104,800	9498	456,300	180,050	91,200	485,100	461,200	305,260	214,360	176,860	2220	1870

NOTES:
NYSDEC - New York State Department of Environmental Conservation
All units are ug/kg (parts per billion)
Concentrations reported on a dry-weight basis
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* - Compound is on the NYSDEC list of Recommended Soil Cleanup Objectives for fuel oil contaminated soil (rev. 8/22/01)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified
** = Objective equals the sum of cleanup objectives for 3-methylphenol
(m-cresol) and 4-methylphenol (p-cresol)
ND = Not Detected

TABLE 2-2
SOIL ANALYTICAL RESULTS-TAL METALS
Brownfields Restricted Use-Protection of Groundwater Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-1		SB-2			SB-3			SB-4			SB-5			SB-6			SB-7	
		SB-1 (0-5)	SB-1 (7-9)	SB-2 (0-5)	SB-2 (5-7)	SB-2 (9-11)	SB-3 (0-5)	SB-3 (5-7)	SB-3 (11-11.5)	SB-4 (0-5)	SB-4 (5-7)	SB-4 (9-11)	SB-5 (0-5)	SB-5 (5-7)	SB-5 (11-11.5)	SB-6 (0-5)	SB-6 (5-7)	SB-6 (7-9)	SB-7 (0-5)	SB-7 (9-11)
Date		12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
TAL Metals (mg/kg) Method 6010/7471																				
Aluminum	---	10300	447	2650	9560	5210	5300	6180	5650	7710	8950	7090	934	1440	1550	5890	5840	9670	6820	4870
Antimony	---	63.2	2070	0.268 U	1.85 U	0.257 U	0.269 U	142	33.7	0.264 U	0.257 U	0.280 U	0.298 U	0.311 U	0.310 U	0.273 U	0.276 U	0.269 U	0.272 U	0.278 U
Arsenic	16	**168 J**	**31.6 J**	7.86 J	7.68	4.88 J	2.49 J	**36.9 J**	**25.3 J**	14.8 J	13.1 J	8.82 J	1.62 J	3.74 J	4.44 J	8.31 J	9.72 J	8.50 J	12.1 J	13.0 J
Barium	820	**875 J**	74.6 J	498 J	210	128 J	67.9 J	**1160 J**	253 J	326 J	237 J	161 J	120 J	169 J	21.9 J	278	**928**	295	482	369
Beryllium	47	0.919	0.044 J	0.257	0.488	0.305	0.286	0.341	0.438	0.387	0.560	0.407	0.072 J	0.137 J	0.127 J	0.306	0.320	0.481	0.349	0.427
Cadmium	7.5	5.66	0.74 J	4.99	1.08	0.045 U	0.423 J	1.31	2.05	2.41	1.91	0.658 J	3.0	3.41	0.055 U	3.79	5.07	0.335 J	**8.49**	5.29
Calcium	---	25400 J	4220 J	17500 J	12100	7080 J	51800 J	48000 J	11400 J	53700 J	8480 J	34300 J	3520 J	5980 J	1500 J	70200 J	56200 J	7270 J	32900 J	20000 J
Chromium	19	**41.5 J**	12.0 J	**37.6 J**	**30.1**	**20.6 J**	13.0 J	13.3 J	**24.6 J**	**39.1 J**	**40.9 J**	**22.3 J**	**38.0 J**	**38.9 J**	4.350 J	**69.0**	**85.8**	**20.6**	**92.0**	**84.5**
Cobalt	---	14.4 J	1.23 J	3.94 J	7.79	5.70 J	6.70 J	4.99 J	8.05 J	6.27 J	9.11 J	6.13 J	1.99 J	3.93 J	1.270 J	6.830 J	7.120 J	5.360 J	9.880 J	6.390 J
Copper	1720	1580	433	639	184	58.8	403	617	518	822	325	148	93.7	287	41.9	581	367	68.5	500	346
Iron	---	38200 J	8880 J	21300 J	27900	13100 J	14700 J	16800 J	28500 J	29500 J	26700 J	14300 J	9850 J	15300 J	2890 J	27100	30100	16500	45800	26500
Lead	450	**3020 J**	**6670 J**	**1300 J**	**570**	224 J	98.2 J	**2800 J**	**4330 J**	**904 J**	449 J	449 J	**651 J**	**810 J**	41.0 J	**1190 J**	**4630 J**	**1720**	**2070 J**	**1740 J**
Magnesium	---	2700 J	475 J	3250 J	3090	1330 J	26600 J	3050 J	1370 J	5550 J	3620 J	8840 J	542 J	952 J	381 J	17100	10400	1920	4340	3140
Manganese	2000	554 J	64.6 J	182 J	351	194 J	208 J	449 J	438 J	294 J	286 J	539 J	79.9 J	125 J	30.3 J	247	376	143	545	252
Mercury	0.73	**7.5 J**	**8.5 J**	**3.6 J**	**1.8 J**	0.537 J	0.262 J	**5.1 J**	**5.3 J**	**2.2 J**	**1.4 J**	**1.5 J**	**11.2 J**	**3.5 J**	0.053 J	**2.9 J**	**1.9 J**	**2.4 J**	**2.1 J**	**4.1 J**
Nickel	130	51.5 J	11.6 J	70.7 J	25.0	15.3 J	14.7 J	24.8 J	18.7 J	30.2 J	26.8 J	19.0 J	21.1 J	25.8 J	4.910 J	38.8 J	44.6 J	13.6 J	95.6 J	49.3 J
Potassium	---	3050 J	64.3 J	508 J	1060	637 J	840 J	861 J	1130 J	1820 J	1190 J	970 J	85.1 J	142 J	263 J	852 J	882 J	863 J	1370 J	641 J
Selenium	4	**50.0**	0.302 J	0.142 U	0.133 U	0.136 U	0.142 U	0.484 J	1.480	0.140 U	0.136 U	0.379 J	0.158 U	0.164 U	0.762 J	0.145 U	0.146 U	0.142 U	0.144 U	0.215 J
Silver	8.3	5.58	0.863	0.142 U	0.133 U	0.136 U	0.142 U	2.320	6.350	6.400	0.136 U	0.148 U	0.158 U	0.164 U	0.184 J	0.145 U	0.146 U	0.142 U	0.144 U	0.390 J
Sodium	---	1930	108	1090	537	321	326	490	1890	1130	430	629	261	311	322	440	696	257	1250	920
Thallium	---	3.200	1.520 U	1.490 U	1.400 U	1.430 U	1.490 U	1.720 U	2.110 U	1.470 U	1.430 U	1.560 U	1.660 U	1.730 U	1.720 U	1.520 U	1.540 U	1.490 U	1.510 U	1.550 U
Vanadium	---	47.0	5.090	32.2	38.2	20.4	52.0	15.6	25.2	31.4	37.7	21.4	10.2	14.4	6.690	25.7	31.8	28.2	59.7	45.6
Zinc	2480	1710 J	336 J	**2770 J**	1080 J	267 J	161 J	698 J	885 J	1000 J	691 J	305 J	639 J	675 J	36.7 J	964 J	1590 J	326 J	**3500 J**	1300 J

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram (mg/kg) - parts per million (ppm)
Values in **bold** exceed the Protection to Groundwater Soil Cleanup Objectives
* = Background levels for Lead vary widely between undeveloped areas and metropolitan areas
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-2
SOIL ANALYTICAL RESULTS-TAL METALS
Brownfields Restricted Use-Protection of Groundwater Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-8			SB-9			SB-10			SB-11			SB-12		SB-13		SB-14			SB-15		
		SB-8 (0-5)	SB-8 (5-7)	SB-8 (9-11)	SB-9 (0-5)	SB-9 (7-8)	SB-9 (11-12)	SB-10 (0-5)	SB-10 (5-7)	SB-10 (9-11)	SB-11 (0-5)	SB-11 (5-7)	SB-11 (9-11)	SB-12 (0-5)	SB-12 (5-7)	SB-13 (0-5)	SB-13 (9-11)	SB-14 (0-5)	SB-14 (7-9)	SB-14 (9-11)	SB-15 (0-5)	SB-15 (7-9)	SB-15 (9-11)
Date		12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
TAL Metals (mg/kg) Method 6010/7471																							
Aluminum	---	11800	11000	8490	10700	5400	8150	8400	8270	6350	9200	6020	4000	4920	5350	1480	7600	2960	2830	3360	4010	3920	4880
Antimony	---	0.280 U	0.324 U	0.274 U	0.270 U	0.263 U	0.284 U	0.288 U	0.314 U	0.278 U	0.285 U	0.270 U	0.308 U	0.291 U	0.294 U	0.318 U	11.6	4.410	0.255 U	0.299 U	0.345 U	0.274 U	0.270 U
Arsenic	16	**42.8 J**	**20.5 J**	13.9 J	14.6 J	**18.6 J**	11.4 J	**19.2 J**	12.1 J	**29.1 J**	9.14 J	7.89 J	10.5 J	6.06	9.43	1.50	**32.3**	3.04	1.79	5.80	6.36 J	3.64 J	1.61 J
Barium	820	**1590 J**	**1510 J**	736 J	**966**	581	382	603	550	297	537	277	330	309	430	137	76.0	220	136	163	284	51.2	29.8
Beryllium	47	0.549	1.150	0.548	0.706	0.496	0.398	0.302	0.488	0.577	0.423	0.258	0.306	0.295	0.219 J	0.086 J	8.53	0.223 J	0.100 J	0.234 J	0.261 J	0.208 J	0.236 J
Cadmium	7.5	**45.2**	**37.3**	**10.8**	**22.1**	**10.1**	7.36	5.80	2.63	4.23	**11.4**	6.12	5.87	2.63	12.7	5.40	**7.83**	1.07	4.72	2.13	4.22	0.364 J	0.048 U
Calcium	---	37900 J	34700 J	37000 J	28100 J	26600 J	22100 J	47000 J	59800 J	11800 J	54800 J	27500 J	14100 J	32100 J	23200 J	6240 J	1130 J	26700 J	8020 J	10800 J	29400 J	6930 J	1370 J
Chromium	19	**441 J**	**347 J**	**155 J**	**454**	**99.4**	**147**	**106**	**243**	**38.8**	**175**	**114**	**103**	**38.7**	**104**	**21.3**	**29.8**	**20.4**	**56.9**	**27.4**	**85.0**	6.930	8.570
Cobalt	---	30.2 J	24.0 J	13.0 J	35.0 J	9.730 J	25.3 J	10.1 J	10.2 J	8.120 J	12.8 J	7.270 J	5.630 J	4.460	11.1	2.580	17.0	4.150	2.820	3.660	7.770 J	2.270 J	3.890 J
Copper	1720	1610	1090	786	**2330**	**2430**	595	386	198	209	549	416	281	219	459	403	23.7	186	967	187	653	41.5	12.4
Iron	---	178000 J	9900.0 J	72100 J	69700	48100	35600	44100	27000	36500	48200	33400	27100	20100 J	65100 J	10300 J	13500 J	8800 J	9550 J	11900 J	31500	5130	8170
Lead	450	**7760 J**	**9020 J**	**3100 J**	**3660 J**	**1530 J**	**1300 J**	**935 J**	**866 J**	**624 J**	**2880 J**	**929 J**	**1680 J**	**1520**	**2980**	281	42.6	**2960**	269	**503**	**1180 J**	71.0 J	26.5 J
Magnesium	---	5690 J	6110 J	7120 J	5660	4760	4360	4950	6090	1850	7420	3610	2350	4530	4580	997	4870	2200	1050	1550	4070	1250	1250
Manganese	2000	**2730 J**	888 J	709 J	598	435	356	454	349	944	465	305	226	233 J	492 J	88.3	113 J	131 J	99.4 J	142 J	275	109	107
Mercury	0.73	**8.7 J**	**8.4 J**	**6.8 J**	**5.7 J**	**2.0 J**	**4.9 J**	**2.4 J**	**2.6 J**	**1.5 J**	**7 J**	**4.3 J**	**2.7 J**	**2.4 J**	**9.9 J**	**5.0 J**	**5.0 J**	**4.2 J**	**4.8 J**	**2.5 J**	**3.9 J**	0.351 J	0.090 J
Nickel	130	**235 J**	**186 J**	98.6 J	**565 J**	93.7 J	**214 J**	77.6 J	**198 J**	37.7 J	**143 J**	58.8 J	44.7 J	32.2	130	21.5 J	38.2	19.5	26.4	21.0	86.6 J	7.760 J	8.240 J
Potassium	---	1190 J	1740 J	1350 J	1030 J	1010 J	1040 J	1770 J	1690 J	975 J	1400 J	591 J	475 J	724	2510	109 J	5730	484	119 J	413	482 J	553 J	626 J
Selenium	4	0.148 U	0.172 U	0.145 U	0.143 U	0.139 U	0.151 U	11.1	1.24	0.147 U	0.151 U	0.143 U	0.163 U	0.154 U	0.156 U	0.168 U	71.1	0.156 U	0.135 U	0.158 U	0.187 U	0.145 U	0.143 U
Silver	8.3	3.11	1.400	0.552	0.143 U	0.643	0.601	2.51	1.66 U	0.147 U	10.7	0.143 U	0.163 U	0.154 U	0.156 U	0.414 J	2.74	0.369 J	0.721	0.158 U	0.187 U	0.145 U	0.143 U
Sodium	---	2350	4020	1390	1740	1110	1150	1450	2140	1150	1520	985	954	638	1570	421	241	409	528	466	1070	589	151
Thallium	---	1.560 U	1.800 U	1.520 U	1.500 U	1.460 U	1.580 U	1.600 U	1.750 U	1.540 U	1.580 U	1.500 U	1.710 U	1.620 U	1.640 U	1.770 U	84.0	1.640 U	1.420 U	1.660 U	1.970 U	1.520 U	1.500 U
Vanadium	---	135	102	80.3	291	49.5	48.5	27.6	46.8	29.1	62.7	20.3	35.7	28.3	103	3.320	28.9	19.9	4.950	13.2	104	10.4	13.3
Zinc	2480	**8110.0 J**	**6240.0 J**	**3250 J**	**6640.0 J**	2260 J	1810 J	1580 J	995 J	816 J	**3390 J**	**2690 J**	1970 J	937	**3420**	1290	56.2	399	1820	892	**3650 J**	176 J	29.4 J

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram (mg/kg) - parts per million (ppm)
Values in **bold** exceed the Protection to Groundwater Soil Cleanup Objectives
* = Background levels for Lead vary widely between undeveloped areas and metropolitan areas
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-2
SOIL ANALYTICAL RESULTS-TAL METALS
Brownfields Soil Cleanup Objectives for Restricted Use-Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NY

Compound	NYSDEC Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-1		SB-2			SB-3			SB-4		
		SB-1 (0-5)	SB-1 (7-9)	SB-2 (0-5)	SB-2 (5-7)	SB-2 (9-11)	SB-3 (0-5)	SB-3 (5-7)	SB-3 (11-11.5)	SB-4 (0-5)	SB-4 (5-7)	SB-4 (9-11)
Date		12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007
TAL Metals (mg/kg) Method 6010/7471												
Aluminum	…	10300	447	2650	9560	5210	5300	6180	5650	7710	8950	7090
Antimony	…	63.2	2070	0.268 U	1.85 U	0.257 U	0.269 U	142	33.7	0.264 U	0.257 U	0.280 U
Arsenic	16	**168 J**	**31.6 J**	7.86 J	7.68	4.88 J	2.49 J	36.9 J	**25.3 J**	14.8 J	13.1 J	8.82 J
Barium	10,000	875 J	74.6 J	498 J	210	128 J	67.9 J	1160 J	253 J	326 J	237 J	161 J
Beryllium	2,700	0.919	0.044 J	0.257	0.488	0.305	0.286	0.341	0.438	0.387	0.560	0.407
Cadmium	60	5.66	0.74 J	4.99	1.08	0.045 U	0.423 J	1.31	2.05	2.41	1.91	0.658 J
Calcium	…	25400 J	4220 J	17500 J	12100	7080 J	51800 J	48000 J	11400 J	53700 J	8480 J	34300 J
Chromium*	800	41.5 J	12.0 J	37.6 J	30.1	20.6 J	13.0 J	13.3 J	24.6 J	39.1 J	40.9 J	22.3 J
Cobalt	…	14.4 J	1.23 J	3.94 J	7.79	5.70 J	6.70 J	4.99 J	8.05 J	6.27 J	9.11 J	6.13 J
Copper	10,000	1580	433	639	184	58.8	403	617	518	822	325	148
Iron	…	38200 J	8880 J	21300 J	27900	13100 J	14700 J	16800 J	28500 J	29500 J	26700 J	14300 J
Lead	3,900	3020 J	**6670 J**	1300 J	570	224 J	98.2 J	2800 J	**4330 J**	904 J	449 J	449 J
Magnesium	…	2700 J	475 J	3250 J	3090	1330 J	26600 J	3050 J	1370 J	5550 J	3620 J	8840 J
Manganese	10,000	554 J	64.6 J	182 J	351	194 J	208 J	449 J	438 J	294 J	286 J	539 J
Mercury	5.7	**7.5 J**	**8.5 J**	3.6 J	1.8 J	0.537 J	0.262 J	5.1 J	5.3 J	2.2 J	1.4 J	1.5 J
Nickel	10,000	51.5 J	11.6 J	70.7 J	25.0	15.3 J	14.7 J	24.8 J	18.7 J	30.2 J	26.8 J	19.0 J
Potassium	…	3050 J	64.3 J	508 J	1060	637 J	840 J	861 J	1130 J	1820 J	1190 J	970 J
Selenium	6,800	50.0	0.302 J	0.142 U	0.133 U	0.136 U	0.142 U	0.484 J	1.480	0.140 U	0.136 U	0.379 J
Silver	6,800	5.58	0.863	0.142 U	0.133 U	0.136 U	0.142 U	2.320	6.350	6.400	0.136 U	0.148 U
Sodium	…	1930	108	1090	537	321	326	490	1890	1130	430	629
Thallium	…	3.200	1.520 U	1.490 U	1.400 U	1.430 U	1.490 U	1.720 U	2.110 U	1.470 U	1.430 U	1.560 U
Vanadium	…	47.0	5.090	32.2	38.2	20.4	52.0	15.6	25.2	31.4	37.7	21.4
Zinc	10,000	1710 J	336 J	2770 J	1080 J	267 J	161 J	698 J	885 J	1000 J	691 J	305 J

Compound	SB-5			SB-6			SB-7		SB-8		
	SB-5 (0-5)	SB-5 (5-7)	SB-5 (11-11.5)	SB-6 (0-5)	SB-6 (5-7)	SB-6 (7-9)	SB-7 (0-5)	SB-7 (9-11)	SB-8 (0-5)	SB-8 (5-7)	SB-8 (9-11)
Date	12/10/2007	12/10/2007	12/10/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
TAL Metals (mg/kg) Method 6010/7471											
Aluminum	934	1440	1550	5890	5840	9670	6820	4870	11800	11000	8490
Antimony	0.298 U	0.311 U	0.310 U	0.273 U	0.276 U	0.269 U	0.272 U	0.278 U	0.280 U	0.324 U	0.274 U
Arsenic	1.62 J	3.74 J	4.44 J	8.31 J	9.72 J	8.50 J	12.1 J	13.0 J	**42.8 J**	**20.5 J**	13.9 J
Barium	120 J	169 J	21.9 J	278	928	295	482	369	1590 J	1510 J	736 J
Beryllium	0.072 J	0.137 J	0.127 J	0.306	0.320	0.481	0.349	0.427	0.549	1.150	0.548
Cadmium	3.0	3.41	0.055 U	3.79	5.07	0.335 J	8.49	5.29	45.2	37.3	10.8
Calcium	3520 J	5980 J	1500 J	70200 J	56200 J	7270 J	32900 J	20000 J	37900 J	34700 J	37000 J
Chromium*	38.0 J	38.9 J	4.350 J	69.0	85.8	20.6	92.0	84.5	441 J	347 J	155 J
Cobalt	1.99 J	3.93 J	1.270 J	6.830 J	7.120 J	5.360 J	9.880 J	6.390 J	30.2 J	24.0 J	13.0 J
Copper	93.7	287	41.9	581	367	68.5	500	346	1610	1090	786
Iron	9850 J	15300 J	2890 J	27100	30100	16500	45800	26500	178000 J	9900.0 J	72100 J
Lead	651 J	810 J	41.0 J	1190 J	**4630 J**	1720	2070 J	1740 J	**7760 J**	**9020 J**	3100 J
Magnesium	542 J	952 J	381 J	17100	10400	1920	4340	3140	5690 J	6110 J	7120 J
Manganese	79.9 J	125 J	30.3 J	247	376	143	545	252	2730 J	888 J	709 J
Mercury	**11.2 J**	3.5 J	0.053 J	2.9 J	1.9 J	2.4 J	2.1 J	4.1 J	**8.7 J**	**8.4 J**	**6.8 J**
Nickel	21.1 J	25.8 J	4.910 J	38.8 J	44.6 J	13.6 J	95.6 J	49.3 J	235 J	186 J	98.6 J
Potassium	85.1 J	142 J	263 J	852 J	882 J	863 J	1370 J	641 J	1190 J	1740 J	1350 J
Selenium	0.158 U	0.164 U	0.762 J	0.145 U	0.146 U	0.142 U	0.144 U	0.215 J	0.148 U	0.172 U	0.145 U
Silver	0.158 U	0.164 U	0.184 J	0.145 U	0.146 U	0.142 U	0.144 U	0.390 J	3.11	1.400	0.552
Sodium	261	311	322	440	696	257	1250	920	2350	4020	1390
Thallium	1.660 U	1.730 U	1.720 U	1.520 U	1.540 U	1.490 U	1.510 U	1.550 U	1.560 U	1.800 U	1.520 U
Vanadium	10.2	14.4	6.690	25.7	31.8	28.2	59.7	45.6	135	102	80.3
Zinc	639 J	675 J	36.7 J	964 J	1590 J	326 J	3500 J	1300 J	8110.0 J	6240.0 J	3250 J

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram (mg/kg) - parts per million (ppm)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
* = Background levels for Lead vary widely between undeveloped areas and metropolitan areas
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
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UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
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TABLE 2-2
SOIL ANALYTICAL RESULTS-TAL METALS
Brownfields Soil Cleanup Objectives for Restricted Use-Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NY

Compound	NYSDEC Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-9			SB-10			SB-11			SB-12		SB-13		SB-14			SB-15		
		SB-9 (0-5)	SB-9 (7-8)	SB-9 (11-12)	SB-10 (0-5)	SB-10 (5-7)	SB-10 (9-11)	SB-11 (0-5)	SB-11 (5-7)	SB-11 (9-11)	SB-12 (0-5)	SB-12 (5-7)	SB-13 (0-5)	SB-13 (9-11)	SB-14 (0-5)	SB-14 (7-9)	SB-14 (9-11)	SB-15 (0-5)	SB-15 (7-9)	SB-15 (9-11)
Date		12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
TAL Metals (mg/kg) Method 6010/7471																				
Aluminum	…	10700	5400	8150	8400	8270	6350	9200	6020	4000	4920	5350	1480	7600	2960	2830	3360	4010	3920	4880
Antimony	…	0.270 U	0.263 U	0.284 U	0.288 U	0.314 U	0.278 U	0.285 U	0.270 U	0.308 U	0.291 U	0.294 U	0.318 U	11.6	4.410	0.255 U	0.299 U	0.345 U	0.274 U	0.270 U
Arsenic	16	14.6 J	**18.6 J**	11.4 J	**19.2 J**	12.1 J	**29.1 J**	9.14 J	7.89 J	10.5 J	6.06	9.43	1.50	**32.3**	3.04	1.79	5.80	6.36 J	3.64 J	1.61 J
Barium	10,000	966	581	382	603	550	297	537	277	330	309	430	137	76.0	220	136	163	284	51.2	29.8
Beryllium	2,700	0.706	0.496	0.398	0.302	0.488	0.577	0.423	0.258	0.306	0.295	0.219 J	0.086 J	8.53	0.223 J	0.100 J	0.234 J	0.261 J	0.208 J	0.236 J
Cadmium	60	22.1	10.1	7.36	5.80	2.63	4.23	11.4	6.12	5.87	2.63	12.7	5.40	7.83	1.07	4.72	2.13	4.22	0.364 J	0.048 U
Calcium	…	28100 J	26600 J	22100 J	47000 J	59800 J	11800 J	54800 J	27500 J	14100 J	32100 J	23200 J	6240 J	1130 J	26700 J	8020 J	10800 J	29400 J	6930 J	1370 J
Chromium*	800	454	99.4	147	106	243	38.8	175	114	103	38.7	104	21.3	29.8	20.4	56.9	27.4	85.0	6.930	8.570
Cobalt	…	35.0 J	9.730 J	25.3 J	10.1 J	10.2 J	8.120 J	12.8 J	7.270 J	5.630 J	4.460	11.1	2.580	17.0	4.150	2.820	3.660	7.770 J	2.270 J	3.890 J
Copper	10,000	2330	2430	595	386	198	209	549	416	281	219	459	403	23.7	186	967	187	653	41.5	12.4
Iron	…	69700	48100	35600	44100	27000	36500	48200	33400	27100	20100 J	65100 J	10300 J	13500 J	8800 J	9550 J	11900 J	31500	5130	8170
Lead	3,900	3660 J	1530 J	1300 J	935 J	866 J	624 J	2880 J	929 J	1680 J	1520	2980	281	42.6	2960	269	503	1180 J	71.0 J	26.5 J
Magnesium	…	5660	4760	4360	4950	6090	1850	7420	3610	2350	4530	4580	997	4870	2200	1050	1550	4070	1250	1250
Manganese	10,000	598	435	356	454	349	944	465	305	226	233 J	492 J	88.3	113 J	131 J	99.4 J	142 J	275	109	107
Mercury	5.7	5.7 J	2.0 J	4.9 J	2.4 J	2.6 J	1.5 J	**7 J**	4.3 J	2.7 J	2.4 J	**9.9 J**	5.0 J	5.0 J	4.2 J	4.8 J	2.5 J	3.9 J	0.351 J	0.090 J
Nickel	10,000	565 J	93.7 J	214 J	77.6 J	198 J	37.7 J	143 J	58.8 J	44.7 J	32.2	130	21.5 J	38.2	19.5	26.4	21.0	86.6 J	7.760 J	8.240 J
Potassium	…	1030 J	1010 J	1040 J	1770 J	1690 J	975 J	1400 J	591 J	475 J	724	2510	109 J	5730	484	119 J	413	482 J	553 J	626 J
Selenium	6,800	0.143 U	0.139 U	0.151 U	11.1	1.24	0.147 U	0.151 U	0.143 U	0.163 U	0.154 U	0.156 U	0.168 U	71.1	0.156 U	0.135 U	0.158 U	0.187 U	0.145 U	0.143 U
Silver	6,800	0.143 U	0.643	0.601	2.51	1.66 U	0.147 U	10.7	0.143 U	0.163 U	0.154 U	0.156 U	0.414 J	2.74	0.369 J	0.721	0.158 U	0.187 U	0.145 U	0.143 U
Sodium	…	1740	1110	1150	1450	2140	1150	1520	985	954	638	1570	421	241	409	528	466	1070	589	151
Thallium	…	1.500 U	1.460 U	1.580 U	1.600 U	1.750 U	1.540 U	1.580 U	1.500 U	1.710 U	1.620 U	1.640 U	1.770 U	84.0	1.640 U	1.420 U	1.660 U	1.970 U	1.520 U	1.500 U
Vanadium	…	291	49.5	48.5	27.6	46.8	29.1	62.7	20.3	35.7	28.3	103	3.320	28.9	19.9	4.950	13.2	104	10.4	13.3
Zinc	10,000	6640.0 J	2260 J	1810 J	1580 J	995 J	816 J	3390 J	2690 J	1970 J	937	3420	1290	56.2	399	1820	892	3650 J	176 J	29.4 J

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram (mg/kg) - parts per million (ppm)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
* = Background levels for Lead vary widely between undeveloped areas and metropolitan areas
SB = Soil Background
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-3
SOIL ANALYTICAL RESULTS-POLYCHLORINATED BIPHENYLS (PCBs)
Brownfields Restricted Use-Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-1		SB-2			SB-3			SB-4			SB-5			SB-6			SB-7		SB-8		
		SB-1 (0-5)	SB-1 (7-9)	SB-2 (0-5)	SB-2 (5-7)	SB-2 (9-11)	SB-3 (0-5)	SB-3 (5-7)	SB-3 (11-11.5)	SB-4 (0-5)	SB-4 (5-7)	SB-4 (9-11)	SB-5 (0-5)	SB-5 (5-7)	SB-5 (11-11.5)	SB-6 (0-5)	SB-6 (5-7)	SB-6 (7-9)	SB-7 (0-5)	SB-7 (9-11)	SB-8 (0-5)	SB-8 (5-7)	SB-8 (9-11)
Date		12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/10/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
PCB's (mg /kg) - EPA																							
Aroclor 1016	25*	0.0032 UJ	0.003 UJ	0.003 UJ	0.0028 U	0.0029 UJ	0.003 UJ	0.0035 UJ	0.0042 UJ	0.0029 UJ	0.0029 U	0.0032 UJ	0.0033 UJ	0.0035 U	0.0035 UJ	0.003 U	0.0031 UJ	0.003 UJ	0.0 U	0.062 U	0.0031 U	0.0036 UJ	0.0 UJ
Aroclor 1221	25*	0.005 UJ	0.005 UJ	0.0046 UJ	0.0044 U	0.0045 UJ	0.005 UJ	0.0054 UJ	0.0065 UJ	0.0046 UJ	0.0045 U	0.0049 UJ	0.0052 UJ	0.0054 U	0.0054 UJ	0.0047 U	0.0048 UJ	0.0047 UJ	0.0047 U	0.096 U	0.0049 U	0.0056 UJ	0.0047 UJ
Aroclor 1232	25*	0.0075 UJ	0.007 UJ	0.0069 UJ	0.0066 U	0.0067 UJ	0.007 UJ	0.008 UJ	0.0098 UJ	0.0068 UJ	0.0067 U	0.0074 UJ	0.0077 UJ	0.0081 U	0.0080 UJ	0.0071 U	0.0072 UJ	0.0071 UJ	0.0071 U	0.14 U	0.0073 U	0.0084 UJ	0.0071 UJ
Aroclor 1242	25*	0.0067 UJ	0.006 UJ	13 J	0.0059 U	0.0059 UJ	0.006 UJ	0.0072 UJ	0.0087 UJ	0.0061 UJ	0.88 J	0.0065 UJ	1.5 J	1.1 D	0.0071 UJ	0.0063 U	0.0064 UJ	0.0063 UJ	0.0063 U	0.13 U	**73 J**	5.6 J	11 D
Aroclor 1248	25*	0.0033 UJ	0.003 UJ	0.003 UJ	0.0029 U	0.0029 UJ	0.003 UJ	0.0035 UJ	0.0042 UJ	0.003 UJ	0.0029 U	0.0032 UJ	0.0033 UJ	0.0035 U	0.00.5 UJ	0.0031 U	0.0031 UJ	0.0031 UJ	0.0031 U	0.062 U	0.0031 U	0.0036 UJ	0.0031 UJ
Aroclor 1254	25*	0.0021 UJ	0.002 UJ	9.7 J	0.0019 U	0.0019 UJ	0.002 UJ	0.0023 UJ	0.0028 UJ	0.0019 UJ	0.39 J	0.0021 UJ	1.3 J	1.2 D	0.0023 UJ	7.6 D	**33 J**	2.7 D	0.0 U	11 J	**27 D**	2.5 J	10 D
Aroclor 1260	25*	0.17 J	0.44 J	0.0049 UJ	0.0047 U	0.0048 UJ	0.005 UJ	0.0058 UJ	0.007 UJ	0.053 J	0.0048 U	0.0053 UJ	0.0055 UJ	0.0058 U	0.0057 UJ	0.0051 U	0.0051 UJ	0.0051 UJ	1.6 D	0.1 U	0.0052 U	0.006 UJ	0.0051 UJ
Total Arochlors	25	0.17	0.044	22.7	U	U	U	U	U	0.053	1.27	U	2.8	2.3	U	7.6	**33**	3	1.6	11	100	8.1	21

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-9			SB-10			SB-11			SB-12		SB-13		SB-14			SB-15		
		SB-9 (0-5)	SB-9 (7-8)	SB-9 (11-12)	SB-10 (0-5)	SB-10 (5-7)	SB-10 (9-11)	SB-11 (0-5)	SB-11 (5-7)	SB-11 (9-11)	SB-12 (0-5)	SB-12 (5-7)	SB-13 (0-5)	SB-13 (9-11)	SB-14 (0-5)	SB-14 (7-9)	SB-14 (9-11)	SB-15 (0-5)	SB-15 (7-9)	SB-15 (9-11)
Date		12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007
PCB's (mg /kg) - EPA																				
Aroclor 1016	25*	0.03 U	0.003 U	0.0032 UJ	0.0032 UJ	0.0035 U	0.0031 U	0.0031 U	0.003 UJ	0.0035 UJ	0.0033 UJ	0.0033 U	0.0036 U	0.0035 U	0.0033 UJ	0.0028 U	0.0033 U	0.004 UJ	0.0061 U	0.03 U
Aroclor 1221	25*	0.047 U	0.005 U	0.0049 UJ	0.005 UJ	0.0054 U	0.0048 U	0.0049 U	0.0047 UJ	0.0054 UJ	0.0051 UJ	0.0051 U	0.0055 U	0.0054 U	0.0052 UJ	0.0044 U	0.0052 U	0.0063 UJ	0.0095 U	0.045 U
Aroclor 1232	25*	0.071 U	0.007 U	0.0073 UJ	0.0075 UJ	0.0081 U	0.0072 U	0.0073 U	0.007 UJ	0.0081 UJ	0.0076 UJ	0.0076 U	0.0083 U	0.008 U	0.0077 UJ	0.0066 U	0.0077 U	0.0093 UJ	0.014 U	0.069 U
Aroclor 1242	25*	0.063 U	0.006 U	0.0065 UJ	0.0066 UJ	0.0072 U	0.0064 U	0.0065 U	0.0062 UJ	0.0072 UJ	0.0068 UJ	0.0068 U	0.0074 U	0.0071 U	0.0069 UJ	0.0059 U	0.0069 U	0.0083 UJ	0.013 U	0.062 U
Aroclor 1248	25*	22 J	0.003 U	0.0032 UJ	2.9 J	0.0035 U	5.9 D	4.6 D	0.003 UJ	0.31 J	0.0033 UJ	0.0033 U	0.0036 U	22 D	0.0033 UJ	0.0029 U	0.0033 U	0.14 J	9 D	11 D
Aroclor 1254	25*	0.02 U	0.0019 U	0.0021 UJ	0.0021 UJ	0.76 D	0.002 U	0.0021 U	0.002 UJ	0.0023 UJ	0.0022 UJ	0.0021 U	0.0023 U	0.0023 U	23 J	9.5 D	0.0022 U	0.0026 UJ	0.004 U	0.00002 U
Aroclor 1260	25*	0.051 U	0.74 J	0.0053 UJ	0.0053 UJ	0.0058 U	0.0051 U	0.0052 U	0.17 J	0.0058 UJ	0.15 J	0.72 J	0.41 J	0.0057 U	5.5 UJ	0.0047 U	0.0055 U	0.0067 UJ	0.01 U	0.00005 U
Total Arochlors	25	22	0.74	U	2.9	0.76	5.9	4.6	0.17	0.31	0.15	0.72	0.41	22	23	9.5	U	0.14	9	11

NOTES

Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
* Standard applies to the total arochlors
All units are mg/kg - parts per million
U = Not Detected
D = Diluted Sample
J = Estimated Value
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-4
VOLATILE ORGANIC COMPOUNDS (VOCs)
GROUNDWATER ANALYTICAL RESULTS

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	Field Blank	Trip Blank
Date		12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007
VOC's (μg/l) - EPA Method 8260								
1,1,1,2-Tetrachloroethane	5	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
1,1,1-Trichloroethane	5	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	5	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
1,1,2-Trichloroethane	1	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,1-Dichloroethane	5	2.8 J	3.2 J	0.26 U	2.4 J	0.26 U	0.26 U	0.26 U
1,1-Dichloroethene	5	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
1,1-Dichloropropene	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2,3-Trichlorobenzene	5	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2,3-Trichloropropane	5	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,2,4-Trichlorobenzene (v)	5	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
1,2,4-Trimethylbenzene*	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,2-Dibromo-3-Chloropropane	5	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U
1,2-Dibromoethane	5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
1,2-Dichlorobenzene (v)	3	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dichloroethane	0.6	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
1,2-Dichloropropane	1	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,3,5-Trimethylbenzene*	5	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene (v)	5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
1,3-Dichloropropane	5	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,4-Dichlorobenzene (v)	5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
2,2-Dichloropropane	5	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
2-Butanone	50	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
2-Chloroethyl vinyl ether	…	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2-Chlorotoluene	5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Hexanone	50	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
4-Chlorotoluene	5	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
4-Methyl-2-Pentanone	…	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Acetone	50	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Acrolein	5	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
Acrylonitrile	5	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Benzene*	0.7	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Bromobenzene	5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Bromodichloromethane	50	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Bromoform	50	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Bromomethane	5	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Carbon Disulfide	…	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Carbon Tetrachloride	5	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloroethane	50	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U
Chloroform	7	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Chloromethane	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
cis-1,2 Dichloroethene	5	0.48 U	**12**	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
cis-1,3 Dichloropropene	0.4**	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Dibromochloropropane	0.04	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromomethane	5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dichlorodifluoromethane	5	0.34 UJ	0.34 UJ	0.34 UJ	0.34 UJ	0.34 UJ	0.34 UJ	0.34 UJ
Ethyl Benzene*	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Hexachlorobutadiene	0.5	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Isopropylbenzene*	5	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
m+p Xylene	5	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Methyl tert-butyl Ether*	10	0.22 U	5.9	4.8 J	**12**	**28**	0.22 U	0.22 U
Methylene Chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene*	10	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
n-Butylbenzene*	5	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
n-Propylbenzene*	5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
o Xylene	5	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
sec- Butylbenzene*	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Styrene	5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
tert- Butylbenzene*	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Tetrachloroethene	5	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Toluene*	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
trans-1,2-Dichloroethene	5	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
trans-1,3 Dichloropropene	0.4**	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Trichloroethene	5	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
Trichlorofluoromethane	5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Vinyl Acetate	…	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ
Vinyl Chloride	2	**12**	**13**	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
**-Applies to the sum of cis- and trans-1,3-dichloropropene
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values
All units are micrograms per liter (μg/l)- parts per billion (ppb)
U = Not Detected
D = Diluted Sample
J = Estimated Value

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-5
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)
GROUNDWATER ANALYTICAL RESULTS

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	Field Blank
Date		12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/07
SVOC's (μg/l) - EPA Method 8270							
2,2-oxybis(1-Chloropropane)	--	0.45 U	0.45 U	0.47 U	0.46 U	0.42 U	0.44 U
2,4,5-Trichlorophenol	1**	0.71 U	0.71 U	0.75 U	0.72 U	0.67 U	0.7 U
2,4,6-Trichlorophenol	1**	0.38 U	0.38 U	0.4 U	0.39 U	0.36 U	0.38 U
2,4-Dichlorophenol	1**	0.48 U	0.48 U	0.51 U	0.49 U	0.45 U	0.47 U
2,4-Dimethylphenol	50	0.56 U	0.56 U	0.59 U	0.57 U	0.53 U	0.55 U
2,4-Dinitrophenol	10	0.84 UJ	0.84 UJ	0.87 UJ	0.84 UJ	0.78 UJ	0.82 UJ
2,4-Dinitrotoluene	5	0.48 U	0.48 U	0.51 U	0.49 U	0.45 U	0.47 U
2,6-Dinitrotoluene	5	0.45 U	0.45 U	0.47 U	0.46 U	0.42 U	0.44 U
2-Chloronaphthalene	10	0.47 U	0.47 U	0.49 U	0.48 U	0.44 U	0.46 U
2-Chlorophenol	1**	0.53 U	0.53 U	0.55 U	0.53 U	0.49 U	0.52 U
2-Methylnaphthalene	--	0.46 U	0.46 U	0.48 U	0.47 U	0.43 U	0.45 U
2-Methylphenol	1**	0.46 U	0.46 U	0.48 U	0.47 U	0.43 U	U
2-Nitroaniline	5	0.38 U	0.38 U	0.4 U	0.39 U	0.36 U	0.38 U
2-Nitrophenol	1**	0.57 U	0.57 U	0.6 U	0.58 U	0.54 U	0.56 U
3,3-Dichlorobenzidine	--	1 U	1 U	1 U	1 U	0.94 U	0.98 U
3+4-Methylphenols	1**	0.43 U	0.43 U	0.45 U	0.43 U	0.4 U	0.42 U
3-Nitroaniline	5	0.73 U	0.73 U	0.76 U	0.73 U	0.68 U	0.71 U
4,6-Dinitro-2-methylphenol	1**	0.76 U	0.76 U	0.79 U	0.77 U	0.71 U	0.74 U
4-Bromophenyl-phenylether	--	0.56 U	0.56 U	0.59 U	0.57 U	0.53 U	0.55 U
4-Chloro-3-methylphenol	1**	0.55 U	0.55 U	0.57 U	0.56 U	0.52 U	0.54 U
4-Chloroaniline	5	0.55 U	0.55 U	0.57 U	0.56 U	0.52 U	0.54 U
4-Chlorophenyl-phenylether	--	0.57 U	0.57 U	0.6 U	0.58 U	0.54 U	0.56 U
4-Nitroaniline	5	0.63 U	0.63 U	0.66 U	0.63 U	0.59 U	0.61 U
4-Nitrophenol	1**	0.38 UJ	0.38 UJ	0.4 UJ	0.39 UJ	0.36 UJ	0.38 UJ
Acenaphthene*	20	0.53 U	0.53 U	0.55 U	0.62 U	0.49 U	0.52 U
Acenaphthylene*	--	0.54 U	0.54 U	0.56 U	0.54 U	0.51 U	0.53 U
Anthracene*	50	0.51 U	0.51 U	0.53 U	0.51 U	0.47 U	0.49 U
Azobenzene	5	0.51 U	0.51 U	0.53 U	0.51 U	0.47 U	0.49 U
Benzo (a)anthracene*	0.002	0.57 U	0.57 U	0.6 U	0.58 U	0.54 U	0.56 U
Benzo (a)pyrene*	0.002	0.52 U	0.52 U	0.54 U	0.52 U	0.48 U	0.51 U
Benzo (b)fluoranthene*	0.002	0.66 U	0.66 U	0.69 U	0.67 U	0.62 U	0.65 U
Benzo (ghi) perylene*	--	0.68 U	0.68 U	0.71 U	0.69 U	0.64 U	0.67 U
Benzo (k)fluoranthene*	0.002	0.59 U	0.59 U	0.62 U	0.6 U	0.56 U	0.58 U
Benzoic Acid	--	0.35 R	0.35 R	0.37 R	0.36 R	0.33 R	0.34 R
Benzyl Alcohol	--	0.47 U	0.47 U	0.49 U	0.48 U	0.44 U	0.46 U
Bis(2-chloroethoxy)methane	5	0.56 U	0.56 U	0.59 U	0.57 U	0.53 U	0.55 U
Bis(2-chloroethyl)ether	1	0.59 U	0.59 U	0.62 U	0.6 U	0.56 U	0.58 U
Bis(2-ethylhexyl)phthalate	5	0.6 U	0.6 U	0.63 U	0.61 U	0.61 U	0.59 U
Butylbenzylphthalate	50	0.67 U	0.67 U	0.7 U	0.68 U	0.63 U	0.66 U
Chrysene*	0.002	0.67 U	0.67 U	0.7 U	0.68 U	0.63 U	0.66 U
Dibenzo (a,h) anthracene*	--	0.91 U	0.91 U	0.95 U	0.92 U	0.86 U	0.89 U
Dibenzofuran	--	0.52 U	0.52 U	0.54 U	0.52 U	0.48 U	0.51 U
Diethylphthalate	50	0.49 U	2.1 J	0.52 U	0.5 U	0.46 U	0.48 U
Dimethylphthalate	50	0.44 U	0.44 U	0.46 U	0.44 U	0.41 U	0.43 U
Di-n-Butylphthalate	50	0.56 U	0.56 U	0.59 U	0.57 U	0.53 U	0.55 U
Di-n-octylphthalate	50	0.3 U	0.3 U	0.31 U	0.3 U	0.28 U	0.29 U
Fluoranthene*	50	0.46 U	0.46 U	0.48 U	0.47 U	0.43 U	0.45 U
Fluorene*	50	0.44 U	0.44 U	0.46 U	0.44 U	0.41 U	0.43 U
Hexachlorobenzene	0.04	0.54 U	0.54 U	0.56 U	0.54 U	0.51 U	0.53 U
Hexachlorobutadiene	0.5	0.34 U	0.34 U	0.36 U	0.34 U	0.32 U	0.33 U
Hexachlorocyclopentadiene	5	0.31 U	0.31 U	0.32 U	0.31 U	0.29 U	0.3 U
Hexachloroethane	5	0.42 U	0.42 U	0.44 U	0.42 U	0.39 U	0.41 U
Indeno (1,2,3-cd) pyrene*	0.002	0.54 U	0.54 U	0.56 U	0.54 U	0.51 U	0.53 U
Isophorone	50	0.58 U	0.58 U	0.61 U	0.59 U	0.55 U	0.57 U
Naphthalene*	10	0.63 J	0.45 U	0.47 U	0.46 U	0.42 U	0.44 U
Nitrobenzene	0.4	0.59 U	0.59 U	0.62 U	0.6 U	0.56 U	0.58 U
N-Nitrosodi-n-propylamine	--	0.56 U	0.56 U	0.59 U	0.57 U	0.53 U	0.55 U
N-Nitrosodiphenylamine	50	1.1 U	1.1 U	1.1 U	1.1 U	0.99 U	1 U
Pentachlorophenol (ms)	1**	0.76 U	0.76 U	0.79 U	0.77 U	0.71 U	0.74 U
Phenanthrene*	50	0.89 J	0.52 U	0.54 U	0.52 U	0.48 U	0.51 U
Phenol	1**	0.14 U	0.14 U	0.15 U	0.14 U	0.13 U	0.14 U
Pyrene*	50	0.65 U	0.65 U	0.68 U	0.66 U	0.61 U	0.63 U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
**- Guidance Value applies to the sum of all phenols (total phenols)
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values
All units are micrograms per liter (ug/l)- parts per billion (ppb)
U = Not Detected
D = Diluted Sample
J = Estimated Value
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-6
TAL METALS
GROUNDWATER ANALYTICAL RESULTS
FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	Field Blank
Date		12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007	12/26/2007
TAL Metals (mg/L) Method 200.7							
Aluminum	0.1	**0.129** U	**0.244**	**0.485**	**0.251**	**0.239**	0.0344 J
Antimony	0.003	0.0081 U	0.0081 U	0.0081 U	**0.015.6 J**	0.0081 U	0.0081 U
Arsenic	0.025	0.0028 U	0.0035 U	0.0028 U	0.0028 U	0.005 U	0.0048 J
Barium	1	0.0631	0.0882 U	0.143	0.0555	0.108	0.0063 U
Beryllium	0.003	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
Calcium	…	103	72	131	311	185	0.541 J
Chromium	0.05	0.0039 U	0.0015 U	0.0024 U	0.0052 U	0.0022 U	0.0011 J
Cobalt	…	0.002 U	0.002 U	0.002 U	0.0036 J	0.002 U	0.002 U
Copper	0.2	0.0034 U	0.0034 U	0.0059 J	0.0107	0.0046 J	0.0034 U
Iron	0.3	**0.723**	**2**	**1**	**0.528**	**0.412**	0.0523
Lead	0.025	0.0022 U	0.0022 U	0.0117	**0.0252**	0.0066 J	0.0022 U
Magnesium	35	18	22	19	**62**	30	0.559 J
Manganese	0.3	**1.8**	**0.449**	**1**	0.155	**0.36**	0.0013 U
Mercury	0.0007	0.00008 U	0.00008 U	0.00008 U	0.00008 U	0.00008 U	8E-05 U
Nickel	0.1	0.0229	0.0036 U	0.0076 U	0.0077 U	0.0112 U	0.0036 U
Potassium	…	16.2	20.2	24.7	69.6	42.4	0.414 U
Selenium	0.01	0.0036 U	0.0049 J	0.0036 U	0.0036 U	0.0036 U	0.0036 U
Silver	0.05	0.0022 U	0.0022 U	0.0022 U	0.0043 J	0.0022 U	0.0022 U
Sodium	20	**171**	**175**	**203**	**182**	**165**	1.11
Thallium	0.0005	**0.0097 J**	0.0081 U	**0.0117 J**	0.0081 U	0.0081 U	0.0081 U
Vanadium	…	0.0023 U	0.0023 U	0.0033 U	0.0045 J	0.0045 J	0.0023 U
Zinc	2	0.0363 U	0.0369 U	0.0524 U	0.104 U	0.0559 U	0.0361

NOTES:
NYSDEC - New York State Department of Environmental Conservation
... - No Standard
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values
All units are milligrams per liter (mg/L)- parts per million (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-7
SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Brownfields Restricted Use-Industrial

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Brownfields Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-16		SB-17			SB-18		SB-19		SB-20		SB-21	SB-22		SB-23	SB-24
		SB-16 (0-4)	SB-16 (4-7)	SB-17 (0-4)	SB-17 (4-6)	SB-17 (0-4) DUP	SB-18 (0-4)	SB-18 (4-6)	SB-19 (0-4)	SB-19 (4-6)	SB-20 (0-4)	SB-20 (4-6)	SB-21 (0-2)	SB-22 (0-4)	SB-22 (4-7.5)	SB-23 (0-4)	SB-24 (0-2)
Date		11/05/09		11/05/09			11/05/09		11/04/09		11/04/09		11/04/09	11/05/09		11/05/09	11/04/09
SVOC's (µg/kg) - EPA Method 8270																	
1,1-Biphenyl	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	3,100 J	2,100 J	40,000 U	6,300 J	40,000 U	24,000 U
2,2-oxybis(1-Chloropropane)	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4,5-Trichlorophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4,6-Trichlorophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4-Dichlorophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4-Dimethylphenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4-Dinitrophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,4-Dinitrotoluene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	2,700 J	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2,6-Dinitrotoluene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2-Chloronaphthalene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2-Chlorophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2-Methylnaphthalene	...	20,000 U	11,000 J	95,000 U	44,000 U	92,000 U	4,000 U	720 J	20,000 U	19,000 U	1,000 J	10,000 J	8,400 J	40,000 U	28,000 J	40,000 U	24,000 U
2-Methylphenol (o-Cresol)	1,000,000	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2-Nitroaniline	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
2-Nitrophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
3,3-Dichlorobenzidine		20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
3+4-Methylphenols[1]	2,000,000	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
3-Nitroaniline	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4,6-Dinitro-2-methylphenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Bromophenyl-phenylether	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Chloro-3-methylphenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Chloroaniline	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Chlorophenyl-phenylether	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Nitroaniline	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
4-Nitrophenol	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Acenaphthene	1,000,000	2,300 J	19,000 U	95,000 U	14,000 J	92,000 U	4,000 U	750 J	20,000 U	19,000 U	940 J	23,000	19,000	40,000 U	22,000 J	40,000 U	24,000 U
Acenaphthylene	1,000,000	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	5,100 J	5,300 U	2,700 J	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Acetophenone	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Anthracene	1,000,000	4,600 J	2,000 J	95,000 U	25,000 J	92,000 U	4,000 U	1,600 J	2,900 J	4,100 J	2,400 J	59,000	32,000	7,700 J	44,000	11,000 J	24,000 U
Atrazine	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Benzaldehyde	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 UJ	20,000 UJ	19,000 UJ	5,300 UJ	20,000 UJ	19,000 UJ	40,000 U	39,000 U	40,000 U	24,000 UJ
Benzo(a)anthracene	11,000	10,000 J	4,000 J	**20,000 J**	**38,000 J**	**13,000 J**	720 J	4,300	8,500 J	11,000 J	5,000 J	**88,000**	**45,000**	**15,000 J**	**45,000**	**20,000 J**	3,700 J
Benzo(a)pyrene	1,100	**8,100 J**	**3,200 J**	**17,000 J**	**30,000 J**	**11,000 J**	700 J	**3,400 J**	**7,400 J**	**14,000 J**	**3,900 J**	**69,000**	**37,000**	**12,000 J**	**31,000 J**	**17,000 J**	**3,600 J**
Benzo(b)fluoranthene	11,000	11,000 J	4,900 J	**22,000 J**	**41,000 J**	**14,000 J**	1,000 J	**4,600**	9,400 J	**16,000 J**	5,200 J	**84,000**	**43,000**	**15,000 J**	**40,000**	**22,000 J**	5,000 J
Benzo(g,h,i)perylene	1,000,000	5,800 J	2,700 J	12,000 J	17,000 J	92,000 U	460 J	2,500 J	5,200 J	9,900 J	2,900 J	45,000	24,000	9,100 J	21,000 J	10,000 J	3,200 J
Benzo(k)fluoranthene	110,000	3,000 J	19,000 U	95,000 U	14,000 J	92,000 U	4,000 U	1,400 J	3,200 J	5,500 J	1,700 J	30,000	16,000 J	6,400 J	14,000 J	7,700 J	24,000 U
bis(2-Chloroethoxy)methane	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
bis(2-Chloroethyl)ether	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
bis(2-Ethylhexyl)phthalate	...	25,000	48,000	310,000 J	14,000 J	49,000 J	33,000 D	7,500	2,300 J	5,300 J	110,000 D	27,000	41,000	48,000	66,000	36,000 J	180,000
Butylbenzylphthalate	...	10,000 J	25,000	95,000 U	13,000 J	430,000	250,000 D	3,100 J	2,100 J	19,000 U	5,200 J	20,000 U	6,900 J	40,000 U	10,000 J	5,800 J	7,300 J
Caprolactam	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Carbazole	...	2,800 J	19,000 U	95,000 U	17,000 J	92,000 U	4,000 U	690 J	20,000 U	19,000 U	1,000 J	23,000	15,000 J	4,200 J	35,000 J	40,000 U	24,000 U
Chrysene	110,000	9,600 J	4,200 J	19,000 J	38,000 J	12,000 J	780 J	4,100	8,200 J	11,000 J	4,400 J	82,000	44,000	15,000 J	38,000 J	21,000 J	3,700 J
Dibenzo(a,h)anthracene	1,100	20,000 U	19,000 U	95,000 U	**4,900 J**	92,000 U	4,000 U	690 J	20,000 U	2,100 J	780 J	**12,000 J**	**6,000 J**	40,000 U	**4,600 J**	40,000 U	24,000 U
Dibenzofuran	...	20,000 U	19,000 U	95,000 U	11,000 J	92,000 U	4,000 U	470 J	20,000 U	19,000 U	620 J	20,000	12,000 J	40,000 U	24,000 J	40,000 U	24,000 U
Diethylphthalate	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Dimethylphthalate	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	1,800 J	20,000 U	19,000 U	2,900 J	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	4,300 J
Di-n-butylphthalate	...	20,000 U	2,200 J	95,000 U	44,000 U	92,000 U	1,500 J	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Di-n-octyl phthalate	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	3,200 J	20,000 U	19,000 U	40,000 U	8,500 J	40,000 U	24,000 U
Fluoranthene	1,000,000	23,000	9,300 J	41,000 J	96,000	27,000 J	1,700 J	8,300	18,000 J	23,000	10,000	220,000 D	100,000	33,000 J	120,000	46,000 J	5,800 J
Fluorene	1,000,000	3,300 J	2,000 J	95,000 U	18,000 J	92,000 U	4,000 U	1,000 J	20,000 U	19,000 U	1,200 J	33,000	18,000 J	5,500 J	38,000 J	5,300 J	24,000 U
Hexachlorobenzene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Hexachlorobutadiene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Hexachlorocyclopentadiene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 R	24,000 U
Hexachloroethane	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Indeno(1,2,3-cd)pyrene	11,000	5,100 J	2,200 J	10,000 J	**17,000 J**	92,000 U	410 J	2,500 J	5,500 J	9,400 J	2,700 J	**44,000**	**23,000**	8,100 J	**19,000 J**	9,700 J	3,200 J
Isophorone	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Naphthalene	1,000,000	20,000 U	4,700 J	95,000 U	44,000 U	92,000 U	510 J	1,100 J	20,000 U	19,000 U	1,200 J	13,000 J	14,000 J	40,000 U	56,000	40,000 U	24,000 U
Nitrobenzene	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
N-Nitroso-di-n-propylamine	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
N-Nitrosodiphenylamine	...	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Pentachlorophenol	55,000	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	19,000 U	40,000 U	39,000 U	40,000 U	24,000 U
Phenanthrene	1,000,000	20,000 J	8,500 J	27,000 J	83,000	10,000 J	1,300 J	6,600	8,800 J	10,000 J	7,800	210,000 D	110,000	30,000 J	170,000	38,000 J	3,100 J
Phenol	1,000,000	20,000 U	19,000 U	95,000 U	44,000 U	92,000 U	4,000 U	3,900 U	20,000 U	19,000 U	5,300 U	20,000 U	2,800 J	40,000 U	39,000 U	40,000 U	24,000 U
Pyrene	1,000,000	21,000	11,000 J	36,000 J	78,000	24,000 J	1,400 J	9,100	17,000 J	31,000	11,000	190,000 D	110,000	37,000 J	110,000	47,000 J	7,400 J
Total SVOCs	---	164,600	144,900	514,000	568,900	590,000	296,180	66,220	98,500	157,400	185,040	1,287,800	729,200	246,000	950,400	296,500	230,300

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)

Values in bold exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
MDL - Method Detection Limit
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ - The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R =The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-7
SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Brownfields Restricted Use-Industrial

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Brownfields Restricted Use Soil Cleanup Objective-Protection of Public Health-Industrial	SB-25	SB-26		SB-27			SB-28		SB-101		SB-102		Field Blank	Field Blank
		SB-25 (0-4)	SB-26 (0-4)	SB-26 (4-6)	SB-27 (0-4)	SB-27 (0-4) DUP	SB-27 (8-10)	SB-28 (0-4)	SB-28 (4-8)	SB-101 (0-4)	SB-101 (4-6)	SB-102 (0-4)	SB-102 (4-6)	QA/QC	
Date		11/04/09	11/05/09		11/05/09			11/04/09		11/05/09		11/05/09		11/4/2009	11/5/2009
SVOC's (µg/kg) - EPA Method 8270															
1,1-Biphenyl	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,2-oxybis(1-Chloropropane)	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4,5-Trichlorophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4,6-Trichlorophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4-Dichlorophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4-Dimethylphenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4-Dinitrophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,4-Dinitrotoluene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2,6-Dinitrotoluene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Chloronaphthalene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Chlorophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Methylnaphthalene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	390 J	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Methylphenol (o-Cresol)	1,000,000	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Nitroaniline	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
2-Nitrophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
3,3-Dichlorobenzidine		19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
3+4-Methylphenols[1]	2,000,000	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
3-Nitroaniline	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4,6-Dinitro-2-methylphenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4-Bromophenyl-phenylether	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4-Chloro-3-methylphenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4-Chloroaniline	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	560 J	10 U	10 U
4-Chlorophenyl-phenylether	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4-Nitroaniline	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
4-Nitrophenol	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	31 U	31 U
Acenaphthene	1,000,000	2,300 J	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	320 J	21,000 U	3,900 J	2,500 J	630 J	10 U	10 U
Acenaphthylene	1,000,000	2,000 J	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Acetophenone	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Anthracene	1,000,000	10,000 J	4,900 J	18,000 U	6,900 J	3,700 J	4,000 U	3,700 U	920 J	5,300 J	8,900 J	5,800 J	1,500 J	10 U	10 U
Atrazine	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Benzaldehyde	…	19,000 UJ	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 UJ	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 UJ	10 UJ
Benzo(a)anthracene	11,000	**23,000**	**18,000 J**	3,700 J	**19,000 J**	9,600 J	680 J	670 J	2,800	**12,000 J**	**23,000**	**18,000 J**	3,500 J	10 U	10 U
Benzo(a)pyrene	1,100	**17,000 J**	**14,000 J**	**3,300 J**	**14,000 J**	**8,800 J**	630 J	910 J	**4,300**	**9,900 J**	**18,000 J**	**16,000 J**	**3,200 J**	10 U	10 U
Benzo(b)fluoranthene	11,000	**22,000**	**23,000 J**	4,600 J	**20,000 J**	**12,000 J**	850 J	1,500 J	4,300	**13,000 J**	**25,000**	**20,000 J**	4,600 J	10 U	10 U
Benzo(g,h,i)perylene	1,000,000	11,000 J	9,900 J	2,200 J	7,800 J	5,900 J	450 J	1,300 J	3,300	6,500 J	11,000 J	11,000 J	2,400 J	10 U	10 U
Benzo(k)fluoranthene	110,000	6,800 J	7,400 J	18,000 U	6,700 J	3,300 J	4,000 U	480 J	1,100 J	4,700 J	9,100 J	7,500 J	1,500 J	10 U	10 U
bis(2-Chloroethoxy)methane	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
bis(2-Chloroethyl)ether	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	…	19,000 U	37,000 U	18,000 U	9,100 J	15,000 J	1,400 J	9,600	240 J	18,000 J	11,000 J	33,000	61,000 D	10 U	10 U
Butylbenzylphthalate	…	19,000 U	37,000 U	18,000 U	40,000 U	8,700 J	4,000 U	1,400 J	2,200 U	4,600 J	3,100 J	6,500 J	1,500 J	10 U	10 U
Caprolactam	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	31 U	31 U
Carbazole	…	2,300 J	4,500 J	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	310 J	21,000 U	4,100 J	2,700 J	590 J	10 U	10 U
Chrysene	110,000	24,000	21,000 J	3,800 J	20,000 J	10,000 J	710 J	1,000 J	2,900	12,000 J	23,000	17,000 J	3,800 J	10 U	10 U
Dibenzo(a,h)anthracene	1,100	**3,000 J**	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	670 J	21,000 U	**2,700 J**	**2,800 J**	590 J	10 U	10 U
Dibenzofuran	…	2,900 J	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	2,700 J	21,000 U	5,300 U	10 U	10 U
Diethylphthalate	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Dimethylphthalate	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	1,300 J	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Di-n-butylphthalate	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	380 J	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	21 U	21 U
Di-n-octyl phthalate	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Fluoranthene	1,000,000	50,000	47,000	7,400 J	39,000 J	19,000 J	1,300 J	1,200 J	5,000	25,000	47,000	35,000	8,600	10 U	10 U
Fluorene	1,000,000	6,500 J	37,000 U	18,000 U	40,000 U	2,000 J	4,000 U	3,700 U	330 J	21,000 U	5,300 J	2,900 J	1,000 J	10 U	10 U
Hexachlorobenzene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Hexachlorobutadiene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Hexachlorocyclopentadiene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Hexachloroethane	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	11,000	11,000 J	9,500 J	2,200 J	8,400 J	5,400 J	4,000 U	1,000 J	3,100	5,400 J	9,300 J	10,000 J	1,900 J	10 U	10 U
Isophorone	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Naphthalene	1,000,000	2,000 J	4,100 J	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	700 J	10 U	10 U
Nitrobenzene	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
N-Nitroso-di-n-propylamine	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
N-Nitrosodiphenylamine	…	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 U	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Pentachlorophenol	55,000	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	3,700 U	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Phenanthrene	1,000,000	55,000	49,000	5,700 J	23,000 J	11,000 J	640 J	880 J	3,200	14,000 J	29,000	20,000 J	6,700	10 U	10 U
Phenol	1,000,000	19,000 U	37,000 U	18,000 U	40,000 U	19,000 U	4,000 U	430 J	2,200 UJ	21,000 U	21,000 U	21,000 U	5,300 U	10 U	10 U
Pyrene	1,000,000	49,000	39,000	7,100 J	36,000 J	19,000	1,300 J	1,900 J	7,000	20,000 J	40,000	33,000	8,800	10 U	10 U
Total SVOCs	---	299,800	251,300	40,000	209,900	133,400	7,960	24,340	39,790	150,400	276,100	243,700	113,070	U	U

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)

Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
MDL - Method Detection Limit
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ - The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
R =The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

TABLE 2-8
SOIL ANALYTICAL RESULTS - TAL METALS
Brownfields Restricted Use- Protection of Groundwater Comparison
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-16		SB-17			SB-18		SB-19		SB-20		SB-21	SB-22		SB-23	SB-24
		SB-16 (0-4)	SB-16 (4-7)	SB-17 (0-4)	SB-17 (4-6)	SB-17 (0-4) DUP	SB-18 (0-4)	SB-18 (4-6)	SB-19 (0-4)	SB-19 (4-6)	SB-20 (0-4)	SB-20 (4-6)	SB-21 (0-2)	SB-22 (0-4)	SB-22 (4-7.5)	SB-23 (0-4)	SB-24 (0-2)
Date		11/5/2009		11/5/2009			11/5/2009		11/4/2009		11/4/2009		11/4/2009	11/5/2009		11/5/2009	11/4/2009
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	---	6290	8360	11300	56800	6890	6880	4130	6800	6770	8100	8890	7630	9270	8070	11400	15700
Antimony	---	5.1	181	16.1	2.09 J	11.7	2.55 J	1.94 J	36.9	139	14.5	17.7	3.64	25.3	73.3	32.4	20.3
Arsenic	16	1.5 U	9.85 J	4.79 J	1.76 U	2.22 U	1.71 U	1.26	11.5	**27.7**	9.06	7.41	0.33 J	6.96 J	**28.1 J**	7.46 J	7.91
Barium	820	488	**1250**	706	349	469	341	182	784	**1430**	651	602	261	**1050**	**1980**	**1080**	**871**
Beryllium	47	0.5	1.15	1.1	0.35 J	0.64	0.44	0.29	1.04	1.12 J	0.68	0.66	2.46	1.14	1.57	1.25	0.63
Cadmium	7.5	**11.1**	**41.3**	**27.4**	3.67	**27.1**	2.91	1.9	**20.9**	**48.2**	**22.7**	**14.1**	**17.1**	**32.5**	**44.5**	**40.9**	**19.2**
Calcium	---	87500 J	26200 J	87400 J	56600 J	86800 J	65300 J	46600	36600	39100	41900	57700	52800	41900 J	18900 J	32200 J	55300
Chromium*	19	**54.3 J**	**260 J**	**104 J**	**47.8 J**	**51.8 J**	**30.4 J**	**21.6**	**133**	**227**	**174**	**255**	**53.7**	**411 J**	**379 J**	**484 J**	**140**
Cobalt	---	8.3	19.6	22.9	4.13	12.2	7.08	4.09	14	20.5	12.5	11.7	5.73	38.3	33.7	26.9	15.7
Copper	1720	597 J	1100 J	1540 J	244 J	717 J	899 J	866	**3120**	**2350**	789	721	290	755 J	1260 J	1060 J	**2230**
Iron	---	34200 J	106000 J	48500 J	13500 J	31700 J	23400 J	13900	59400	117000	64400	45900	31500	89200 J	139000 J	101000 J	61800
Lead	450	**1220**	**6130**	**1340**	**1100**	**834**	397	421	**4190**	**10100**	**1980**	**2000**	**668**	**110000**	**8940**	**10900**	**2160**
Magnesium	---	5490	6950	6160	5300	5150	7110	4690	5560	15600	5530	6010	8000	6050	5510	5770	5770
Manganese	2000	358	916	526	300	514	266	174	474 U	731 U	545 U	476 U	642 U	713	1030	749	463 U
Mercury	0.73	**1.9 J**	**7.3 D**	**7.6 J**	**2.1 J**	**7.2 J**	**4.4 J**	**2.4**	**12.7**	**6.1**	**4.6**	**3.8**	**1.8**	**4.1 J**	**4.1 J**	**15.1 J**	**3.6**
Nickel	130	60.2	**310**	**216**	27	108	29.5	19.7	**171**	**279**	124	**149**	57.1	**370**	**334**	**297**	**164**
Potassium	---	749	937	837	564	1200	2200	1350	638	319 J	1170	1110	1100	808	785	844	752
Selenium	4	2.48	2.93	3.22	1.35 J	2.46	1.44	0.89 J	3.89	**9.19 J**	3.7	**4.29**	**14.9**	2.48	3.1	**4.65**	**5.51**
Silver	8.3	0.49 U	0.53 U	0.58 U	0.69 U	0.7 U	0.63 U	0.46 U	0.54 U	5.23 U	0.69 U	0.52 U	1.86	20.5	0.52 U	0.69	0.65 U
Sodium	---	517	2050	622	291	498	332	355	243	209 U	615	887	528	581	1440	1130	510
Thallium	---	0.33 J	0.91 J	0.6 J	2.75 U	2.81 U	0.55 J	0.35 J	0.97 J	20.9 U	2.76 U	1.13 J	0.62 J	0.8 J	3.51	1.46 J	0.52 J
Vanadium	---	27.3	64.1	42.4	24.6	30.7	21.7	19.6	69.5	118	29.9	93.1	18.9	83.8	255	133	29.1
Zinc	2480	2450 J	**10700**	**12300 J**	1140 J	**8080 J**	1110 J	388	**6120**	**43800 D**	**3760**	2460	1810	**8070 J**	**9720 J**	**6190 J**	**17600 D**

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-25	SB-26		SB-27			SB-28		SB-101		SB-102		Field Blank	Field Blank
		SB-25 (0-4)	SB-26 (0-4)	SB-26 (4-6)	SB-27 (0-4)	SB-27 (0-4) DUP	SB-27 (8-10)	SB-28 (0-4)	SB-28 (4-8)	SB-101 (0-4)	SB-101 (4-6)	SB-102 (0-4)	SB-102 (4-6)	QA/QC	
Date		11/4/2009	11/5/2009		11/5/2009			11/4/2009		11/5/2009		11/5/2009		11/4/2009	11/5/2009
TAL Metals (mg/kg) Method 6010/7471															
Aluminum	---	4470	4310	4000	8860	8120	1170	14700	5600	5710	13700	4670	12100	48.2 J	16.9 J
Antimony	---	17.7	2.05 J	1.43 J	26.7	13.1	3.08	25.5	4.18	2.37 J	11.1	6.61	62.4	48.8 J	64.1
Arsenic	16	**44.8**	9.12 J	7.67 J	6.46 J	3.84 J	0.75 U	**104**	7.59	1 U	0.53 U	1.31 U	0.92 U	6 U	6 U
Barium	820	594	165	128	732	596	35.8	**1730**	179	405	691	389	699	600 J	683 J
Beryllium	47	0.61	0.44	0.35	0.77	0.83	0.14 J	0.43	0.39	0.46	0.77	0.42	1.77	2.78 J	1.76 J
Cadmium	7.5	**15.3**	1.94	1.39	**23.3**	**17.3**	0.38	**23.2**	2.97	5.52	**16.8**	**8.63**	**60.8**	0.2 U	0.2 U
Calcium	---	26000	28300 J	26600 J	58900 J	35300 J	9700 J	28700	101000	55300 J	69600 J	28200 J	22100 J	20 U	20 U
Chromium*	19	**163**	**26 J**	19 J	**221 J**	**175 J**	8.13 J	**153**	**20.9**	**37 J**	**155 J**	**56.4 J**	**1610 J**	**72.5 J**	**82.4 J**
Cobalt	---	9.96	6.27	4.91	13.3	15.3	2.05	22.7	4.75	4.98	13.1	7.68	36.2	5 U	5 U
Copper	1720	**2480**	176 J	104 J	588 J	581 J	51.2 J	**14000 D**	518	278 J	**2600 J**	355 J	**1910 J**	340 J	415 J
Iron	---	55900	21300 J	14400 J	64100 J	65800 J	3860 J	37000	16000	31500 J	65900 J	36300 J	174000 J	20 U	20 U
Lead	450	**3390**	**1680**	350	**4780**	**3590**	191	**3270**	**718**	**475**	**2770**	**968**	**17200**	25 U	25 U
Magnesium	---	3390	9500	10200	19500	4650 J	664	4200	6180	6500	18200	2530	7090	10 U	10 U
Manganese	2000	497 U	278	278	538	535	76.1	505 U	269 U	311	600	281	1090	50 U	50 U
Mercury	0.73	**3.8**	**7.3 D**	**5.6 J**	**17 J**	**1.3 J**	**1.1 J**	**4**	**8.7**	**5.7 J**	**10.1 J**	**3.4 J**	**3.3 J**	3 UJ	3 UJ
Nickel	130	94.5	19.2	13.8	**161**	**241**	7.53	**229**	21.6	35.3	**151**	78.3	**933**	3 U	3 U
Potassium	---	634	509	496	1150	944	488	833	678	706	753	529	559	5 U	5 U
Selenium	4	**4.04**	1.93	1.21	**4.44**	3.35	0.83 J	**241**	**7.74**	**4.42**	2.87	2.07	**5.12**	15 U	15 U
Silver	8.3	0.55 U	0.51 U	0.42 U	0.56 U	0.45 U	0.52 U	6.05	0.59 U	0.5 U	0.61 U	0.43 U	0.76 U	10 U	6.68 J
Sodium	---	205 U	136	160	1330	545	976	659	283 U	415	450	389	435	20 U	20 U
Thallium	---	0.38 J	2.05 U	0.25 J	1.1 J	1.89	2.09 U	0.32 J	2.37 U	0.29 J	0.65 J	0.31 J	2.09 J	20 U	6.96 J
Vanadium	---	26.8	21.5	19.2	89.3	120	11.4	33.4	29.2	37.9	45.5	32.1	161	2740	3200
Zinc	2480	**15900 D**	289 J	233 J	**3830 J**	**2890 J**	92.2 J	**4110**	583	1470 J	2190 J	**3030 J**	**7270 J**	10 U	10 U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram(mg/kg) - parts per million (ppm)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Groundwater
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
… - No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate

TABLE 2-9
SOIL ANALYTICAL RESULTS - TAL METALS
Brownfields Soil Cleanup Objective for Restricted Use-Industrial Comparison
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-16		SB-17			SB-18		SB-19		SB-20		SB-21	SB-22		SB-23		SB-24
		SB-16 (0-4)	SB-16 (4-7)	SB-17 (0-4)	SB-17 (4-6)	SB-17 (0-4) DUP	SB-18 (0-4)	SB-18 (4-6)	SB-19 (0-4)	SB-19 (4-6)	SB-20 (0-4)	SB-20 (4-6)	SB-21 (0-2)	SB-22 (0-4)	SB-22 (4-7.5)	SB-23 (0-4)	SB-23 (8-10)	SB-24 (0-2)
Date		11/5/2009		11/5/2009			11/5/2009		11/4/2009		11/4/2009		11/4/2009	11/5/2009		11/5/2009		11/4/2009
TAL Metals (mg/kg) Method 6010/7471																		
Aluminum	…	6290	8360	11300	56800	6890	6880	4130	6800	6770	8100	8890	7630	9270	8070	11400	1170	15700
Antimony	…	5.1	181	16.1	2.09 J	11.7	2.55 J	1.94 J	36.9	139	14.5	17.7	3.64	25.3	73.3	32.4	3.08	20.3
Arsenic	16	1.5 U	9.85 J	4.79 J	1.76 U	2.22 U	1.71 U	1.26	11.5	**27.7**	9.06	7.41	0.33 J	6.96 J	**28.1 J**	7.46 J	0.75 U	7.91
Barium	10,000	488	1250	706	349	469	341	182	784	1430	651	602	261	1050	1980	1080	35.8	871
Beryllium	2,700	0.5	1.15	1.1	0.35 J	0.64	0.44	0.29	1.04	1.12 J	0.68	0.66	2.46	1.14	1.57	1.25	0.14 J	0.63
Cadmium	60	11.1	41.3	27.4	3.67	27.1	2.91	1.9	20.9	48.2	22.7	14.1	17.1	32.5	44.5	40.9	0.38	19.2
Calcium	…	87500 J	26200 J	87400 J	56600 J	86800 J	65300 J	46600	36600	39100	41900	57700	52800	41900 J	18900 J	32200 J	9700 J	55300
Chromium*	800	54.3 J	260 J	104 J	47.8 J	51.8 J	30.4 J	21.6	133	227	174	255	53.7	411 J	379 J	484 J	8.13 J	140
Cobalt	…	8.3	19.6	22.9	4.13	12.2	7.08	4.09	14	20.5	12.5	11.7	5.73	38.3	33.7	26.9	2.05	15.7
Copper	10,000	597 J	1100 J	1540 J	244 J	717 J	899 J	866	3120	2350	789	721	290	755 J	1260 J	1060 J	51.2 J	2230
Iron	…	34200 J	106000 J	48500 J	13500 J	31700 J	23400 J	13900	59400	117000	64400	45900	31500	89200 J	139000 J	101000 J	3860 J	61800
Lead	3,900	1220	**6130**	1340	1100	834	397	421	**4190**	**10100**	1980	2000	668	**110000**	**8940**	**10900**	191	2160
Magnesium	…	5490	6950	6160	5300	5150	7110	4690	5560	15600	5530	6010	8000	6050	5510	5770	664	5770
Manganese	10,000	358	916	526	300	514	266	174	474 U	731 U	545 U	476 U	642 U	713	1030	749	76.1	463 U
Mercury	5.7	1.9 J	**7.3 D**	**7.6 J**	2.1 J	**7.2 J**	4.4 J	2.4	**12.7**	**6.1**	4.6	3.8	1.8	4.1 J	4.1 J	**15.1 J**	1.1 J	3.6
Nickel	10,000	60.2	310	216	27	108	29.5	19.7	171	279	124	149	57.1	370	334	297	7.53	164
Potassium	…	749	937	837	564	1200	2200	1350	638	319 J	1170	1110	1100	808	785	844	488	752
Selenium	6,800	2.48	2.93	3.22	1.35 J	2.46	1.44	0.89 J	3.89	9.19 J	3.7	4.29	14.9	2.48	3.1	4.65	0.83 J	5.51
Silver	6,800	0.49 U	0.53 U	0.58 U	0.69 U	0.7 U	0.63 U	0.46 U	0.54 U	5.23 U	0.69 U	0.52 U	1.86	20.5	0.52 U	0.69	0.52 U	0.65 U
Sodium	…	517	2050	622	291	498	332	355	243	209 U	615	887	528	581	1440	1130	976	510
Thallium	…	0.33 J	0.91 J	0.6 J	2.75 U	2.81 U	0.55 J	0.35 J	0.97 J	20.9 U	2.76 U	1.13 J	0.62 J	0.8 J	3.51	1.46 J	2.09 U	0.52 J
Vanadium	…	27.3	64.1	42.4	24.6	30.7	21.7	19.6	69.5	118	29.9	93.1	18.9	83.8	255	133	11.4	29.1
Zinc	10,000	2450 J	**10700**	**12300 J**	1140 J	8080 J	1110 J	388	6120	**43800 D**	3760	2460	1810	8070 J	9720 J	6190 J	92.2 J	**17600 D**

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-25	SB-26		SB-27			SB-28		SB-101		SB-102		Field Blank	Field Blank
		SB-25 (0-4)	SB-26 (0-4)	SB-26 (4-6)	SB-27 (0-4)	SB-27 (0-4) DUP	SB-27 (8-10)	SB-28 (0-4)	SB-28 (4-8)	SB-101 (0-4)	SB-101 (4-6)	SB-102 (0-4)	SB-102 (4-6)	QA/QC	
Date		11/4/2009	11/5/2009		11/5/2009			11/4/2009		11/5/2009		11/5/2009		11/4/2009	11/5/2009
TAL Metals (mg/kg) Method 6010/7471															
Aluminum	…	4470	4310	4000	8860	8120	1170	14700	5600	5710	13700	4670	12100	48.2 J	16.9 J
Antimony	…	17.7	2.05 J	1.43 J	26.7	13.1	3.08	25.5	4.18	2.37 J	11.1	6.61	62.4	48.8 J	64.1
Arsenic	16	**44.8**	9.12 J	7.67 J	6.46 J	3.84 J	0.75 U	**104**	7.59	1 U	0.53 U	1.31 **U**	0.92 U	6 U	6 U
Barium	10,000	594	165	128	732	596	35.8	1730	179	405	691	389	699	600 J	683 J
Beryllium	2,700	0.61	0.44	0.35	0.77	0.83	0.14 **J**	0.43	0.39	0.46	0.77	0.42	1.77	2.78 J	1.76 J
Cadmium	60	15.3	1.94	1.39	23.3	17.3	0.38	23.2	2.97	5.52	16.8	8.63	**60.8**	0.2 U	0.2 U
Calcium	…	26000	28300 J	26600 J	58900 J	35300 J	9700 J	28700	101000	55300 J	69600 J	28200 J	22100 J	20 U	20 U
Chromium*	800	163	26 J	19 J	221 J	175 J	8.13 J	153	20.9	37 J	155 J	56.4 J	**1610 J**	72.5 J	82.4 J
Cobalt	…	9.96	6.27	4.91	13.3	15.3	2.05	22.7	4.75	4.98	13.1	7.68	36.2	5 U	5 U
Copper	10,000	2480	176 J	104 J	588 **J**	581 **J**	51.2 J	**14000 D**	518	278 J	2600 J	355 J	1910 J	340 J	415 J
Iron	…	55900	21300 J	14400 J	64100 **J**	65800 **J**	3860 J	37000	16000	31500 J	65900 J	36300 J	174000 J	20 U	20 U
Lead	3,900	3390	1680	350	**4780**	3590	191	3270	718	475	2770	968	**17200**	25 U	25 U
Magnesium	…	3390	9500	10200	19500	4650 J	664	4200	6180	6500	18200	2530	7090	10 U	10 U
Manganese	10,000	497 U	278	278	538	535	76.1	505 U	269 U	311	600	281	1090	50 U	50 U
Mercury	5.7	3.8	**7.3 D**	5.6 J	**17 J**	1.3 **J**	1.1 J	4	**8.7**	**5.7 J**	**10.1 J**	3.4 J	3.3 J	3 UJ	3 UJ
Nickel	10,000	94.5	19.2	13.8	161	241	7.53	229	21.6	35.3	151	78.3	933	3 U	3 U
Potassium	…	634	509	496	1150	944	488	833	678	706	753	529	559	5 U	5 U
Selenium	6,800	4.04	1.93	1.21	4.44	3.35	0.83 J	241	7.74	4.42	2.87	2.07	5.12	15 U	15 U
Silver	6,800	0.55 U	0.51 U	0.42 U	0.56 U	0.45 U	0.52 U	6.05	0.59 U	0.5 U	0.61 U	0.43 U	0.76 U	10 U	6.68 J
Sodium	…	205 U	136	160	1330	545	976	659	283 U	415	450	389	435	20 U	20 U
Thallium	…	0.38 J	2.05 U	0.25 J	1.1 J	1.89	2.09 U	0.32 J	2.37 U	0.29 J	0.65 J	0.31 J	2.09 J	20 U	6.96 J
Vanadium	…	26.8	21.5	19.2	89.3	120	11.4	33.4	29.2	37.9	45.5	32.1	161	2740	3200
Zinc	10,000	**15900 D**	289 J	233 J	3830 J	2890 J	92.2 J	4110	583	1470 J	2190 J	3030 J	7270 J	10 U	10 U

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Chemtech Laboratories in Mountainside, New Jersey
All units are in milligrams per kilogram(ppm) - parts per million (ppm)
Values in bold exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
U = Analyte not detected
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
... = No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate

TABLE 2-10
SOIL ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Brownfields Restricted Use- Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-16		SB-17			SB-18		SB-19		SB-20	
		SB-16 (0-4)	SB-16-(4-7)	SB-17(0-4)	SB-17 (4-6)	SB-17 (0-4) DUP	SB-18 (0-4)	SB-18 (4-6)	SB-19 (0-4)	SB-19 (4-6)	SB-20 (0-4)	SB-20 (4-6)
Date		11/5/2009		11/5/2009			11/5/2009		11/4/2009		11/4/2009	
PCBs (mg/kg) - Method 8082												
Aroclor 1016	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	0.130 U	0.120 U	3.4 U	0.120 U
Aroclor 1221	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	0.130 U	0.120 U	3.4 U	0.120 U
Aroclor 1232	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	0.130 U	0.120 U	0.170 U	0.120 U
Aroclor 1242	25*	**26 D**	**33 D**	**69 D**	**31 J**	**110 D**	4.8 D	6.5 D	0.130 U	0.120 U	**56 J**	19 J
Aroclor 1248	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	0.130 U	0.120 U	0.170 U	0.120 U
Aroclor 1254	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	14 J	22 J	0.170 U	0.120 U
Aroclor 1260	25*	0.130 U	0 U	0.150 U	0.140 U	0.140 U	0.130 U	0.120 U	0.130 U	0.120 U	0.170 U	0.120 U
Total Arochlors	25*	**26**	**33**	**69**	**31**	**110**	4.8	6.5	14	22	**56**	19

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-21	SB-22		SB-23	SB-24	SB-25	SB-26		SB-27		
		SB-21 (0-2)	SB-22 (0-4)	SB-22 (4-7.5)	SB-23 (0-4)	SB-24 (0-2)	SB-25 (0-4)	SB-26 (0-4)	SB-26 (4-6)	SB-27 (0-4)	SB-27 (0-4) DUP	SB-27 (8-10)
Date		11/4/2009	11/5/2009		11/5/2009	1/4/2009	11/4/2009	11/5/2009		11/5/2009		
PCBs (mg/kg) - Method 8082												
Aroclor 1016	25*	0.120 U	0.130 U	0.120 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Aroclor 1221	25*	0.120 U	0.130 U	0.120 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Aroclor 1232	25*	0.120 U	0.130 U	0.120 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Aroclor 1242	25*	9.9 J	**27 D**	**78 D**	**28 D**	**74 D**	2.3 J	0.460	1.3	**3,200 D**	**3,200 D**	**31 J**
Aroclor 1248	25*	0.120 U	0.130 U	0.120 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Aroclor 1254	25*	0.120 U	0.130 U	0.120 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Aroclor 1260	25*	0.120 U	0.130 U	0 U	0.120 U	0.025 U	0.120 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U
Total Arochlors	25*	9.9	**27**	**78**	**28**	**74**	2.3	0.460	1.3	**3,200**	**3,200**	**31**

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-28		SB-101		SB-102		Field Blank	Field Blank
		SB-28 (0-4)	SB-28 (4-8)	SB-101 (0-4)	SB-101 (4-6)	SB-102 (0-4)	SB-102 (4-6)	QA/QC	
Date		11/4/2009		11/5/2009		11/5/2009		11/4/2009	11/5/2009
PCBs (mg/kg) - Method 8082									
Aroclor 1016	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Aroclor 1221	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Aroclor 1232	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Aroclor 1242	25*	4.8 J	0.21	11 D	2.5 J	**37 J**	14 D	0.00051 U	0.00051 U
Aroclor 1248	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Aroclor 1254	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Aroclor 1260	25*	0.120 U	0.023 U	0.130 U	0.130 U	0.130 U	0.170 U	0.00051 U	0.00051 U
Total Arochlors	25*	4.8	0.21	11	2.5	**37**	14	U	U

NOTES
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to the total arochlors
All units are milligrams per kilogram (mg/kg) - parts per million (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial

TABLE 2-11
SOIL ANALYTICAL RESULTS - PESTICIDES
Brownfields Restricted Use- Industrial Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-16		SB-17			SB-18		SB-19		SB-20		SB-21	SB-22	
		SB-16 (0-4)	SB-16-(4-7)	SB-17(0-4)	SB-17 (4-6)	SB-17 (0-4) DUP	SB-18 (0-4)	SB-18 (4-6)	SB-19 (0-4)	SB-19 (4-6)	SB-20 (0-4)	SB-20 (4-6)	SB-21 (0-2)	SB-22 (0-4)	SB-22 (4-7.5)
Date		11/5/2009		11/5/2009			11/5/2009		11/4/2009		11/4/2009		11/4/2009	11/5/2009	
Pesticides (µg/kg) - Method 8081															
4,4-DDD	94,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
4,4-DDE	120,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
4,4-DDT	94,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Aldrin	1,400	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
alpha-BHC	6,800	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
alpha-Chlordane	47,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
beta-BHC	14,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
delta-BHC	1,000,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	94 J	660 J	150 J	140	13 U	12 U
Dieldrin	2,800	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endosulfan I*	920,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endosulfan II*	920,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endosulfan Sulfate*	920,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endrin	410,000	13 U	12 U	15 U	14 U	14 U	13 R	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endrin aldehyde	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Endrin ketone	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
gamma-BHC	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
gamma-Chlordane	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Heptachlor	29,000	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Heptachlor epoxide	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Methoxychlor	…	13 U	12 U	15 U	14 U	14 U	13 U	120 U	130 U	120 U	170 U	120 U	120 U	13 U	12 U
Toxaphene	…	130 U	120 U	150 U	140 U	140 U	130 U	1,200 U	1,300 U	1,200 U	1,700 U	1,200 U	1,200 U	130 U	120 U
Total Pesticides		U	U	U	U	U	U	U	U	94	660	150	140	U	U

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-23	SB-24	SB-25	SB-26		SB-27			SB-28		SB-101		SB-102		Field Blank	Field Blank
		SB-23 (0-4)	SB-24 (0-2)	SB-25 (0-4)	SB-26 (0-4)	SB-26 (4-6)	SB-27 (0-4)	SB-27 (0-4) DUP	SB-23 (8-10)	SB-28 (0-4)	SB-28 (4-8)	SB-101 (0-4)	SB-101 (4-6)	SB-102 (0-4)	SB-102 (4-6)	QA/QC	
Date		11/5/2009	11/4/2009	11/4/2009	11/5/2009		11/5/2009			11/4/2009		11/5/2009		11/5/2009		11/4/2009	11/5/2009
Pesticides (µg/kg) - Method 8081																	
4,4-DDD	94,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
4,4-DDE	120,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
4,4-DDT	94,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Aldrin	1,400	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
alpha-BHC	6,800	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
alpha-Chlordane	47,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
beta-BHC	14,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
delta-BHC	1,000,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Dieldrin	2,800	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endosulfan I*	920,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endosulfan II*	920,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endosulfan Sulfate*	920,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endrin	410,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endrin aldehyde	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Endrin ketone	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
gamma-BHC	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
gamma-Chlordane	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Heptachlor	29,000	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Heptachlor epoxide	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Methoxychlor	…	12 U	25 U	120 U	12 U	11 U	12 U	12 U	12 U	120 U	23 U	13 U	13 U	13 U	17 U	0.051 U	0.051 U
Toxaphene	…	120 U	250 U	1,200 U	120 U	110 U	120 U	120 U	120 U	1200 U	230 U	130 U	130 U	130 U	170 U	0.51 U	0.51 U
Total Pesticides		U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Notes:
Samples analyzed by Chemtech Laboratories Inc. of Mountainside, NJ
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
U-The compound was not detected at the indicated concentration
D = Diluted Sample
... - No standard available
J = Estimated Value
R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

* - SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate
Values in **bold** exceed the NYSDEC RSCOs

TABLE 2-12
GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 DUP	MW-6	MW-7	MW-8
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
1,1,1-Trichloroethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichlorotrifluoroethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5	3.3 J	**6.4**	5 U	1 J	5 U	5 U	5 U	2 J	5 U
1,1-Dichloroethene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	2 UJ	5 UJ
1,2-Dibromo-3-Chloropropane	0.04	5 U	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	4.7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	0.6	5 U	**1.4 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	50	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	50	25 U	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U
4-Methyl-2-Pentanone	50	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Acetone	50	25 U	25 UJ	4.3 J	3.2 J	25 U	25 U	25 U	25 U	25 U
Benzene*	1	5 U	5 U	0.5 J	5 U	5 U	5 U	5 U	**12**	5 U
Bromodichloromethane	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60**	5 U	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5	3 J	1.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	5 U	1.5 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	5 U	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5	1.2 J	**46**	0.6 J	5 U	5 U	5 U	5 U	**6.3**	5 U
cis-1,3-Dichloropropene	0.4	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	…	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethyl Benzene*	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene*	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
m/p-Xylenes	5	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U	10 U
Methyl Acetate	…	5 UJ	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Methyl tert-butyl Ether*	10**	1.2 J	5.4	**10**	**63**	**30**	**27**	4.7 J	5 U	5 U
Methylcyclohexane	…	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methylene Chloride	5	1.3 J	5 U	1 J	5 U	5 U	0.8 J	1.4 J	5 U	1.6 J
o-Xylene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
t-1,3-Dichloropropene	0.4	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	0.7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene*	5	0.4 J	5 U	5 U	5 U	1 J	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5	5 U	0.5 J	5 U	5 U	5 U	5 U	5 U	1.4 J	5 U
Trichloroethene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.3 J	5 U
Trichlorofluoromethane	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl Chloride	2	**10**	**42**	1.1 J	5 U	5 U	5 U	5 U	**12**	5 U
Total VOC	…	25.4	104.6	17.5	67.2	32	27.8	6.1	35.0	1.6

NOTES:
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical Operational and Guidance Series
* - Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
** - Guidance value per April 2000 Addendum to June 1998 TOGS
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values.
All units are micrograms per liter (µg/L) - parts per billion (ppb)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-13
GROUNDWATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 DUP	MW-6	MW-7	MW-8
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
1,1-Biphenyl	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,2-oxybis(1-Chloropropane)	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,4,5-Trichlorophenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,4,6-Trichlorophenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,4-Dichlorophenol	5	10 U	10 U	10 U	11 U	11 UJ	11 U	10 U	11 U	11 U
2,4-Dimethylphenol	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,4-Dinitrophenol	10	10 U	10 U	10 UJ	11 UJ	11 U	11 UJ	10 U	11 UJ	11 UJ
2,4-Dinitrotoluene	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2,6-Dinitrotoluene	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Chloronaphthalene	10	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Chlorophenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Methylnaphthalene	4.7	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Methylphenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Nitroaniline	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
2-Nitrophenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
3,3-Dichlorobenzidine	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
3+4-Methylphenols	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
3-Nitroaniline	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4,6-Dinitro-2-methylphenol	1**	10 U	10 U	10 UJ	11 UJ	11 UJ	11 UJ	10 U	11 UJ	11 UJ
4-Bromophenyl-phenylether	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4-Chloro-3-methylphenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4-Chloroaniline	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4-Chlorophenyl-phenylether	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4-Nitroaniline	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
4-Nitrophenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Acenaphthene*	20	10 U	10 U	10 U	0.97 J	11 U	11 U	0.51 J	11 U	11 U
Acenaphthylene*	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Acetophenone	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Anthracene*	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Atrazine	7.5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Benzaldehyde	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Benzo(a)anthracene*	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Benzo(a)pyrene	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 UJ	11 U
Benzo(b)fluoranthene	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	0.47 J	11 U
Benzo(g,h,i)perylene	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 UJ	11 U
Benzo(k)fluoranthene	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	0.54 J	11 U
bis(2-Chloroethoxy)methane	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
bis(2-Chloroethyl)ether	1	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
bis(2-Ethylhexyl)phthalate	5	10 U	10 U	10 U	11 U	0.33 J	11 U	10 U	11 U	11 U
Butylbenzylphthalate	50	10 U	10 U	0.6 J	0.29 J	11 U	11 U	10 U	11 U	11 U
Caprolactam	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Carbazole	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Chrysene*	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Dibenz(a,h)anthracene	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 UJ	11 U
Dibenzofuran	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Diethylphthalate	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Dimethylphthalate	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Di-n-butylphthalate	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Di-n-octyl phthalate	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Fluoranthene*	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Fluorene*	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Hexachloroethane	5	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Indeno(1,2,3-cd)pyrene	0.002	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Isophorone	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Naphthalene*	10	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Nitrobenzene	0.4	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
N-Nitroso-di-n-propylamine	…	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
N-Nitrosodiphenylamine	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Pentachlorophenol	1**	10 UJ	10 UJ	10 UJ	11 UJ	11 UJ	11 UJ	10 UJ	11 UJ	11 UJ
Phenanthrene*	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Phenol	1**	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Pyrene*	50	10 U	10 U	10 U	11 U	11 U	11 U	10 U	11 U	11 U
Total SVOC	…	U	U	0.6	1.26	0.33	U	0.51	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical Operational and Guidance Series.
* - Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
** - Guidance Value applies to the sum of all phenols (total phenols)
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values.
All units are micrograms per liter (µg/L) - parts per billion (ppb)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-14
GROUNDWATER ANALYTICAL RESULTS
TAL METALS - TOTAL (UNFILTERED)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 DUP	MW-6	MW-7	MW-8
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009		11/20/2009	11/20/2009	11/20/2009
Aluminum	0.1	**0.171**	**1.67**	**4.66**	**0.665**	**0.83**	**0.66**	**0.807**	**45.3**	**71.1**
Antimony	0.003	0.025 U	0.025 U	**0.00872 J**	0.025 U	0.025 U	0.025 U	0.025 U	**0.0166 J**	0.025 U
Arsenic	0.025	0.01 U	0.00907 J	**0.0429**	**0.0746**	0.01 U	0.01 U	0.01 U	0.0191	0.00645 J
Barium	1	0.106	0.262	0.263	0.0705	0.19	0.186	0.138	0.539	0.822
Beryllium	0.003	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.00278 J	0.00242 J
Cadmium	0.005	0.003 U	0.003 U	0.0032	0.003 U	0.003 U	0.003 U	0.003 U	**0.0064**	0.00499
Calcium	…	113	94.7	446	217	143	142	138	102	267
Chromium	0.05	0.0107	0.00707	0.0206	0.005 U	0.005 U	0.005 U	0.00248 J	**5.35**	**0.163**
Cobalt	0.005	0.015 U	0.015 U	**0.00845 J**	0.015 U	0.015 U	0.015 U	0.015 U	**0.0514**	**0.027**
Copper	0.2	0.0028 J	0.00475 J	0.18	0.0141	0.0234	0.19	0.0158	**0.227**	0.120
Iron	0.3	**6.81**	**26.1**	**19.4**	**4.73**	**2.08**	**1.60**	**2.17**	**122**	**98.3**
Lead	0.025	0.0143	**0.0477**	**0.594**	**0.0548**	**0.0497**	**0.0365**	**0.0492**	**0.743**	**0.271**
Magnesium	35	20.3	25.4	**70.3**	29.3	28.4	28.2	20.9	18.0	24.1
Manganese	0.3	**2.1**	**0.857**	**1.2**	0.198	**0.427**	**0.419**	**1.69**	**2.14**	**2.44**
Mercury	0.0007	0.00009 U	0.00092 J	**0.0014 J**	0.00021 J	0.00048 J	0.00033 J	0.0002 U	**0.00281 J**	**0.0011 J**
Nickel	0.1	0.0463	0.00373 J	0.0778	0.00897 J	0.00971 J	0.0158 J	0.00937 J	**5.28**	0.091
Potassium	…	12.4	14.3	58.4	45.8	34.5	34.4	16	16	26.2
Selenium	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.0152**	**0.0096 J**
Silver	0.05	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Sodium	20	**183**	**125**	**194**	**148**	**155**	**154**	**168**	**101**	**478**
Thallium	0.0005	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.00288 J**	**0.00314 J**	**0.00491 J**
Vanadium	0.014	0.02 U	0.00704 J	**0.0287**	0.00498 J	0.00445 J	0.0043 J	0.02 U	**0.158**	**0.179**
Zinc	2	0.043 U	0.0621 U	1.93	0.252 U	0.136 U	0.127 U	0.0949 U	1.20	0.315 U
Total Metals										

NOTES:
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical Operational and Guidance Series.
... - No Standard
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values.
All units are milligrams per liter (mg/L) - parts per million (ppm)
U = Not Detected
J = Estimated Value

TABLE 2-15
GROUNDWATER ANALYTICAL RESULTS
TAL METALS - DISSOLVED (FILTERED)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 DUP	MW-6	MW-7	MW-8
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009		11/20/2009	11/20/2009	11/20/2009
Aluminum	0.1	0.0245	0.022 J	0.046	0.0596	0.0893	0.08	**0.123**	**2.1**	**1.07**
Antimony	0.003	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Arsenic	0.025	0.01 U	0.01 U	**0.0429**	**0.0631**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Barium	1	0.105	0.182	1.14	0.0573	0.154	0	0.138	0.167	0.394
Beryllium	0.003	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Cadmium	0.005	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Calcium	…	0.117	0.090	0.373	0.23	0.134	0.14	0.134	0.096	0.26
Chromium	0.05	0.002 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.254**	0.005
Cobalt	0.005	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Copper	0.2	0.01 U	0.01 U	0.0031 J	0.0034 J	0.004 J	0.0034	0.0033 J	0.0134	0.00482 J
Iron	0.3	**2.41**	**2.22**	**0.45**	0.26	0.127	0.12	0.164	**4.34**	**1.88**
Lead	0.025	0.0135	0.0117	0.0117	0.0134	0.0142	0.0142	0.022	**0.054**	0.022
Magnesium	35	21.5	25	**58**	31.8	25.9	26.8	21	9.80	14
Manganese	0.3	**2.21**	**0.776**	**1.04**	0.164	**0.364**	**0.372**	**1.7**	**1.14**	**1.15**
Mercury	0.0007	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00021 U	0.0002 U
Nickel	0.1	0.0363	0.02 U	0.0281	0.02 U	0.00445 J	0.0052 J	0.00684 J	**0.325**	0.020 U
Potassium	…	13.5	14.6	49.8	47.3	31.6	32.5	16.6	11.6	22.9
Selenium	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Silver	0.05	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Sodium	20	**190**	**128**	**192**	**152**	**143**	**148**	**171**	**95.6**	**487**
Thallium	0.0005	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Vanadium	0.014	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.008 J	0.02 U
Zinc	2	0.0505 U	0.0474 U	0.204 U	0.0682 U	0.0603 U	0.0619 U	0.0067 U	0.104 U	0.0497 U
Total Metals		230	171	302	232	201	208	211	125	529

NOTES:
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical Operational and Guidance Series.
... - No Standard
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values.
All units are milligrams per liter (mg/L) - parts per million (ppm).
U = Not Detected
J = Estimated Value

TABLE 2-16
GROUNDWATER ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Technical and Operational Guidance Series	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 DUP	MW-6	MW-7	MW-8
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009		11/20/2009	11/20/2009	11/20/2009
Aroclor 1016	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1221	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1232	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1242	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1248	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1254	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1260	0.09*	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Total Aroclors		U	U	U	U	U	U	U	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical Operational and Guidance Series.
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to total Aroclors
Values in **bold** exceed the NYSDEC Guidance Values.
All units are micrograms per liter (µg/L) - parts per billion (ppb)
U = Not Detected

TABLE 2-17
AIR ANALYTICAL RESULTS-
VOLATILE ORGANIC COMPOUNDS

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	SG-1	SG-2	SG-3
Date	11/6/2009	11/6/2009	11/6/2009
EPA Method TO-15 (ug/m3)			
Ethyl Benzene	**11.1**	**9.3**	**6.2 J**
Styrene	0.3 U	0.3 U	3.1 U
cis-1,3-Dichloropropene	0.3 U	0.3 U	3 U
t-1,3-Dichloropropene	0.3 U	0.3 UJ	3.2 UJ
1,4-Dichlorobenzene	0.4 U	0.4 U	3.7 U
1,2-Dibromoethane	0.5 U	0.5 U	5.5 U
1,3-Butadiene	0.2 U	0.2 U	2.0 U
Allyl Chloride	0.2 U	0.2 U	1.6 U
1,2-Dichloroethane	0.3 U	0.3 U	2.9 U
4-Methyl-2-Pentanone	**1.8 J**	**3.0**	2.5 U
1,3,5-Trimethylbenzene	**4.9**	**2.8**	4.5 U
Toluene	**49.9 J**	**46.1**	**30.7 J**
Chlorobenzene	0.4 U	0.4 U	4.2 U
Tetrahydrofuran	0.2 U	0.2 U	2.4 U
Hexane	**10.4**	**6.5**	**39.5**
Cyclohexane	**7 J**	0.3 U	**94.7 J**
1,2,4-Trichlorobenzene	**0.8 J**	0.3 U	3 U
1,4-Dioxane	0.3 U	0.3 U	3.3 U
Dibromochloromethane	0.4 U	0.4 U	4.3 U
Tetrachloroethene	**131.3 J**	**138.2 J**	**76 J**
Heptane	**5.8 J**	**4.2**	2.5 U
cis-1,2-Dichloroethene	**1.7 J**	0.2 U	2.4 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	2.4 U
Methyl tert-Butyl Ether	0.2 U	0.2 U	1.8 U
m/p-Xylene	**42.5**	**36.7**	**27.9 J**
2,2,4-Trimethylpentane	**3.6**	**14.3**	**10470.9 J**
1,3-Dichlorobenzene	0.5 U	0.5 U	4.9 U
Carbon Tetrachloride	0.3 U	0.3 U	2.6 U
Bromoethene	0.1 U	0.1 U	1.2 U
4-Ethyltoluene	**4**	**4.1**	4 U
Acetone	**605 D**	**629.2 D**	2.4 U
Chloroform	**7 J**	**1.4 J**	1 U
Benzene	**7.5**	**7.2**	**11.4 J**
1,1,1-Trichloroethane	**44.5 J**	**4.8**	2.2 U
Bromomethane	0.1 U	0.1 U	1.2 U
Chloromethane	**0.9 J**	0.1 U	1.3 U
Chloroethane	0.2 U	0.2 U	1.9 U
Vinyl Chloride	**0.4 J**	0.2 U	1.8 U
Methylene Chloride	**0.7 J**	**2.4**	1.8 U
Carbon Disulfide	**10.8 J**	**7.3**	1.6 U
Bromoform	0.5 U	0.5 U	5.3 U
Bromodichloromethane	0.3 U	0.3 U	3.4 U
1,1-Dichloroethane	**3.8 J**	0.2 U	2.1 U
1,1-Dichloroethene	0.2 U	0.2 U	2 U
tert-Butyl alcohol	**18.5 J**	**14.5**	3.1 U
Trichlorofluoromethane	**160.3 D**	**2.8 J**	**2804.6 J**
Dichlorodifluoromethane	**4.1 J**	**8.6**	**2216.7 J**
1,1,2-Trichlorotrifluoroethane	**1.2 J**	**3 J**	3.1 U
Dichlorotetrafluoroethane	0.3 U	0.3 U	2.8 U
1,2-Dichloropropane	0.3 U	0.3 U	2.8 U
2-Butanone	**216.3 D**	**201.3 D**	**33 J**
1,1,2-Trichloroethane	0.4 U	0.4 U	4.4 U
Trichloroethene	**4.1**	**3.6**	2.2 U
1,1,2,2-Tetrachloroethane	0.7 U	0.7 U	7 U
Methyl Methacrylate	0.4 U	0.4 U	4.2 U
Hexachloro-1,3-Butadiene	0.9 U	0.9 U	8.7 U
o-Xylene	**11.1**	**11.1**	**13.3 J**
2-Chlorotoluene	0.5 U	0.5 U	5.3 U
1,2-Dichlorobenzene	0.4 U	0.4 U	4.3 U
1,2,4-Trimethylbenzene	**14.5**	**10**	**6.5 J**
Total VOCs	1,371.0	1,162.40	15,824.90

NOTES
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria.
The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
UJ - The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
All units in micrograms per cubic meter ($\mu g/m^3$).
Values in **bold** represent VOC detections.

TABLE 2-18
SOIL ANALYTICAL RESULTS - TAL METALS
Restricted Use - Protection of Groundwater SCOs

SUPPLEMENTAL RI
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-29		SB-30		SB-31		SB-32		SB-33		SB-34		SB-35		SB-36	
		SB-29 (0-4)	SB-29 (4-10)	SB-30 (0-4)	SB-30 (4-10)	SB-31 (0-4)	SB-31 (4-10)	SB-32 (0-4)	SB-32 (4-10)	SB-33 (0-4)	SB-33 (4-10)	SB-34 (0-4)	SB-34 (4-10)	SB-35 (0-4)	SB-35 (4-10)	SB-36 (0-4)	SB-36 (6-10)
Date		8/6/2010		8/9/2010		8/6/2010		8/10/2010		8/9/2010		8/9/2010		8/6/2010		8/9/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	---	5360	6570	8690	7530	17800	7920	9060	6800	8490	6940	10800	13600	8840	7750	10900	12600
Antimony	---	52	57	11.6	11.3 U	19.2	10.4	20.6	8 J	6 J	10.2 J	11.3 U	11 U	8.3	34.3	32.4	8.9 J
Arsenic	16	**1160**	**1140**	**23.9**	**27.6**	10.9	6.7	**144**	**26.6**	**26.7**	**21.3**	**16.3**	**24.7**	**16.2**	**22.5**	**16.4**	12.3
Barium	820	427	**1190**	808	455	794	444	**3900**	**1090**	**1200**	819	675	599	439	807	**1090**	817
Beryllium	47	0.43	0.42 J	2.2 U	2.3 U	2.2 U	0.3 J	2.1 U	2.3 U	2.1 U	2.2 U	2.3 U	2.2 U	0.33 J	0.32 J	2.4 U	2.5 U
Cadmium	7.5	**18.4**	**13.5**	**15.6**	**9.1**	**32.8**	**9.9**	**14**	6.4	**13**	**11.7**	**18.3**	**19.7**	**25**	**29**	**41.2**	**18**
Calcium	---	38900 B	48500 B	49900	37500	35600 B	48700 B	48200	36000	50700	29200	55000	50800	59600 B	27500 B	67700	63100
Chromium*	19	**71.3**	**101**	**120**	**76.5**	**483**	**142**	**222**	**90.2**	**177**	**138**	**486**	**304**	**257**	**155**	**142**	**184**
Cobalt	---	11.8	11.8	14 J	11.4 J	28 J	10.2 J	19.9 J	13.8 J	17.3 J	14.5 J	16.2 J	16.1 J	17.1	18.2	37.9 J	20.6 J
Copper	1720	**7060 B**	**5480 B**	860	765	**19800 B**	1100 B	1170	643	607	1480	**4460**	923	**4210 B**	1520 B	**10000**	**2340**
Iron	---	71700	40700	82800 B	58900 B	75800	35200	134000	82400	94000 B	88400 B	74500 B	109000 B	91900	132000	104000 B	82900 B
Lead	450	**3830**	**2050**	**5410**	**1630**	**2060**	**1220**	**17000**	**6580**	**3510**	**6070**	**1740**	**2350**	**1580**	**5120**	**1580**	**4490**
Magnesium	---	3870	5180	6560	4580 J	6060	5500	4480 J	3380 J	9020	7640	6610	6730	5090	3980	8130	6230 J
Manganese	2000	610	418	756	645	673	486	815	684	599	592	640	784	694	810	706	672
Mercury	0.73	**10**	**4.2**	**4.9**	**1.7**	**9.8**	**6**	**14.2**	**4.5**	**3.2**	**3.7**	**12.6**	**4.9**	**5.8**	**4.7**	**7.1**	**9.1**
Nickel	130	120	**150**	82.9	**140**	**331**	90.7	**142**	76.3	**179**	**254**	**330**	**245**	124	**332**	**189**	**204**
Potassium	---	545 J	843 J	1030 J	1040 J	622 J	781 J	1570 J	903 J	2180 J	1060 J	1140 J B	882 J B	504 J	594 J	916 J B	785 J B
Selenium	4	**8.4**	**6.3**	10.9 U	11.3 U	10.9 U	2.3 U	**16.4**	11.3 U	10.5 U	10.8 U	11.3 U	**28.4**	**19.5**	**9.2**	12.1 U	12.7 U
Silver	8.3	5.9	4.3	10.9 U	11.3 U	7.9 J	2 J	2.1 J	11.3 U	0.8 J	1.9 J	2.5 J	2.3 J	2.5	1.9 J	3.7 J	2.6 J
Sodium	---	324 J	1210	505 J	5640 U	5450 U	383 J	3540 J	795 J	5270 U	5400 U	605 J	531 J	381 J	367 J	799 J	742 J
Thallium	---	5.4 U	2.2 U	10.9 U	11.3 U	10.9 U	2.3 U	10.6 U	11.3 U	10.5 U	10.8 U	11.3 U	11 U	6.2 U	2.3 U	12.1 U	12.7 U
Vanadium	---	468	54.9	75	53.5 J	31 J	26.8	202	67.7	67.5	64.6	36.1 J	42.4 J	35.2	51.8	29 J	67.4
Zinc	2480	**2960**	**5310**	**3080**	2410	14200	**6240**	**11600**	**2740**	**3060**	**12400**	**4570**	**3430**	**8290**	**15400**	**11700**	**5550**

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-37		SB-38		SB-39		SB-40		SB-41		SB-42		SB-43		SB-44	
		SB-37 (0-4)	SB-37 (4-10)	SB-38 (0-4)	SB-38 (4-10)	SB-39 (0-4)	SB-39 (4-10)	SB-40 (0-4)	SB-40 (4-10)	SB-41 (0-4)	SB-41 (4-11)	SB-42 (0-4)	SB-42 (4-10)	SB-43 (0-4)	SB-43 (4-8)	SB-44 (0-4)	SB-44 (4-10)
Date		8/10/2010		8/6/2010		8/6/2010		8/10/2010		8/4/2010		8/5/2010		8/5/2010		8/6/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	---	6550	8940	8730	6620	19800	9180	7680	8310	4010	5,760	14000	5190	12400	12300	12200	13300
Antimony	---	11.7 U	11.3 U	11.2	11.3	33.2	36.3	11.6 U	11.5 U	2 U	1 J	6.6 J	1.2 J	24.9	47.8	187	24.8
Arsenic	16	9.5	11.4	**45.9**	**25.8**	11.6	**20.2**	12.6	14.8	3.7	8.8	**67.4**	**35.8**	**21**	**29.5**	10.2 J	**32.5**
Barium	820	656	355	**1080**	482	**961**	**1090**	376	371	109	145	785	218	767	**853**	693	**950**
Beryllium	47	2.3 U	2.3 U	0.22 J	0.28 J	2.3 U	0.98 J	2.3 U	2.3 U	0.4 U	0.45 U	2.4 U	0.42 U	2.4 U	2.2 U	5.6 U	2.5 U
Cadmium	7.5	**8.5**	2.6 J	**17**	**28**	**50.7**	**30.5**	6	3 J	1.8	1.3	**29.5**	3.7	**27.2**	**24.8**	**39.2**	**37**
Calcium	---	42100	29300	64700 B	63200 B	51700 B	55700 B	30900	46500	44,900	28,600	49700	75100	57800	46000	34400 B	34200 B
Chromium*	19	**198**	**52.5**	**406**	**198**	**305**	**201**	**54**	**66.7**	**24.6**	**36.2**	**823**	**163**	**174**	**260**	**173**	**335**
Cobalt	---	11 J	8.4 J	14.2	17.4	38.6 J	30.3 J	9.8	9.2 J	7.9 J	9.9 J	82.3	11	21.3 J	22.6 J	19 J	26.7 J
Copper	1720	635	304	**2800 B**	864 B	**12800 B**	1470 B	1490	562	152	137	1150	221	**11700**	1290	**4540 B**	**3690 B**
Iron	---	79700	35500	57200	119000	67500	136000	44400	39800	35,800	20,100	111000	30800	70700	127000	62800	155000
Lead	450	**3840**	**993**	**1450**	**2870**	**2180**	**4850**	**1000**	**857**	388	**521**	**6240**	**768**	**2230**	**4080**	**2950**	**5050**
Magnesium	---	4480 J	4200 J	7690	7690	5540 J	6760	4140 J	6820	21,200	6,660	6320	18800	6660	8340	3370 J	6790
Manganese	2000	595	349	475	871	767	942	481	537	263	229	945	312	594	983	491	1210
Mercury	0.73	**5.3**	**2**	**4.1**	**6.9**	**9.9**	**14.3**	0.17	**1.2**	**1**	**1.4**	0.12	**0.93**	**5.7**	**6**	**11.6**	**11.7**
Nickel	130	93.4	42.4 J	101	**410**	**327**	**168**	91.3	53.5	29	27	**796**	**182**	**328**	**257**	**153**	**287**
Potassium	---	569 J	1190 J	932 J	476 J	547 J	1340 J	937 J	1140 J	656 J	906 J	769 J	789 J	825 J	5410 U	13900 U	533 J
Selenium	4	11.7 U	11.3 U	**4.8**	**9.9**	11.6 U	**15.3**	11.6 U	11.5 U	1.4 J	2.2 U	**17.3**	2.1 U	11.8 U	**11.7**	27.8 U	**12 J**
Silver	8.3	11.7 U	0.91 J	3	2.2 J	**24.8**	3.3 J	1.2 J	11.5 U	0.34 J	0.52 J	5.3 J	1.1 J	3.3 J	3.4 J	3.6 J	5.8 J
Sodium	---	5830 U	5630 U	341 J	514 J	425 J	3190 J	5810 U	380 J	273 J	564 J	656 J	305 J	2600 J	1720 J	13900 U	573 J
Thallium	---	11.7 U	11.3 U	2.2 U	2.3 U	11.6 U	11.1 U	11.6 U	11.5 U	2 U	2.2 U	12.1 U	2.1 U	11.8 U	10.8 U	27.8 U	12.5 U
Vanadium	---	104	55.4 J	25.3	64.5	25.2 J	65.6	156	86.8	65.5	31.4	110	55.9	38 J	51.6 J	29 J	141
Zinc	2480	**3650**	762	**6430**	**9040**	**18700**	**6150**	1700	857	735	394	**7350**	1650	**9850**	**6030**	**8150**	**7590**

NOTES:
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Test America of Edison, NJ
All units are in milligrams per kilogram(mg/kg) - parts per million (ppm)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Groundwater
U = Analyte not detected
B = Compound was found in the blank and sample.
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
… - No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate

TABLE 2-18
SOIL ANALYTICAL RESULTS - TAL METALS
Restricted Use - Protection of Groundwater SCOs

SUPPLEMENTAL RI
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-45		SB-46		SB-47		SB-48		SB-49		SB-50		SB-51		SB-52	
		SB-45 (0-4)	SB-45 (4-10)	SB-46 (0-4)	SB-46 (4-10)	SB-47 (0-4)	SB-47 (4-10)	SB-48 (0-4)	SB-48 (4-6)	SB-49 (0-4)	SB-49 (4-10)	SB-50 (0-4)	SB-50 (4-10)	SB-51 (0-4)	SB-51 (4-8)	SB-52 (0-4)	SB-52 (4-10)
Date		8/4/2010		8/9/2010		8/5/2010				8/4/2010		8/9/2010		8/9/2010		8/6/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	---	7,200	6,280	12100	14800	15100	9750	12000	11500	6,350	6,970	13900	6430	5890	8630	12800	6740
Antimony	---	1.3 J	1.3 J	13.6	11.4	21.7	5.6 J	14.4	13.7	2.1 U	2.1 U	10.4 U	10.7 U	7.4 J	10.6 U	21.7	4.5
Arsenic	16	10.1	8.8	12.3	**20.1**	**69.6**	**18.5**	**17.2**	**18.3**	7.3	6.2	**23.2**	**39.8**	12.7	7.8	15.4	9.9
Barium	820	272	92.6	**1020**	**1380**	**849**	**1090**	773	970	191	114	714	311	563	437	**1150**	498
Beryllium	47	0.26 J	0.3 J	2.4 U	2.2 U	1.3 J	2.2 U	2.1 U	2.3 U	0.27 J	0.38 J	2.1 U	2.1 U	2 U	2.1 U	0.37 J	0.23 J
Cadmium	7.5	3.3	0.84 J	**38.3**	**50.5**	**20.5**	**32.8**	**38.2**	**41.5**	0.81 J	0.8 J	21.4	5 J	3.9 J	2 J	24.7	8.3
Calcium	---	26,400	109,000	49200	39100	41600	52400	39100 B	30200 B	62,800	26,500	59700	29500	74600	40900	72200 B	65100 B
Chromium*	19	**61.3**	**30.1**	**450**	**327**	**276**	**297**	**278**	**301**	**51.1**	**27**	**118**	**112**	**82.8**	**26.6**	**834**	**149**
Cobalt	---	26.4	8.6 J	24.6 J	25.3 J	17.2 J	20.6 J	45.5 J	32.3 J	5.6 J	6.1 J	10.9 J	7 J	10.9 J	6.9 J	21.8	9.6 J
Copper	1720	225	77	1150	1100	1260	1440	**11200 B**	**3980 B**	153	145	1140	688	**1910**	179	**1910 B**	**2900 B**
Iron	---	28,700	15,100	96900 B	120000 B	90300	101000	188000	182000	28,400	24,200	69300 B	34000 B	28100 B	23900 B	65300	37800
Lead	450	1,240	316	**5110**	**8760**	**5810**	**6080**	**2330**	**4220**	232	212	**1720**	**662**	**1730**	**752**	**2200**	**898**
Magnesium	---	6,310	17,000	8660	8400	5540 J	7250	4470 J	4180 J	22,000	9,650	6710	3110 J	14400	6240	6840	5470
Manganese	2000	297	176	994	905	741	912	1070	1140	349	344	544	397	230	301	527	338
Mercury	0.73	**4.9**	1	**9.2**	**9.7**	**9.6**	**6**	**9.1**	**13.5**	0.72	**1**	**4.5**	**2.1**	**1**	**0.95**	**13.6**	**2.9**
Nickel	130	50.1	19.3	**353**	**273**	**201**	**168**	**292**	**350**	51.8	19.9	92.6	42.2 J	69.2	24.8 J	**280**	90.4
Potassium	---	748 J	1,100	801 J B	988 J B	1260 J	509 J	488 J	437 J	896 J	935 J	2040 J	759 J	1360 J B	1240 J B	657 J	672 J
Selenium	4	1.1 J	2.2 U	12 U	11 U	11.7 U	**11.5**	**14.9**	11.5 U	2.1 U	2.1 U	**194**	10.7 U	9.9 U	10.6 U	**7.2**	**64.7**
Silver	8.3	0.73 J	0.48 J	**8.5 J**	4.4 J	4.3 J	3.3 J	4.8 J	5.2 J	0.77 J	0.49 J	1.6 J	1 J	9.9 U	0.94 J	3.8	1.5 J
Sodium	---	225 J	302 J	616 J	1250 J	1840 J	448 J	389 J	811 J	163 J	181 J	346 J	5360 U	906 J	5320 U	684 J	278 J
Thallium	---	2.2 U	2.2 U	12 U	11 U	11.7 U	11.1 U	10.7 U	11.5 U	2.1 U	2.1 U	10.4 U	10.7 U	9.9 U	10.6 U	2.2 U	2.2 U
Vanadium	---	56.8	26.6	66.2	70.5	98.6	85.1	35.5 J	68.9	35.6	35.4	58.6	25.6 J	15.2 J	23.8 J	36.4	32
Zinc	2480	757	257	**9910**	**16400**	**7800**	**6130**	**12800**	**10600**	408	331	**3330**	1520	1930	746	**11300**	**4120**

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-53		SB-54		SB-55		DUP-1 (SB-42 0-4)	DUP-2 (SB-36 6-10)	DUP-3 (SB-32 0-4)
		SB-53 (0-4)	SB-53 (4-10)	SB-54 (0-4)	SB-54 (4-10)	SB-55 (0-4)	SB-55 (4-10)	DUP-1 8/5/2010	DUP-2 8/9/2010	DUP-3 8/10/2010
Date		8/5/2010		8/5/2010		8/10/2010		8/5/2010	8/9/2010	8/10/2010
TAL Metals (mg/kg) Method 6010/7471										
Aluminum	---	9430	9320	10500	14200	9100	8050	9240	21400	14700
Antimony	---	7.4 J	11.3 U	5.4 J	47.1	11.3 U	10.8 U	7 J	12.2	47.1
Arsenic	16	13.9	**25.1**	12.8	**27.1**	12.4	13.9	**68.7**	13.9	**40.3**
Barium	820	**907**	652	**1920**	**985**	713	392	548	**1230**	**4660**
Beryllium	47	2.3 U	2.3 U	1.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.4 U	2.4 U
Cadmium	7.5	**32.3**	**26.7**	**21.8**	**29.4**	**8.4**	3.9 J	**30.7**	**103**	**15.4**
Calcium	---	43000	63100	58100	63000	74000	38200	48000	39600	48400
Chromium*	19	**231**	**249**	**214**	**794**	**206**	**59.3**	**732**	**219**	**171**
Cobalt	---	75	18.4 J	21.1 J	47 J	12.3	8.6 J	66.1	23 J	19.9 J
Copper	1720	**2820**	789	1560	**1860**	741	458	981	**1900**	1340
Iron	---	96100	71300	81400	100000	84500	36000	109000	93300 B	129000
Lead	450	**2680**	**2330**	**1760**	**4530**	**3470**	**864**	**4220**	**2900**	**16700**
Magnesium	---	6160	9810	18800	5780	5530 J	3780 J	6500	7350	4990 J
Manganese	2000	781	633	668	886	639	464	1020	718	871
Mercury	0.73	**4.3**	**7.9**	**12.6**	**8.5**	**5.4**	**1.5**	**7.9**	**10.2**	**15.5**
Nickel	130	**190**	**162**	**205**	**800**	**290**	40.2 J	**1100**	**192**	**161**
Potassium	---	846 J	363 J	906 J	451 J	792 J	965 J	538 J	707 J B	2520 J
Selenium	4	**7.1 J**	11.3 U	6.3 U	**5.4** J	11.3 U	19.7	**5.9 J**	12.1 U	**13.2**
Silver	8.3	4.8 J	2.9 J	3 J	4 J	2.6 J	10.8 U	4.1 J	**22.6**	2.3 J
Sodium	---	702 J	1530 J	723 J	573 J	414 J	5420 U	514 J	761 J	6950
Thallium	---	11.6 U	11.3 U	6.3 U	11.4 U	11.3 U	10.8 U	11.9 U	12.1 U	11.8 U
Vanadium	---	47.5 J	71.3	29.5 J	55.3 J	105	46.2 J	92.9	48.9 J	217
Zinc	2480	**9110**	**3120**	**6250**	**7430**	**3240**	905	**5760**	**9920**	**14400**

NOTES:
NYSDEC - New York State Department of Env
Sample analysis by Test America of Edisor
All units are in milligrams per kilogram(mg/kg)
Values in **bold** exceed the NYSDEC Brownfiel
U = Analyte not detected
B = Compound was found in the blank and san
J = The reported value was obtained from a rea
but greater than or equal to the Instrument Dete
D = The reported value is from a secondary ana
… - No standard available
*Chromium standard is for Hexavalent/Trivaler
UJ = The analyte was not detected above tl

TABLE 2-19
SOIL ANALYTICAL RESULTS - TAL METALS
Restricted Use - Industrial SCOs

SUPPLEMENTAL RI

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-29		SB-30		SB-31		SB-32		SB-33		SB-34		SB-35		SB-36	
		SB-29 (0-4)	SB-29 (4-10)	SB-30 (0-4)	SB-30 (4-10)	SB-31 (0-4)	SB-31 (4-10)	SB-32 (0-4)	SB-32 (4-10)	SB-33 (0-4)	SB-33 (4-10)	SB-34 (0-4)	SB-34 (4-10)	SB-35 (0-4)	SB-35 (4-10)	SB-36 (0-4)	SB-36 (6-10)
	Date	8/6/2010		8/9/2010		8/6/2010		8/10/2010		8/9/2010		8/9/2010		8/6/2010		8/9/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	…	5360	6570	8690	7530	17800	7920	9060	6800	8490	6940	10800	13600	8840	7750	10900	12600
Antimony	…	52 J	57 J	11.6 J	11.3 UJ	19.2 J	10.4 J	20.6	8 J	6 J	10.2 J	11.3 U	11 U	8.3 J	34.3	32.4 J	8.9 J
Arsenic	16	**1160**	**1140**	**23.9 J**	**27.6 J**	10.9	6.7	**144 J**	**26.6**	**26.7 J**	**21.3 J**	**16.3**	**24.7**	**16.2**	**22.5 J**	**16.4**	12.3
Barium	10,000	427	1190	808	455	794	444	3900	1090	1200	819	675	599	439	807	1090	817
Beryllium	2,700	0.43	0.42 J	2.2 U	2.3 U	2.2 U	0.3 J	2.1 U	2.3 U	2.1 U	2.2 U	2.3 U	2.2 U	0.33 J	0.32 J	2.4 U	2.5 U
Cadmium	60	18.4	13.5	15.6	9.1	32.8	9.9	14	6.4	13	11.7	18.3 J	19.7 J	25	29	41.2 J	18 J
Calcium	…	38900 B	48500 J	49900 J	37500 J	35600	48700 B	48200	36000	50700 J	29200 J	55000	50800	59600	27500	67700	63100
Chromium*	800	71.3	101	120	76.5	483	142	222	90.2	177	138	486	304	257	155	142	184
Cobalt	…	11.8 J	11.8 J	14 J	11.4 J	28 J	10.2 J	19.9 J	13.8 J	17.3 J	14.5 J	16.2 J	16.1 J	17.1 J	18.2 J	37.9 J	20.6 J
Copper	10,000	7060 J	5480 J	860	765	**19800 J**	1100 J	1170	643	607	1480	4460 J	923 J	4210 J	1520 J	**10000 J**	2340 J
Iron	…	71700	40700	82800	58900	75800	35200	134000	82400	94000	88400	74500	109000	91900	132000	104000	82900
Lead	3,900	3830	2050	**5410**	1630	2060	1220	**17000**	**6580**	3510	**6070**	1740	2350	1580	**5120**	1580	**4490**
Magnesium	…	3870 J	5180 J	6560 J	4580 J	6060 J	5500 J	4480 J	3380 J	9020 J	7640 J	6610 J	6730 J	5090 J	3980 J	8130	6230 J
Manganese	10,000	610	418	756 J	645 J	673	486	815	684	599 J	592 J	640	784	694	810	706	672
Mercury	5.7	**10**	4.2	4.9	1.7	**9.8**	**6**	**14.2**	4.5	3.2	3.7	**12.6**	4.9	**5.8**	4.7	**7.1**	**9.1**
Nickel	10,000	120 J	150 J	82.9	140	331 J	90.7 J	142	76.3	179	254	330 J	245 J	124 J	332 J	189 J	204 J
Potassium	…	545 J	843 J	1030 J	1040 J	622 J	781 J	1570 J	903 J	2180 J	1060 J	5640 U	5490 U	504 J	594 J	6050 U	6330 U
Selenium	6,800	8.4	6.3	10.9 U	11.3 U	10.9 U	2.3 U	16.4	11.3 U	10.5 U	10.8 U	11.3 U	28.4	19.5	9.2	12.1 U	12.7 U
Silver	6,800	5.9 J	4.3 J	10.9 U	11.3 U	7.9 J	2 J	2.1 J	11.3 U	0.8 J	1.9 J	2.5 J	2.3 J	2.5 J	1.9 J	3.7 J	2.6 J
Sodium	…	1090 U	1210	505 J	5640 U	5450 U	1160 U	3540 J	795 J	5270 U	5400 U	605 J	531 J	1230 U	1160 U	799 J	742 J
Thallium	…	5.4 U	2.2 U	10.9 U	11.3 U	10.9 U	2.3 U	10.6 U	11.3 U	10.5 U	10.8 U	11.3 U	11 U	6.2 U	2.3 U	12.1 U	12.7 U
Vanadium	…	468	54.9	75	53.5 J	31 J	26.8	202 J	67.7 J	67.5	64.6	36.1 J	42.4 J	35.2	51.8	29 J	67.4
Zinc	10,000	2960	5310	3080	2410	**14200**	6240	**11600**	2740	3060	**12400**	4570	3430	8290	**15400**	**11700**	5550

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-37		SB-38		SB-39		SB-40		SB-41		SB-42		SB-43		SB-44	
		SB-37 (0-4)	SB-37 (4-10)	SB-38 (0-4)	SB-38 (4-10)	SB-39 (0-4)	SB-39 (4-10)	SB-40 (0-4)	SB-40 (4-10)	SB-41 (0-4)	SB-41 (4-11)	SB-42 (0-4)	SB-42 (4-10)	SB-43 (0-4)	SB-43 (4-8)	SB-44 (0-4)	SB-44 (4-10)
	Date	8/10/2010		8/6/2010		8/6/2010		8/10/2010		8/4/2010		8/5/2010		8/5/2010		8/6/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	…	6550	8940	8730	6620	19800	9180	7680	8310	4010	5,760	14000	5190	12400	12300	12200	13300
Antimony	…	11.7 U	11.3 U	11.2 J	11.3 J	33.2 J	36.3 J	11.6 U	11.5 U	2 UJ	1 J	6.6 J	1.2 J	24.9 J	47.8 J	187 J	24.8 J
Arsenic	16	9.5	11.4	**45.9**	**25.8**	11.6	**20.2**	12.6	14.8	3.7	8.8	**67.4**	**35.8**	**21**	**29.5**	10.2 J	**32.5**
Barium	10,000	656	355	1080	482	961	1090	376	371	109	145	785 J	218 J	767 J	853 J	693	950
Beryllium	2,700	2.3 U	2.3 U	0.22 J	0.28 J	2.3 U	0.98 J	2.3 U	2.3 U	0.4 U	0.45 U	2.4 U	0.42 U	2.4 U	2.2 U	5.6 U	2.5 U
Cadmium	60	8.5	2.6 J	17	28	50.7	30.5	6	3 J	1.8	1.3	29.5	3.7	27.2	24.8	39.2	37
Calcium	…	42100	29300	64700	63200	51700	55700 B	30900	46500	44,900	28,600	49700	75100	57800	46000	34400	34200
Chromium*	800	198	52.5	406	198	305	201	54	66.7	24.6	36.2	**823**	163	174	260	173	335
Cobalt	…	11 J	8.4 J	14.2 J	17.4 J	38.6 J	30.3 J	9.8 J	9.2 J	7.9 J	9.9 J	82.3	11	21.3 J	22.6 J	19 J	26.7 J
Copper	10,000	635	304	2800 J	864 J	12800 J	1470 J	1490	562	152	137	1150	221	**11700**	1290	4540 J	3690 J
Iron	…	79700	35500	57200	119000	67500	136000	44400	39800	35,800	20,100	111000	30800	70700	127000	62800	155000
Lead	3,900	3840	993	1450	2870	2180	**4850**	1000	857	388	521	**6240**	768	2230	**4080**	2950	**5050**
Magnesium	…	4480 J	4200 J	7690 J	7690 J	5540 J	6760 J	4140 J	6820	21,200	6,660	6320	18800	6660	8340	3370 J	6790 J
Manganese	10,000	595	349	475	871	767	942	481	537	263	229	945	312	594	983	491	1210
Mercury	5.7	5.3	2	4.1	**6.9**	**9.9**	**14.3**	0.17	1.2	1	1.40	0.12 J	0.93	5.7	**6**	**11.6**	**11.7**
Nickel	10,000	93.4	42.4 J	101 J	410 J	327 J	168 J	91.3	53.5	29	27	796	182	328	257	153 J	287 J
Potassium	…	569 J	1190 J	932 J	476 J	547 J	1340 J	937 J	1140 J	656 J	906 J	769 J	789 J	825 J	5410 U	13900 U	533 J
Selenium	6,800	11.7 U	11.3 U	4.8	9.9	11.6 U	15.3	11.6 U	11.5 U	1.4 J	2.2 U	17.3	2.1 U	11.8 U	11.7	27.8 U	12 J
Silver	6,800	11.7 U	0.91 J	3 J	2.2 J	24.8 J	3.3 J	1.2 J	11.5 U	0.34 J	0.52 J	5.3 J	1.1 J	3.3 J	3.4 J	3.6 J	5.8 J
Sodium	…	5830 U	5630 U	1110 U	1140 U	5820 U	5550 U	5810 U	380 J	1,010 U	1,120 U	6030 U	1060 U	5910 U	5410 U	13900 U	6260 U
Thallium	…	11.7 U	11.3 U	2.2 U	2.3 U	11.6 U	11.1 U	11.6 U	11.5 U	2 U	2.2 U	12.1 U	2.1 U	11.8 U	10.8 U	27.8 U	12.5 U
Vanadium	…	104 J	55.4 J	25.3	64.5	25.2 J	65.6	156 J	86.8 J	65.5	31.4	110 J	55.9 J	38 J	51.6 J	29 J	141
Zinc	10,000	3650	762	6430	9040	**18700**	6150	1700	857	735	394	7350	1650	9850	6030	8150	7590

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Test America of Edison, NJ
All units are in milligrams per kilogram(ppm) - parts per million (ppm)
Values in bold exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
U = Analyte not detected
B = Compound was found in the blank and sample.
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
... = No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate

TABLE 2-19
SOIL ANALYTICAL RESULTS - TAL METALS
Restricted Use - Industrial SCOs

SUPPLEMENTAL RI

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-45		SB-46		SB-47		SB-48		SB-49		SB-50		SB-51		SB-52	
		SB-45 (0-4)	SB-45 (4-10)	SB-46 (0-4)	SB-46 (4-10)	SB-47 (0-4)	SB-47 (4-10)	SB-48 (0-4)	SB-48 (4-6)	SB-49 (0-4)	SB-49 (4-10)	SB-50 (0-4)	SB-50 (4-10)	SB-51 (0-4)	SB-51 (4-8)	SB-52 (0-4)	SB-52 (4-10)
	Date	8/4/2010		8/9/2010		8/5/2010				8/4/2010		8/9/2010		8/9/2010		8/6/2010	
TAL Metals (mg/kg) Method 6010/7471																	
Aluminum	…	7,200	6,280	12100	14800	15100	9750	12000	11500	6350	6970	13900	6430	5890	8630	12800	6740
Antimony	…	1.3 J	1.3 J	13.6 J	11.4 J	21.7 J	5.6 J	14.4 J	13.7 J	2.1 UJ	2.1 UJ	10.4 UJ	10.7 UJ	7.4 J	10.6 U	21.7 J	4.5 J
Arsenic	16	10.1	8.8	12.3	**20.1**	**69.6**	**18.5**	**17.2**	**18.3**	7.3	6.2	**23.2 J**	**39.8 J**	12.7	7.8	15.4	9.9
Barium	10,000	272	92.6	1020	1380	849	1090	773	970	191	114	714	311	563	437	1150	498
Beryllium	2,700	0.26 J	0.3 J	2.4 U	2.2 U	1.3 J	2.2 U	2.1 U	2.3 U	0.27 J	0.38 J	2.1 U	2.1 U	2 U	2.1 U	0.37 J	0.23 J
Cadmium	60	3.3	0.84 J	38.3 J	50.5 J	20.5	32.8	38.2	41.5	0.81 J	0.8 J	21.4	5 J	3.9 J	2 J	24.7	8.3
Calcium	…	26,400	109,000	49200	39100	41600 J	52400 J	39100	30200	62800	26500	59700 J	29500 J	74600	40900	72200	65100
Chromium*	800	61.3	30.1	450	327	276	297	278	301	51.1	27	118	112	82.8	26.6	**834**	149
Cobalt	…	26.4	8.6 J	24.6 J	25.3 J	17.2 J	20.6 J	45.5 J	32.3 J	5.6 J	6.1 J	10.9 J	7 J	10.9 J	6.9 J	21.8 J	9.6 J
Copper	10,000	225	77	1150 J	1100 J	1260	1440	**11200 J**	3980 J	153	145	1140	688	1910 J	179 J	1910 J	2900 J
Iron	…	28,700	15,100	96900	120000	90300	101000	188000	182000	28400	24200	69300	34000	28100	23900	65300	37800
Lead	3,900	1,240	316	**5110**	**8760**	**5810**	**6080**	2330	**4220**	232	212	1720	662	1730	752	2200	898
Magnesium	…	6,310	17,000	8660 J	8400 J	5540 J	7250	4470 J	4180 J	22000	9650	6710 J	3110 J	14400 J	6240 J	6840 J	5470 J
Manganese	10,000	297	176	994	905	741	912	1070	1140	349	344	544 J	397 J	230	301	527	338
Mercury	5.7	4.9	1	**9.2**	**9.7**	**9.6**	**6**	**9.1**	**13.5**	0.72	1	4.5	2.1	1	0.95	**13.6**	2.9
Nickel	10,000	50.1	19.3	353 J	273 J	201	168	292 J	350 J	51.8	19.9	92.6	42.2 J	69.2 J	24.8 J	280 J	90.4 J
Potassium	…	748 J	1,100	6020 U	5520 U	1260 J	509 J	488 J	437 J	896 J	935 J	2040 J	759 J	4940 U	5320 U	657 J	672 J
Selenium	6,800	1.1 J	2.2 U	12 U	11 U	11.7 U	11.5	14.9	11.5 U	2.1 U	2.1 U	194	10.7 U	9.9 U	10.6 U	7.2	64.7
Silver	6,800	0.73 J	0.48 J	8.5 J	4.4 J	4.3 J	3.3 J	4.8 J	5.2 J	0.77 J	0.49 J	1.6 J	1 J	9.9 U	0.94 J	3.8 J	1.5 J
Sodium	…	1,100 U	1,100 U	616 J	1250 J	5840 U	5540 U	5360 U	5740 U	1060 U	1070 U	346 J	5360 U	906 J	5320 U	1100 U	1090 U
Thallium	…	2.2 U	2.2 U	12 U	11 U	11.7 U	11.1 U	10.7 U	11.5 U	2.1 U	2.1 U	10.4 U	10.7 U	9.9 U	10.6 U	2.2 U	2.2 U
Vanadium	…	56.8	26.6	66.2	70.5	98.6	85.1	35.5 J	68.9	35.6	35.4	58.6	25.6 J	15.2 J	23.8 J	36.4	32
Zinc	10,000	757	257	9910	**16400**	7800	6130	**12800**	**10600**	408	331	3330	1520	1930	746	**11300**	4120

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-53		SB-54		SB-55		DUP-1 (SB-42 0-4)	DUP-2 (SB-36 6-10)	DUP-3 (SB-32 0-4)
		SB-53 (0-4)	SB-53 (4-10)	SB-54 (0-4)	SB-54 (4-10)	SB-55 (0-4)	SB-55 (4-10)	DUP-1 8/5/2010	DUP-2 8/9/2010	DUP-3 8/10/2010
	Date	8/5/2010		8/5/2010		8/10/2010		8/5/2010	8/9/2010	8/10/2010
TAL Metals (mg/kg) Method 6010/7471										
Aluminum	…	9430	9320	10500	14200	9100	8050	9240	21400	14700
Antimony	…	7.4 J	11.3 UJ	5.4 J	47.1 J	11.3 U	10.8 U	7 J	12.2 J	47.1
Arsenic	16	13.9	**25.1**	12.8	**27.1**	12.4	13.9	**68.7**	13.9	**40.3 J**
Barium	10,000	907 J	652 J	1920 J	985	713	392	548 J	1230	4660
Beryllium	2,700	2.3 U	2.3 U	1.3 U	2.3 U	2.3 U	2.2 U	2.4 U	2.4 U	2.4 U
Cadmium	60	32.3	26.7	21.8	29.4	8.4	3.9 J	30.7	103 J	15.4
Calcium	…	43000	63100	58100	63000 J	74000	38200	48000	39600	48400
Chromium*	800	231	249	214	794	206	59.3	732	219	171
Cobalt	…	75	18.4 J	21.1 J	47 J	12.3 J	8.6 J	66.1	23 J	19.9 J
Copper	10,000	2820	789	1560	1860	741	458	981	1900 J	1340
Iron	…	96100	71300	81400	100000	84500	36000	109000	93300	129000
Lead	3,900	2680	2330	1760	**4530**	3470	864	**4220**	2900	**16700**
Magnesium	…	6160	9810	18800	5780	5530 J	3780 J	6500	7350 J	4990 J
Manganese	10,000	781	633	668	886	639	464	1020	718	871
Mercury	5.7	4.3	**7.9**	**12.6**	**8.5**	5.4	1.5	**7.9 J**	**10.2**	**15.5**
Nickel	10,000	190	162	205	800	290	40.2 J	1100	192 J	161
Potassium	…	846 J	363 J	906 J	451 J	792 J	965 J	538 J	6070 U	2520 J
Selenium	6,800	7.1 J	11.3 U	6.3 U	5.4 J	11.3 U	19.7	5.9 J	12.1 U	13.2
Silver	6,800	4.8 J	2.9 J	3 J	4 J	2.6 J	10.8 U	4.1 J	22.6 J	2.3 J
Sodium	…	5790 U	5640 U	3130 U	5710 U	414 J	5420 U	5930 U	761 J	6950
Thallium	…	11.6 U	11.3 U	6.3 U	11.4 U	11.3 U	10.8 U	11.9 U	12.1 U	11.8 U
Vanadium	…	47.5 J	71.3 J	29.5 J	55.3 J	105 J	46.2 J	92.9 J	48.9 J	217 J
Zinc	10,000	9110	3120	6250	7430	3240	905	5760	9920	**14400**

NOTES
NYSDEC - New York State Department of Env
Sample analysis by Test America of Ediso
All units are in milligrams per kilogram(ppm) -
Values in bold exceed the NYSDEC Brownfield
U = Analyte not detected
B = Compound was found in the blank and sam
J = The reported value was obtained from a rea
but greater than or equal to the Instrument Dete
D = The reported value is from a secondary ana
... = No standard available
*Chromium standard is for Hexavalent/Trivalen
UJ = The analyte was not detected above t

TABLE 2-20
SOIL ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Restricted Use - Industrial SCOs

SUPPLEMENTAL RI

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-29		SB-30		SB-31		SB-32		SB-33		SB-34	
		SB-29 (0-4)	SB-29 (4-10)	SB-30 (0-4)	SB-30 (4-10)	SB-31 (0-4)	SB-31 (4-10)	SB-32 (0-4)	SB-32 (4-10)	SB-33 (0-4)	SB-33 (4-10)	SB-34 (0-4)	SB-34 (4-10)
Date		8/6/2010		8/9/2010		8/6/2010		8/9/2010		8/9/2010		8/9/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	0.39 U	0.15 U
Aroclor 1221	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	0.39 U	0.15 U
Aroclor 1232	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	0.39 U	0.15 U
Aroclor 1242	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	4.10	0.15 U
Aroclor 1248	25*	0.076 U	0.077 U	0.45	0.31	4.2	0.32	14.00	1.700	0.580	0.077 U	0.39 U	2.00 J
Aroclor 1254	25*	0.045 J	0.24	0.076 U	0.08 U	1.7	0.083 U	0.75 U	0.077 U	0.860	0.930 J	1.20 J	2.60
Aroclor 1260	25*	0.076 U	0.077 U	0.49	0.21	0.38 U	0.083 U	0.75 U	0.077 U	0.330	0.760 J	0.33 J	0.56
Aroclor 1262	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	0.39 U	0.15 U
Aroclor 1268	25*	0.076 U	0.077 U	0.076 U	0.08 U	0.38 U	0.083 U	0.75 U	0.077 U	0.073 U	0.077 U	0.39 U	0.15 U
Total Arochlors	25*	0.045 J	0.24	0.94	0.52	5.9	0.32	14	1,700	1.77	1.69	5.63	5.16

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-35		SB-36		SB-37		SB-38		SB-39		SB-40	
		SB-35 (0-4)	SB-35 (4-10)	SB-36 (0-4)	SB-36 (6-10)	SB-37 (0-4)	SB-37 (4-10)	SB-38 (0-4)	SB-38 (4-10)	SB-39 (0-4)	SB-39 (4-10)	SB-40 (0-4)	SB-40 (4-10)
Date		8/6/2010		8/9/2010		8/9/2010		8/6/2010		8/6/2010		8/9/2010	
PCBs (µg/kg) - Method 8082													
Aroclor 1016	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Aroclor 1221	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Aroclor 1232	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Aroclor 1242	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Aroclor 1248	25*	3.2	0.92	14.00 J	4.00 J	0.078 U	0.076 U	1.3	0.49	1.1	0.73	0.083 U	0.078 U
Aroclor 1254	25*	1.8	0.08 U	3.90	1.90	0.250	0.560	0.077 U	0.078 U	0.081 U	0.082 U	0.410 J	0.410 J
Aroclor 1260	25*	0.41 U	0.08 U	0.71 J	0.44 U	0.078 U	0.290	0.077 U	0.078 U	0.081 U	0.082 U	0.210 J	0.240 J
Aroclor 1262	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Aroclor 1268	25*	0.41 U	0.08 U	0.82 U	0.44 U	0.078 U	0.076 U	0.077 U	0.078 U	0.081 U	0.082 U	0.083 U	0.078 U
Total Arochlors	25*	5	0.92	17.9	5.9	0.25	0.85	1.3	0.49	1.1	0.73	0.62	0.65

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-41		SB-42		SB-43		SB-44		SB-45		SB-46	
		SB-41 (0-4)	SB-41 (4-11)	SB-42 (0-4)	SB-42 (4-10)	SB-43 (0-4)	SB-43 (4-8)	SB-44 (0-4)	SB-44 (4-10)	SB-45 (0-4)	SB-45 (4-10)	SB-46 (0-4)	SB-46 (4-10)
Date		8/4/2010		8/5/2010		8/5/2010		8/6/2010		8/4/2010		8/9/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Aroclor 1221	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Aroclor 1232	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Aroclor 1242	25*	0.072 U	0.078 U	0.86	0.32	5.1	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Aroclor 1248	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	1.9	2.9	1.4	0.076 U	0.075 U	2.70	6.70
Aroclor 1254	25*	0.24	0.11	0.58	0.17	1	1.2	1.4	0.087 U	0.52	0.17	0.16 U	6.20
Aroclor 1260	25*	0.14 J	0.034 J	0.14	0.074 U	0.27 J	0.31	0.40 U	0.087 U	0.34	0.1 J	0.50	1.70
Aroclor 1262	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Aroclor 1268	25*	0.072 U	0.078 U	0.081 U	0.074 U	0.42 U	0.15 U	0.40 U	0.087 U	0.076 U	0.075 U	0.16 U	0.78 U
Total Arochlors	25*	0.38	0.11	1.58	0.49	6.1	3.41	4.3	1.4	0.86	0.27	3.2	14.6

NOTES
Sample analysis by Test America of Edison, NJ
* Standard applies to total arochlors
All units are milligrams per kilogram (mg/kg) - parts per billion (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial

TABLE 2-20
SOIL ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Restricted Use - Industrial SCOs

SUPPLEMENTAL RI

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-47		SB-48		SB-49		SB-50		SB-51		SB-52	
		SB-47 (0-4)	SB-47 (4-10)	SB-48 (0-4)	SB-48 (4-6)	SB-49 (0-4)	SB-49 (4-10)	SB-50 (0-4)	SB-50 (4-10)	SB-51 (0-4)	SB-51 (4-8)	SB-52 (0-4)	SB-52 (4-10)
Date		8/5/2010		8/6/2010		8/4/2010		8/9/2010		8/9/2010		8/6/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.16 U	0.38 U	0.072 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1221	25*	0.16 U	0.38 U	0.072 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1232	25*	0.16 U	0.38 U	0.072 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1242	25*	1.4	3.3	0.072 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1248	25*	0.16 U	0.38 U	0.83	2.6	0.074 U	0.075 U	0.31	0.59 J	0.078	0.21	1.0	0.55 J
Aroclor 1254	25*	0.83	2.5	0.07 U	1.2	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1260	25*	0.19	0.95	0.07 U	0.16 U	0.019 J	0.032 J	0.18	0.073 U	0.097	0.066 J	0.074 U	0.075 U
Aroclor 1262	25*	0.16 U	0.38 U	0.07 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Aroclor 1268	25*	0.16 U	0.38 U	0.07 U	0.16 U	0.074 U	0.075 U	0.072 U	0.073 U	0.07 U	0.075 U	0.074 U	0.075 U
Total Arochlors	25*	2.42	6.75	0.83	3.8	0.019 J	0.032 J	0.49	0.59	0.175	0.21	1.0	0.55

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-53		SB-54		SB-55		DUP-1 (SB-42 0-4)	DUP-2 (SB-36 6-10)	DUP-3 (SB-32 0-4)			
		SB-53 (0-4)	SB-53 (4-10)	SB-54 (0-4)	SB-54 (4-10)	SB-55 (0-40	SB-55 (4-10)	DUP-1 8/5/2010	DUP-2 8/9/2010	DUP-3 8/10/2010			
Date		8/5/2010		8/5/2010		8/9/2010		8/5/2010	8/9/2010	8/10/2010			
PCBs (µg/kg) - Method 8082													
Aroclor 1016	25*	0.4 U	0.39 U	0.43 U	0.39 U	0.078 U	0.76 U	0.081 U	0.16 U	0.84 U			
Aroclor 1221	25*	0.4 U	0.39 U	0.43 U	0.39 U	0.078 U	0.76 U	0.081 U	0.16 U	0.84 U			
Aroclor 1232	25*	0.4 U	0.39 U	0.43 U	0.39 U	0.078 U	0.76 U	0.081 U	0.16 U	0.84 U			
Aroclor 1242	25*	5.5	0.39 U	5.6	0.39 U	0.078 U	0.76 U	1.400	0.16 U	0.84 U			
Aroclor 1248	25*	0.4 U	1.6	0.43 U	5	0.078 U	0.76 U	0.081 U	3.50	16			
Aroclor 1254	25*	1	0.39 U	1.4 J	2.9	1.7	0.34 J	1.0	2.40 J	0.84 U			
Aroclor 1260	25*	0.4 U	5.1	0.43 U	0.6	1.7	0.24 J	0.280	0.16 U	0.84 U			
Aroclor 1262	25*	0.4 U	0.39 U	0.43 U	0.39 U	0.078 U	0.76 U	0.081 U	0.16 U	0.84 U			
Aroclor 1268	25*	0.4 U	0.39 U	0.43 U	0.39 U	0.078 U	0.76 U	0.081 U	0.16 U	0.84 U			
Total Arochlors	25*	6.5	6.7	7.0	7.9	3.4	0.58	2..68	5.9	16			

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial
Date	
PCBs (mg/kg) - Method 8082	
Aroclor 1016	25*
Aroclor 1221	25*
Aroclor 1232	25*
Aroclor 1242	25*
Aroclor 1248	25*
Aroclor 1254	25*
Aroclor 1260	25*
Aroclor 1262	25*
Aroclor 1268	25*
Total Arochlors	25*

NOTES
Sample analysis by Test America of Edison, NJ
* Standard applies to total arochlors
All units are milligrams per kilogram (mg/kg) - parts per billion (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objec

TABLE 2-21
SOIL ANALYTICAL RESULTS - TCLP ARSENIC

SUPPLEMENTAL REMEDIAL INVESTIGATION

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	RCRA Hazardous Waste Regulatory Level	NYSDEC Hazardous Waste Regulatory Level	SB-32	SB-38	SB-42	SB-42	SB-43	SB-53
			0 - 4 ft	0 - 4 ft	0 - 4 ft	4 - 10 ft	4 - 8 ft	4 - 10 ft
Date			8/9/2010	8/6/2010	8/5/2010	8/5/2010	8/5/2010	8/5/2010
TCLP Metals (mg/L) Method 1311								
Arsenic	5	5	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U

NOTES
Resource Conservation and Recovery Act (RCRA)
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Test America in Edison, New Jersey.
All units are milligrams per liter (mg/L) - parts per million (ppm).
Values in **bold** exceed the RCRA/NYSDEC Hazardous Waste Regulatory Levels.
U = The analyte was analyzed for, but not detected above the sample reporting limits.

TABLE 2-22

SOIL ANALYTICAL RESULTS - TAL METALS

Restricted Use - Protection of Groundwater SCOs

SECOND SUPPLEMENTAL RD

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-8-1		SB-8-2		SB-16-1	SB-22-1		SB-22-2		SB-23-1		SB-23-2		SB-56	
		SB-8-1 (0-4)	SB-8-1 (4-6)	SB-8-2 (0-4)	SB-8-2 (4-6)	SB-16-1 (0-4)	SB-22-1 (0-4)	SB-22-1 (4-6)	SB-22-2 (0-4)	SB-22-2 (4-6)	SB-23-1 (0-4)	SB-23-1 (4-6)	SB-23-2 (0-4)	SB-23-2 (6-8)	SB-56 (0-4)	SB-56 (6-8)
Date		10/13/2010		10/13/2010		10/12/2010	10/13/2010		10/13/2010		10/14/2010		10/14/2010		10/12/2010	
TAL Metals (mg/kg) Method 6010/7471																
Aluminum	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,400	11,000
Antimony	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.9 J	13.9 J
Arsenic	16	**30.9 J**	**33.7 J**	**23.2 J**	**47.5 J**	NA	**25.6 J**	**16.3 J**	NA	NA	**23.1**	**17.5**	14.1	8.3	**16.7**	**23 J**
Barium	820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	538 J	**893 J**
Beryllium	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.34 J	0.44 J
Cadmium	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**19.2**	**30.7**
Calcium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93,000	35,200
Chromium*	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**99.9**	**237**
Cobalt	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.2	20.1
Copper	1720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3,530**	1,570
Iron	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63,700	129,000
Lead	450	**5,470 J**	**10,700 J**	**21,700 J**	**10,600 J**	**11,600 J**	**1,830 J**	**4,970 J**	**3,910 J**	**6,660 J**	**7,330**	NA	NA	NA	**931 J**	**4,090 J**
Magnesium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23,600	6,430
Manganese	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	503	959
Mercury	0.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.9**	**8.6**
Nickel	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	128	**232**
Potassium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	814 J	949 J
Selenium	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	**14.3**
Silver	8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 J	5.1
Sodium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	402 J	473 J
Thallium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6 U	2.3 U
Vanadium	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24	104
Zinc	2480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7,080**	**8,110**

Compound	NYSDEC Brownfields Restricted Use Protection of Groundwater Soil Cleanup Objective	SB-57	
		SB-57 (0-4)	SB-57 (6-8)
Date		10/12/2010	
TAL Metals (mg/kg) Method 6010/7471			
Aluminum	---	11,500	11,500
Antimony	---	23.5 J	15.9 J
Arsenic	16	**17.5**	**19.1**
Barium	820	**897 J**	**839 J**
Beryllium	47	0.55 J	0.43 J
Cadmium	7.5	**26.3**	**24.2**
Calcium	---	45,000	42,400
Chromium*	19	**327**	**152**
Cobalt	---	25.1	23.5
Copper	1720	**1,870**	**8,510**
Iron	---	92,400	99,300
Lead	450	**4,890 J**	**2,960 J**
Magnesium	---	5,300	4,980
Manganese	2000	769	724
Mercury	0.73	**5.3**	**5.8**
Nickel	130	**201**	**333**
Potassium	---	1,160 J	1,310 J
Selenium	4	**6.7**	**7**
Silver	8.3	5.2	3.2
Sodium	---	415 J	583 J
Thallium	---	2.8 U	2.7 U
Vanadium	---	57.1	50.5
Zinc	2480	**9,160**	**8,570**

NOTES:
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Test America of Edison, NJ
All units are in milligrams per kilogram(mg/kg) - parts per million (ppm)
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Groundwater
U = Analyte not detected
B = Compound was found in the blank and sample.
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
… - No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
NA = Not analyzed.

TABLE 2-23

SOIL ANALYTICAL RESULTS - TAL METALS
Restricted Use - Industrial SCOs

SECOND SUPPLEMENTAL RD

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-8-1		SB-8-2		SB-16-1	SB-22-1		SB-22-2		SB-23-1		SB-23-2		SB-56	
		SB-8-1 (0-4)	SB-8-1 (4-6)	SB-8-2 (0-4)	SB-8-2 (4-6)	SB-16-1 (0-4)	SB-22-1 (0-4)	SB-22-1 (4-6)	SB-22-2 (0-4)	SB-22-2 (4-6)	SB-23-1 (0-4)	SB-23-1 (4-6)	SB-23-2 (0-4)	SB-23-2 (6-8)	SB-56 (0-4)	SB-56 (6-8)
Date		10/13/2010		10/13/2010		10/12/2010	10/13/2010		10/13/2010		10/14/2010		10/14/2010		10/12/2010	
TAL Metals (mg/kg) Method 6010/7471																
Aluminum	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,400	11,000
Antimony	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.9 J	13.9 J
Arsenic	16	**30.9 J**	**33.7 J**	**23.2 J**	**47.5**	NA	**25.6 J**	**16.3 J**	NA	NA	**20.6**	**17.5**	14.1	8.3	**16.7**	**23 J**
Barium	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	538 J	893 J
Beryllium	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.34 J	0.44 J
Cadmium	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.2	30.7
Calcium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93,000	35,200
Chromium*	800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.9	237
Cobalt	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.2	20.1
Copper	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,530	1,570
Iron	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63,700	129,000
Lead	3,900	**5,470 J**	**10,700 J**	**21,700 J**	**10,600**	**11,600**	**1,830 J**	**4,970 J**	**3,910 J**	**6,660 J**	**7,330**	NA	NA	NA	931 J	**4,090 J**
Magnesium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23,600	6,430
Manganese	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	503	959
Mercury	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9	**8.6**
Nickel	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	128	232
Potassium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	814 J	949 J
Selenium	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	14.3
Silver	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 J	5.1
Sodium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	402 J	473 J
Thallium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6 U	2.3 U
Vanadium	…	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24	104
Zinc	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,080	8,110

Compound	NYSDEC Brownfields Restricted Use Protection of Public Health-Industrial Soil Cleanup Objective	SB-57	
		SB-57 (0-4)	SB-57 (6-8)
Date		10/12/2010	
TAL Metals (mg/kg) Method 6010/7471			
Aluminum	…	11,500	11,500
Antimony	…	23.5 J	15.9 J
Arsenic	16	**17.5**	**19.1**
Barium	10,000	897 J	839 J
Beryllium	2,700	0.55 J	0.43 J
Cadmium	60	26.3	24.2
Calcium	…	45,000	42,400
Chromium*	800	327	152
Cobalt	…	25.1	23.5
Copper	10,000	1,870	8,510
Iron	…	92,400	99,300
Lead	3,900	**4,890 J**	2,960 J
Magnesium	…	5,300	4,980
Manganese	10,000	769	724
Mercury	5.7	5.3	**5.8**
Nickel	10,000	201	333
Potassium	…	1,160 J	1,310 J
Selenium	6,800	6.7	7
Silver	6,800	5.2	3.2
Sodium	…	415 J	583 J
Thallium	…	2.8 U	2.7 U
Vanadium	…	57.1	50.5
Zinc	10,000	9,160	8,570

NOTES
NYSDEC - New York State Department of Environmental Conservation
Sample analysis by Test America of Edison, NJ
All units are in milligrams per kilogram(ppm) - parts per million (ppm)
Values in bold exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial
U = Analyte not detected
B = Compound was found in the blank and sample.
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range
... = No standard available
*Chromium standard is for Hexavalent/Trivalent Chromium
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
NA = Not analyzed.

TABLE 2-24

SOIL ANALYTICAL RESULTS - PCBs
Restricted Use - Industrial SCOs

SECOND SUPPLEMENTAL RD

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-2-1		SB-2-2		SB-2-3		SB-6-1	SB-6-2		SB-6-3	SB-7-1	
		SB-2-1 (0-4)	SB-2-1 (6-8)	SB-2-2 (1-4)	SB-2-2 (6-8)	SB-2-3 (0-4)	SB-2-3 (10-11)	SB-6-1 (0-4)	SB-6-2 (0-4)	SB-6-2 (6-8)	SB-6-3 (0-4)	SB-7-1 (0-4)	SB-7-1 (4-6)
Date		10/6/2010		10/6/2010		10/6/2010		10/8/2010	10/8/2010		10/8/2010	10/7/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	0.42 U
Aroclor 1221	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	0.42 U
Aroclor 1232	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	0.42 U
Aroclor 1242	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	2.1
Aroclor 1248	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	12.0	0.084 U	6.1 J	0.079 U	0.76	0.42 U
Aroclor 1254	25*	0.48	0.078 U	0.40	0.076 U	0.47	0.078 U	0.94 U	1.6	0.43 U	0.69	0.67	4.4
Aroclor 1260	25*	0.55	0.13	0.076 U	0.076 U	0.077 U	0.15	0.94 U	0.084 U	0.43 U	0.079 U	0.16	1.5
Aroclor 1262	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	0.42 U
Aroclor 1268	25*	0.079 U	0.078 U	0.076 U	0.076 U	0.077 U	0.078 U	0.94 U	0.084 U	0.43 U	0.079 U	0.077 U	0.42 U
Total Arochlors	25*	1.03	0.13	0.40	0.076 U	0.47	0.15	12.0	1.6	6.1 J	0.69	1.59	8.0

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-7-2		SB-8-1		SB-8-2		SB-9-1		SB-9-2		SB-9-3	
		SB-7-2 (0-4)	SB-7-2 (4-6)	SB-8-1 (0-4)	SB-8-1 (4-6)	SB-8-2 (0-4)	SB-8-2 (4-6)	SB-9-1 (0-4)	SB-9-1 (10-11)	SB-9-2 (0-4)	SB-9-2 (8-10)	SB-9-3 (0-4)	SB-9-3 (4-6)
Date		10/7/2010		10/13/2010		10/13/2010		10/8/2010		10/8/2010	10/11/2010	10/8/2010	
PCBs (µg/kg) - Method 8082													
Aroclor 1016	25*	0.078 U	0.16 U	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.078 U	0.84 U	0.16 U	0.80 U	0.41 U
Aroclor 1221	25*	0.078 U	0.16 U	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.078 U	0.84 U	0.16 U	0.80 U	0.41 U
Aroclor 1232	25*	0.078 U	0.16 U	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.078 U	0.94 U	0.16 U	0.80 U	0.41 U
Aroclor 1242	25*	0.078 U	0.16 U	2.4	0.79 U	0.84 U	6	0.80 U	0.078 U	0.84 U	2.1	0.80 U	0.41 U
Aroclor 1248	25*	1.3	2.1	0.16 U	13	14	0.4 U	6.7 J	0.078 U	7.8	0.16 U	11 J	5.9 J
Aroclor 1254	25*	1.2	3.2	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.49	0.84 U	0.16 U	0.80 U	0.41 U
Aroclor 1260	25*	0.39	3.0	0.56	4.1	12	2.4	0.80 U	0.26	0.84 U	0.59	0.80 U	0.41 U
Aroclor 1262	25*	0.078 U	0.16 U	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.078 U	0.84 U	0.16 U	0.80 U	0.41 U
Aroclor 1268	25*	0.078 U	0.16 U	0.16 U	0.79 U	0.84 U	0.4 U	0.80 U	0.078 U	0.84 U	0.16 U	0.80 U	0.41 U
Total Arochlors	25*	2.89	8.3	2.96	17.1	**28**	8.4	6.7 J	0.75	7.80	2.69	11 J	5.9 J

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-16-1		SB-16-2		SB-16-3		SB-17-1		SB-17-2		SB-20-1	
		SB-16-1 (0-4)	SB-16-1 (6-8)	SB-16-2 (0-4)	SB-16-2 (6-8)	SB-16-3 (0-4)	SB-16-3 (4-6)	SB-17-1 (0-4)	SB-17-1 (4-6)	SB-17-2 (0-4)	SB-17-2 (4-6)	SB-20-1 (0-4)	SB-20-1 (6-8)
Date		10/12/2010		10/12/2010		10/12/2010		10/11/2010		10/11/2010		10/11/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1221	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1232	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1242	25*	9.3 J	2.8	7 J	0.43	12.0	15	**31**	0.29 J	16	**27**	13 J	1.7
Aroclor 1248	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1254	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1260	25*	0.89	1.2	0.57	0.26	0.92 J	2.6	8.3	0.053 J	1.9	3	1.4 J	0.89
Aroclor 1262	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Aroclor 1268	25*	0.89 U	0.16 U	0.46 U	0.078 U	0.94 U	0.78 U	2.4 U	0.088 U	0.85 U	1.7 U	0.81 U	0.16 U
Total Arochlors	25*	10.19 J	4.0	7.57 J	0.69	12.92	17.6	**39.3**	0.343 J	17.9	**30**	14.4 J	2.56

NOTES
Sample analysis by Test America of Edison, NJ
* Standard applies to total arochlors
All units are milligrams per kilogram (mg/kg) - parts per billion (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objective for Protection of Public Health-Industrial

TABLE 2-24

SOIL ANALYTICAL RESULTS - PCBs
Restricted Use - Industrial SCOs

SECOND SUPPLEMENTAL RD

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-20-2		SB-20-3		SB-22-1		SB-22-2		SB-22-3		SB-23-1	
		SB-20-2 (0-4)	SB-20-2 (4-6)	SB-20-3 (0-4)	SB-20-3 (6-8)	SB-22-1 (0-4)	SB-22-1 (4-6)	SB-22-2 (0-4)	SB-22-2 (4-6)	SB-22-3 (0-4)	SB-22-3 (6-8)	SB-23-1 (0-4)	SB-23-1 (4-6)
Date		10/11/2010		10/11/2010		10/13/2010		10/13/2010		10/13/2010		10/14/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1221	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1232	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1242	25*	7.4	16.0	11 J	0.96	6.2	11	4.5	2.6	9.5	4.4	3.5	3.1
Aroclor 1248	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1254	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1260	25*	0.83	1.5	0.89 J	0.33	0.61	2.1	0.84	0.92	1.4	0.78	1.1 J	0.83
Aroclor 1262	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Aroclor 1268	25*	0.48 U	0.79 U	0.52 U	0.082 U	0.42 U	0.82 U	0.43 U	0.17 U	0.9 U	0.38 U	0.41 U	0.41 U
Total Arochlors	25*	7.78	17.5	11.89 J	1.29	6.81	13.1	5.34	3.52	10.9	5.18	4.6 J	3.93

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-23-2		SB-23-3		SB-23-4		SB-24-1	SB-24-2	SB-24-3		SB-27-1	
		SB-23-2 (0-4)	SB-23-2 (6-8)	SB-23-3 (0-4)	SB-23-3 (4-6)	SB-23-4 (0-4)	SB-23-4 (4-6)	SB-24-1 (0-4)	SB-24-2 (0-2)	SB-24-3 (0-4)	SB-24-3 (4-6)	SB-27-1 (0-4)	SB-27-1 (9-10)
Date		10/14/2010		10/14/2010		10/4/2010		10/7/2010	10/7/2010	10/7/2010		10/4/2010	
PCBs (µg/kg) - Method 8082													
Aroclor 1016	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	0.077 U	0.17 U	0.078 U
Aroclor 1221	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	0.077 U	0.17 U	0.078 U
Aroclor 1232	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	0.077 U	0.17 U	0.078 U
Aroclor 1242	25*	1	14	7.5	7 J	0.084 U	4.1 U	4.2	2.8 J	1.9 J	0.077 U	0.17 U	0.078 U
Aroclor 1248	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	1.0 J	0.17 U	0.60
Aroclor 1254	25*	0.08 U	0.78	0.41 U	0.47 U	1.6 J	**55**	2.1	1.1 J	0.72 J	0.9	2.8	0.078 U
Aroclor 1260	25*	0.23	0.67 J	1.7	1.2	1.1 U	4.1 U	0.42 J	0.22	0.78	0.46	0.17 U	0.078 U
Aroclor 1262	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	0.077 U	0.17 U	0.078 U
Aroclor 1268	25*	0.08 U	0.78	0.41 U	0.47 U	0.084 U	4.1 U	0.43 U	0.17 U	0.16 U	0.077 U	0.17 U	0.078 U
Total Arochlors	25*	1.23	14.7	9.2	8.2 J	2.7	**55**	6.3	4.12	3.4	2.36	2.8	0.60

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	SB-27-2		SB-27-3		SB-27-4		SB-27-5		SB-56		SB-57	
		SB-27-2 (0-4)	SB-27-2 (4-8)	SB-27-3 (0-4)	SB-27-3 (9-10)	SB-27-4 (0-4)	SB-27-4 (6-8)	SB-27-5 (0-4)	SB-27-5 (8-10)	SB-56 (0-4)	SB-56 (6-8)	SB-57 (0-4)	SB-57 (6-8)
Date		10/4/2010		10/4/2010		10/14/2010		10/14/2010		10/12/2010		10/12/2010	
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	0.080 U	0.49 U	0.19 U
Aroclor 1221	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	0.080 U	0.49 U	0.19 U
Aroclor 1232	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	0.080 U	0.49 U	0.19 U
Aroclor 1242	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.85	0.078 U	5.5	0.080 U	5.6	2.5
Aroclor 1248	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	1.1	0.49 U	0.19 U
Aroclor 1254	25*	2.8	4.2	1.6	0.079 J	0.38	0.08 U	0.074 U	0.078 U	0.45	0.080 U	0.49 U	0.19 U
Aroclor 1260	25*	0.16 U	0.41	2 J	0.081 U	0.31	0.08 U	0.21	0.078 U	0.43 J	0.080 U	1.0	0.51
Aroclor 1262	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	0.77 J	0.49 U	0.19 U
Aroclor 1268	25*	0.16 U	0.41 U	0.066 U	0.081 U	0.076 U	0.08 U	0.074 U	0.078 U	0.45 U	0.080 U	0.49 U	0.19 U
Total Arochlors	25*	2.8	4.2	3.6	0.79 J	0.69	0.08 U	1.06	0.078 U	5.93	1.87 J	6.6	3.01

NOTES
Sample analysis by Test America of Edison, NJ
* Standard applies to total arochlors
All units are milligrams per kilogram (mg/kg) - parts per billion (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objec

TABLE 2-24

SOIL ANALYTICAL RESULTS - PCBs
Restricted Use - Industrial SCOs

SECOND SUPPLEMENTAL RD

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial	DUP-1 (SB-7-1 0-4)	DUP-2 (SB-20-1 0-4)	DUP-3 (SB-22-3 6-8)	DUP-4 (SB-23-4 0-4)								
Date		10/7/2010	10/11/2010	10/13/2010	10/14/2010								
PCBs (mg/kg) - Method 8082													
Aroclor 1016	25*	0.075 U	0.16 U	1.6 U	0.43 U								
Aroclor 1221	25*	0.075 U	0.16 U	1.6 U	0.43 U								
Aroclor 1232	25*	0.075 U	0.16 U	1.6 U	0.43 U								
Aroclor 1242	25*	0.075 U	1.8 J	14	6.1								
Aroclor 1248	25*	0.84	0.16 U	1.6 U	0.43 U								
Aroclor 1254	25*	0.71	0.16 U	1.6 U	0.43 U								
Aroclor 1260	25*	0.22	0.21 J	2.6	1.4								
Aroclor 1262	25*	0.075 U	0.16 U	1.6 U	0.43 U								
Aroclor 1268	25*	0.075 U	0.16 U	1.6 U	0.43 U								
Total Arochlors	25*	1.77	2.01 J	16.6	7.5								

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial
Date	
PCBs (µg/kg) - Method 8082	
Aroclor 1016	25*
Aroclor 1221	25*
Aroclor 1232	25*
Aroclor 1242	25*
Aroclor 1248	25*
Aroclor 1254	25*
Aroclor 1260	25*
Aroclor 1262	25*
Aroclor 1268	25*
Total Arochlors	25*

Compound	Brownfields Restricted Use Soil Cleanup Objectives Protection of Public Health Industrial
Date	
PCBs (mg/kg) - Method 8082	
Aroclor 1016	25*
Aroclor 1221	25*
Aroclor 1232	25*
Aroclor 1242	25*
Aroclor 1248	25*
Aroclor 1254	25*
Aroclor 1260	25*
Aroclor 1262	25*
Aroclor 1268	25*
Total Arochlors	25*

NOTES
Sample analysis by Test America of Edison, NJ
* Standard applies to total arochlors
All units are milligrams per kilogram (mg/kg) - parts per billion (ppm)
U = Not Detected
D = Diluted Sample
J = Estimated Value
Values in **bold** exceed the NYSDEC Brownfields Soil Cleanup Objec

TABLE 2-25

SOIL ANALYTICAL RESULTS - TCLP METALS

SECOND SUPPLEMENTAL REMEDIAL DELINEATION

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	RCRA Hazardous Waste Regulatory Level	SB-8-1		SB-8-2		SB-16-1	SB-22-1		SB-22-2		SB-23-1		SB-23-2	
		SB-8-1 (0-4)	SB-8-1 (4-6)	SB-8-2 (0-4)	SB-8-2 (4-10)	SB-16-1 (0-4)	SB-22-1 (0-4)	SB-22-1 (4-6)	SB-22-2 (0-4)	SB-22-2 (4-6)	SB-23-1 (0-4)	SB-23-1 (4-6)	SB-23-2 (0-4)	SB-23-2 (0-4)
Date		10/13/2010		10/13/2010		10/12/2010	10/13/2010		10/13/2010		10/14/2010		10/14/2010	
TCLP Metals (Mg/L) Method 1311														
Arsenic	5	0.025 U	0.025 U	0.025 U	0.025 U	NA	0.025 U	0.025 U	NA	NA	0.025 U	0.025 U	0.025 U	0.025 U
Lead	5	0.292	3.99	**5.37**	2.81	1.14	0.885	0.353	0.025 U	0.963	0.271	NA	NA	NA

NOTES:
Sample analysis by Test America of Edison, NJ
All units are in milligrams per liter (mg/L) - parts per million (ppm)
Values in **bold** exceed the RCRA Hazardous Waste Regulatory Level
U = Analyte not detected
B = Compound was found in the blank and sample.
J = The reported value was obtained from a reading that was less than the Contract Required Detection Limit,
but greater than or equal to the Instrument Detection Limit
NA = Not analyzed.

TABLE 2-26
SEDIMENT ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Human Health Bioaccumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Human Health Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009		11/20/2009	11/20/2009
VOC's (ug/kg) - EPA Method 8260						
1,1,1-Trichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1,2,2-Tetrachloroethane	300	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichloroethane	600	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichlorotrifluoroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethene	20	14 U	19 U	17 U	28 U	24 UJ
1,2,4-Trichlorobenzene (V)**	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromo-3-Chloropropane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromoethane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	170 J
1,2-Dichloroethane	700	14 U	19 U	17 U	28 U	24 UJ
1,2-Dichloropropane	…	14 U	19 U	17 U	28 U	24 UJ
1,3-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	48 J
1,4-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	290 J
2-Butanone	…	38 J	40 J	86 U	140 U	120 UJ
2-Hexanone	…	71 U	96 U	86 U	140 U	120 R
4-Methyl-2-Pentanone	…	71 U	96 U	86 U	140 U	120 R
Acetone	…	110	150 J	48 J	130 J	280 J
Benzene	…	14 U	19 U	17 U	28 U	24 UJ
Bromodichloromethane	…	14 U	19 U	17 U	28 U	24 UJ
Bromoform	…	14 U	19 U	17 U	28 U	24 R
Bromomethane	…	14 U	19 U	17 U	28 U	24 UJ
Carbon Disulfide	…	17	15 J	20	13 J	250 J
Carbon Tetrachloride	600	14 U	19 U	17 U	28 U	24 UJ
Chlorobenzene	…	14 U	19 U	17 U	28 U	140 J
Chloroethane	…	14 U	19 U	17 U	28 U	24 UJ
Chloroform	…	14 U	19 U	17 U	28 U	24 UJ
Chloromethane	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
cyclohexane	60	14 U	19 U	17 U	28 U	24 UJ
Dibromochloromethane	…	14 U	19 U	17 U	28 U	24 R
Dichlorodifluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Ethyl Benzene	…	14 U	19 U	17 U	28 U	8.9 J
Isopropylbenzene	…	14 U	19 U	17 U	28 U	110 J
m/p-Xylenes*	…	28 U	38 U	34 U	55 U	18 J
Methyl Acetate	…	14 UJ	19 U	17 UJ	28 U	24 UJ
Methyl tert-butyl Ether	…	14 U	19 U	17 U	28 U	24 UJ
Methylcyclohexane	…	14 U	19 U	17 U	28 U	29 J
Methylene Chloride	…	14 U	19 U	17 U	28 U	37 J
o-Xylene*	…	14 U	19 U	17 U	28 U	24 R
Styrene	…	14 U	19 U	17 U	28 U	24 R
t-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
Tetrachloroethene	800	14 U	19 U	17 U	28 U	24 R
Toluene	…	14 U	19 U	17 U	28 U	24 R
trans-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichloroethene	2,000	14 U	19 U	17 U	28 U	24 UJ
Trichlorofluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Vinyl Chloride	70	14 U	19 U	17 U	28 U	24 UJ
TOTAL VOCS	…	165	205	65	143	1,381

NOTES:
NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
Samples analysis by Chemtech Laboratories of Mountainside, NJ
... - No standard available
* = Criteria equals the sum of m/p xylene and o-xylene
** = standard for trichlorobenzene
Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value
R = The sample results is rejected due to serious deficiencies
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-27
SEDIMENT ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Benthic Aquatic Life Acute Toxicity Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Benthic Aquatic Life Acute Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
VOC's (ug/kg) - EPA Method 8260						
1,1,1-Trichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1,2,2-Tetrachloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichlorotrifluoroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
1,2,4-Trichlorobenzene (V)**	910,000	14 U	19 U	17 U	28 U	24 R
1,2-Dibromo-3-Chloropropane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromoethane		14 U	19 U	17 U	28 U	24 R
1,2-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	170 J
1,2-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,2-Dichloropropane	…	14 U	19 U	17 U	28 U	24 UJ
1,3-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	48 J
1,4-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	290 J
2-Butanone	…	38 J	40 J	86 U	140 U	120 UJ
2-Hexanone	…	71 U	96 U	86 U	140 U	120 R
4-Methyl-2-Pentanone	…	71 U	96 U	86 U	140 U	120 R
Acetone	…	110	150 J	48 J	130 J	280 J
Benzene	90,000	14 U	19 U	17 U	28 U	24 UJ
Bromodichloromethane	…	14 U	19 U	17 U	28 U	24 UJ
Bromoform	…	14 U	19 U	17 U	28 U	24 R
Bromomethane	…	14 U	19 U	17 U	28 U	24 UJ
Carbon Disulfide	…	17	15 J	20	13 J	250 J
Carbon Tetrachloride	…	14 U	19 U	17 U	28 U	24 UJ
Chlorobenzene	34,600	14 U	19 U	17 U	28 U	140 J
Chloroethane	…	14 U	19 U	17 U	28 U	24 UJ
Chloroform	…	14 U	19 U	17 U	28 U	24 UJ
Chloromethane	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
cyclohexane	1,000	14 U	19 U	17 U	28 U	24 UJ
Dibromochloromethane	…	14 U	19 U	17 U	28 U	24 R
Dichlorodifluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Ethyl Benzene	58,000	14 U	19 U	17 U	28 U	8.9 J
Isopropylbenzene	…	14 U	19 U	17 U	28 U	110 J
m/p-Xylenes*	240,000	28 U	38 U	34 U	55 U	18 J
Methyl Acetate	…	14 UJ	19 U	17 UJ	28 U	24 UJ
Methyl tert-butyl Ether	…	14 U	19 U	17 U	28 U	24 UJ
Methylcyclohexane	…	14 U	19 U	17 U	28 U	29 J
Methylene Chloride	…	14 U	19 U	17 U	28 U	37 J
o-Xylene*	240,000	14 U	19 U	17 U	28 U	24 R
Styrene	…	14 U	19 U	17 U	28 U	24 R
t-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
Tetrachloroethene	…	14 U	19 U	17 U	28 U	24 R
Toluene	211,000	14 U	19 U	17 U	28 U	24 R
trans-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichlorofluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Vinyl Chloride	…	14 U	19 U	17 U	28 U	24 UJ
TOTAL VOCS	…	165	205	65	143	1,381

NOTES:
NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
Samples analysis by Chemtech Laboratories of Mountainside, NJ
... - No standard available
* = Criteria equals the sum of m/p xylene and o-xylene
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

** = standard for trichlorobenzene
Values in **bold** exceed the Sediment Criteria for Benthic Aquatic Life Acute Toxicity
U = Not Detected
J = Estimated Value
R = The sample results is rejected due to serious deficiencies

TABLE 2-28
SEDIMENT ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Benthic Aquatic Life Chronic Toxicity Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Benthic Aquatic Life Chronic Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
VOC's (ug/kg) - EPA Method 8260						
1,1,1-Trichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1,2,2-Tetrachloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichlorotrifluoroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
1,2,4-Trichlorobenzene (V)**	91,000	14 U	19 U	17 U	28 U	24 R
1,2-Dibromo-3-Chloropropane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromoethane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	170 J
1,2-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,2-Dichloropropane	…	14 U	19 U	17 U	28 U	24 UJ
1,3-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	48 J
1,4-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	290 J
2-Butanone	…	38 J	40 J	86 U	140 U	120 UJ
2-Hexanone	…	71 U	96 U	86 U	140 U	120 R
4-Methyl-2-Pentanone	…	71 U	96 U	86 U	140 U	120 R
Acetone	…	110	150 J	48 J	130 J	280 J
Benzene	26,000	14 U	19 U	17 U	28 U	24 UJ
Bromodichloromethane	…	14 U	19 U	17 U	28 U	24 UJ
Bromoform	…	14 U	19 U	17 U	28 U	24 R
Bromomethane	…	14 U	19 U	17 U	28 U	24 UJ
Carbon Disulfide	…	17	15 J	20	13 J	250 J
Carbon Tetrachloride	…	14 U	19 U	17 U	28 U	24 UJ
Chlorobenzene	3,500	14 U	19 U	17 U	28 U	140 J
Chloroethane	…	14 U	19 U	17 U	28 U	24 UJ
Chloroform	…	14 U	19 U	17 U	28 U	24 UJ
Chloromethane	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
cyclohexane	30	14 U	19 U	17 U	28 U	24 UJ
Dibromochloromethane	…	14 U	19 U	17 U	28 U	24 R
Dichlorodifluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Ethyl Benzene	6,400	14 U	19 U	17 U	28 U	8.9 J
Isopropylbenzene	…	14 U	19 U	17 U	28 U	110 J
m/p-Xylenes*	27,000	28 U	38 U	34 U	55 U	18 J
Methyl Acetate	…	14 UJ	19 U	17 UJ	28 U	24 UJ
Methyl tert-butyl Ether	…	14 U	19 U	17 U	28 U	24 UJ
Methylcyclohexane	…	14 U	19 U	17 U	28 U	29 J
Methylene Chloride	…	14 U	19 U	17 U	28 U	37 J
o-Xylene*	27,000	14 U	19 U	17 U	28 U	24 R
Styrene	…	14 U	19 U	17 U	28 U	24 R
t-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
Tetrachloroethene	…	14 U	19 U	17 U	28 U	24 R
Toluene	45,000	14 U	19 U	17 U	28 U	24 R
trans-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichlorofluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Vinyl Chloride	…	14 U	19 U	17 U	28 U	24 UJ
TOTAL VOCS	…	165	205	65	143	1,381

NOTES:
NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
Samples analysis by Chemtech Laboratories of Mountainside, NJ
... - No standard available
* = Criteria equals the sum of m/p xylene and o-xylene
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

** = standard for trichlorobenzene
Values in **bold** exceed the Sediment Criteria for Bnethic Aquatic Life Chronic Toxicity
U = Not Detected
J = Estimated Value
R = The sample results is rejected due to serious deficiencies

TABLE 2-29
SEDIMENT ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Wildlife Accumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Wildlife Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009		11/20/2009	11/20/2009
VOC's (ug/kg) - EPA Method 8260						
1,1,1-Trichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1,2,2-Tetrachloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichloroethane	…	14 U	19 U	17 U	28 U	24 R
1,1,2-Trichlorotrifluoroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,1-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
1,2,4-Trichlorobenzene (V)**	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromo-3-Chloropropane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dibromoethane	…	14 U	19 U	17 U	28 U	24 R
1,2-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	170 J
1,2-Dichloroethane	…	14 U	19 U	17 U	28 U	24 UJ
1,2-Dichloropropane	…	14 U	19 U	17 U	28 U	24 UJ
1,3-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	48 J
1,4-Dichlorobenzene (V)	…	14 U	19 U	17 U	28 U	290 J
2-Butanone	…	38 J	40 J	86 U	140 U	120 UJ
2-Hexanone	…	71 U	96 U	86 U	140 U	120 R
4-Methyl-2-Pentanone	…	71 U	96 U	86 U	140 U	120 R
Acetone	…	110	150 J	48 J	130 J	280 J
Benzene	…	14 U	19 U	17 U	28 U	24 UJ
Bromodichloromethane	…	14 U	19 U	17 U	28 U	24 UJ
Bromoform	…	14 U	19 U	17 U	28 U	24 R
Bromomethane	…	14 U	19 U	17 U	28 U	24 UJ
Carbon Disulfide	…	17	15 J	20	13 J	250 J
Carbon Tetrachloride	…	14 U	19 U	17 U	28 U	24 UJ
Chlorobenzene	…	14 U	19 U	17 U	28 U	140 J
Chloroethane	…	14 U	19 U	17 U	28 U	24 UJ
Chloroform	…	14 U	19 U	17 U	28 U	24 UJ
Chloromethane	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
cis-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
cyclohexane	1,500	14 U	19 U	17 U	28 U	24 UJ
Dibromochloromethane	…	14 U	19 U	17 U	28 U	24 R
Dichlorodifluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Ethyl Benzene	…	14 U	19 U	17 U	28 U	8.9 J
Isopropylbenzene	…	14 U	19 U	17 U	28 U	110 J
m/p-Xylenes*	…	28 U	38 U	34 U	55 U	18 J
Methyl Acetate	…	14 U	19 U	17 UJ	28 U	24 UJ
Methyl tert-butyl Ether	…	14 U	19 U	17 U	28 U	24 UJ
Methylcyclohexane	…	14 U	19 U	17 U	28 U	29 J
Methylene Chloride	…	14 U	19 U	17 U	28 U	37 J
o-Xylene*	…	14 U	19 U	17 U	28 U	24 R
Styrene	…	14 U	19 U	17 U	28 U	24 R
t-1,3-Dichloropropene	…	14 U	19 U	17 U	28 U	24 R
Tetrachloroethene	…	14 U	19 U	17 U	28 U	24 R
Toluene	…	14 U	19 U	17 U	28 U	24 R
trans-1,2-Dichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichloroethene	…	14 U	19 U	17 U	28 U	24 UJ
Trichlorofluoromethane	…	14 U	19 U	17 U	28 U	24 UJ
Vinyl Chloride	…	14 U	19 U	17 U	28 U	24 UJ
TOTAL VOCS	…	165	205	65	143	1,381

NOTES:
NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
Samples analysis by Chemtech Laboratories of Mountainside, NJ
... - No standard available
* = Criteria equals the sum of m/p xylene and o-xylene
** = standard for trichlorobenzene
Values in **bold** exceed the Sediment Criteria for Wildlife Accumulation
U = Not Detected
J = Estimated Value
R = The sample results is rejected due to serious deficiencies
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-30
SEDIMENT ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Human Health Bioaccumulation

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Human Health Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
SVOC's (ug/kg) - EPA Method 8270						
1,1-Biphenyl	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,2-oxybis(1-Chloropropane)	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,5-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,6-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dimethylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,6-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chloronaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylnaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3,3-Dichlorobenzidine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3+4-Methylphenols[1]	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4,6-Dinitro-2-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Bromophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloro-3-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chlorophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthylene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acetophenone	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Atrazine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Benzaldehyde	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 UJ
Benzo(a)anthracene	…	9,100 U	12,000 U	1,800 J	18,000 U	1,600 J
Benzo(a)pyrene	700	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Benzo(b)fluoranthene	…	1,000 J	1,400 J	1,600 J	18,000 U	1,700 J
Benzo(g,h,i)perylene	…	9,100 U	12,000 U	1,100 J	18,000 U	15,000 U
Benzo(k)fluoranthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethoxy)methane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethyl)ether	30	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Ethylhexyl)phthalate	…	13,000	19,000 J	67,000 J	13,000 J	43,000
Butylbenzylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Caprolactam	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Carbazole	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Chrysene	…	940 J	12,000 U	2,300 J	18,000 U	1,900 J
Dibenzo(a,h)anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dibenzofuran	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Diethylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dimethylphthalate	…	4,000 J	5,300 J	4,000 J	6,900 J	5,800 J
Di-n-butylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Di-n-octyl phthalate	…	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Fluoranthene	…	1,800 J	2,400 J	4,900 J	18,000 U	4,300 J
Fluorene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobutadiene	300	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorocyclopentadiene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachloroethane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Indeno(1,2,3-cd)pyrene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Isophorone		9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Naphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Nitrobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitroso-di-n-propylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitrosodiphenylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Pentachlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Phenanthrene	…	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Phenol	…	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Pyrene	…	1,800 J	2,600 J	5,100 J	1,800 J	4,400 J
Total SVOCs	…	10,380	30,700	90,200	21,700	62,700

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)

Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-31
SEDIMENT ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Benthic Aquatic Life Toxicity

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Acute Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
SVOC's (ug/kg) - EPA Method 8270						
1,1-Biphenyl	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,2-oxybis(1-Chloropropane)	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,5-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,6-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dimethylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,6-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chloronaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylnaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3,3-Dichlorobenzidine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3+4-Methylphenols[1]	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4,6-Dinitro-2-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Bromophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloro-3-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chlorophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthylene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acetophenone	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Atrazine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Benzaldehyde	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 UJ
Benzo(a)anthracene	…	9,100 U	12,000 U	1,800 J	18,000 U	1,600 J
Benzo(a)pyrene	…	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Benzo(b)fluoranthene	…	1,000 J	1,400 J	1,600 J	18,000 U	1,700 J
Benzo(g,h,i)perylene	…	9,100 U	12,000 U	1,100 J	18,000 U	15,000 U
Benzo(k)fluoranthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethoxy)methane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethyl)ether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Ethylhexyl)phthalate	…	13,000	19,000 J	67,000 J	13,000 J	43,000
Butylbenzylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Caprolactam	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Carbazole	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Chrysene	…	940 J	12,000 U	2,300 J	18,000 U	1,900 J
Dibenzo(a,h)anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dibenzofuran	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Diethylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dimethylphthalate	…	4,000 J	5,300 J	4,000 J	6,900 J	5,800 J
Di-n-butylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Di-n-octyl phthalate	…	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Fluoranthene	…	1,800 J	2,400 J	4,900 J	18,000 U	4,300 J
Fluorene	348,000	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobutadiene	16,400	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorocyclopentadiene	6,800	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachloroethane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Indeno(1,2,3-cd)pyrene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Isophorone	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Naphthalene	328,000	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Nitrobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitroso-di-n-propylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitrosodiphenylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Pentachlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Phenanthrene	…	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Phenol	…	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Pyrene	…	1,800 J	2,600 J	5,100 J	1,800 J	4,400 J
Total SVOCs	…	10,380	30,700	90,200	21,700	62,700

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)

Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-32
SEDIMENT ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Benthic Aquatic Life Chronic Toxicity

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Chronic Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
SVOC's (ug/kg) - EPA Method 8270						
1,1-Biphenyl	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,2-oxybis(1-Chloropropane)	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,5-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,6-Trichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dichlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dimethylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,6-Dinitrotoluene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chloronaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylnaphthalene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3,3-Dichlorobenzidine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3+4-Methylphenols[1]	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4,6-Dinitro-2-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Bromophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloro-3-methylphenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chlorophenyl-phenylether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitroaniline	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitrophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthylene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acetophenone	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Atrazine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Benzaldehyde	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 UJ
Benzo(a)anthracene	…	9,100 U	12,000 U	1,800 J	18,000 U	1,600 J
Benzo(a)pyrene	…	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Benzo(b)fluoranthene	…	1,000 J	1,400 J	1,600 J	18,000 U	1,700 J
Benzo(g,h,i)perylene	…	9,100 U	12,000 U	1,100 J	18,000 U	15,000 U
Benzo(k)fluoranthene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethoxy)methane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethyl)ether	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Ethylhexyl)phthalate	…	13,000	19,000 J	67,000 J	13,000 J	43,000
Butylbenzylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Caprolactam	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Carbazole	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Chrysene	…	940 J	12,000 U	2,300 J	18,000 U	1,900 J
Dibenzo(a,h)anthracene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dibenzofuran	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Diethylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dimethylphthalate	…	4,000 J	5,300 J	4,000 J	6,900 J	5,800 J
Di-n-butylphthalate	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Di-n-octyl phthalate	…	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Fluoranthene*	1,340,000	1,800 J	2,400 J	4,900 J	18,000 U	4,300 J
Fluorene	38,000	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobutadiene	1,600	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorocyclopentadiene	700	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachloroethane	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Indeno(1,2,3-cd)pyrene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Isophorone	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Naphthalene	38,000	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Nitrobenzene	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitroso-di-n-propylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitrosodiphenylamine	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Pentachlorophenol	…	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Phenanthrene*	160,000	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Phenol	…	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Pyrene	…	1,800 J	2,600 J	5,100 J	1,800 J	4,400 J
Total SVOCs	…	10,380	30,700	90,200	21,700	62,700

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)
* = EPA Proposed sediment quality criteria

Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-33
SEDIMENT ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Wildlife Bioaccumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Wildlife Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
SVOC's (ug/kg) - EPA Method 8270						
1,1-Biphenyl	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,2-oxybis(1-Chloropropane)	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,5-Trichlorophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4,6-Trichlorophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dichlorophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dimethylphenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,4-Dinitrotoluene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2,6-Dinitrotoluene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chloronaphthalene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Chlorophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylnaphthalene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Methylphenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitroaniline	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
2-Nitrophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3,3-Dichlorobenzidine	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3+4-Methylphenols[1]	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
3-Nitroaniline	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4,6-Dinitro-2-methylphenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Bromophenyl-phenylether	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloro-3-methylphenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chloroaniline	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Chlorophenyl-phenylether	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitroaniline	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
4-Nitrophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acenaphthylene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Acetophenone	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Anthracene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Atrazine	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Benzaldehyde	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 UJ
Benzo(a)anthracene	...	9,100 U	12,000 U	1,800 J	18,000 U	1,600 J
Benzo(a)pyrene	...	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Benzo(b)fluoranthene	...	1,000 J	1,400 J	1,600 J	18,000 U	1,700 J
Benzo(g,h,i)perylene	...	9,100 U	12,000 U	1,100 J	18,000 U	15,000 U
Benzo(k)fluoranthene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethoxy)methane	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Chloroethyl)ether	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
bis(2-Ethylhexyl)phthalate	...	13,000	19,000 J	67,000 J	13,000 J	43,000
Butylbenzylphthalate	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Caprolactam	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Carbazole	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Chrysene	...	940 J	12,000 U	2,300 J	18,000 U	1,900 J
Dibenzo(a,h)anthracene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dibenzofuran	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Diethylphthalate	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Dimethylphthalate	...	4,000 J	5,300 J	4,000 J	6,900 J	5,800 J
Di-n-butylphthalate	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Di-n-octyl phthalate	...	9,100 U	12,000 U	1,200 J	18,000 U	15,000 U
Fluoranthene	...	1,800 J	2,400 J	4,900 J	18,000 U	4,300 J
Fluorene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobenzene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorobutadiene	4,000	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachlorocyclopentadiene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Hexachloroethane	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Indeno(1,2,3-cd)pyrene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Isophorone	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Naphthalene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Nitrobenzene	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitroso-di-n-propylamine	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
N-Nitrosodiphenylamine	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Pentachlorophenol	...	9,100 U	12,000 U	11,000 U	18,000 U	15,000 U
Phenanthrene	...	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Phenol	...	920 J	12,000 U	11,000 U	18,000 U	15,000 U
Pyrene	...	1,800 J	2,600 J	5,100 J	1,800 J	4,400 J
Total SVOCs	...	10,380	30,700	90,200	21,700	62,700

NOTES:

NYSDEC: New York State Department of Environmental Conservation
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Concentrations reported on a dry-weight basis
... - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
[1] = Objective equals the sum of cleanup objectives for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol)
Objective for fuel oil contaminated soil (rev. 8/22/01)

Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value
B = Analyte found in associated Method Blank
D = Diluted Sample
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-34
SEDIMENT ANALYTICAL RESULTS - TAL METALS
Severe Effect Level Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Severe Effect Level	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
TAL Metals (mg/kg) Method 6010/7471						
Aluminum	…	9,960	11,900	10,200	10,500	10,300
Antimony	25	18.10	**31.10**	**28.10**	17.70	24.90
Arsenic	33	21.40 J	**34.20 J**	**34.70 J**	23.10 J	26 J
Barium	…	298 J	583 J	400 J	401 J	520 J
Beryllium	…	0.72 J	0.97	0.58 J	0.64 J	0.53 J
Cadmium	9	**22.50 J**	**57.50 J**	**186 J**	**33.40 J**	**76.50 J**
Calcium	…	38,400 J	18,200 J	12,000 J	12,900 J	15,600 J
Chromium	110	**147 J**	**283 J**	**731 J**	**214 J**	**397 J**
Cobalt	…	12.00 J	17.80 J	19.90 J	12.80 J	15.40 J
Copper	110	**610 J**	**1,380 J**	**2,300 J**	**941 J**	**1,370 J**
Iron	40,000 (4.0 %)	**134,000**	**101,000**	**59,400**	**43,800**	**53,900**
Lead	110	**1,220 J**	**2,250 J**	**2,070 J**	**1,360 J**	**1,880 J**
Magnesium	…	10,700	12,800	9,050	12,200	11,900
Manganese	1,100	811 J	450 J	289 J	180 J	249 J
Mercury	1.3	1.20	**2.50 D**	**5.70 D**	**2.70**	**8.40**
Nickel	50	**124 J**	**245 J**	**524 J**	**171 J**	**250 J**
Potassium	…	1,480	2,550	2,060	3,080	2,620
Selenium	…	2.60 U	3.42	6.04	5.17	8.76
Silver	2.2	1.30 U	1.46 U	**20.60 J**	**13.20 J**	**9.79 J**
Sodium	…	16,200	18,000	18,800	34,000	30,500
Thallium	…	5.21 U	5.85 U	5.70 U	8.56 U	9.71 U
Vanadium	…	51.90 J	82.70 J	113 J	67.80 J	80.90 J
Zinc	270	**2,050 J**	**5,290 J**	**6,530 J**	**3,560 J**	**5,120 J**

NOTES:
NYSDEC - New York State Department of Environmental Conservation
... - No Standard
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the sediment criteria for the Lowest Effect Level as defined by the Technical Guidance for Screening Contaminated Sediments document
All units are milligrams per kilogram (mg/kg) - parts per million (ppm)
U = Not Detected
J = Estimated Value
D = Diluted Sample

TABLE 2-35
SEDIMENT ANALYTICAL RESULTS - TAL METALS
Lowest Effect Level Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NY

Compound	Lowest Effect Level	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
	Date	11/20/2009	11/20/2009		11/20/2009	11/20/2009
TAL Metals (mg/kg) Method 6010/7471						
Aluminum	…	9,960	11,900	10,200	10,500	10,300
Antimony	2	**18.10**	**31.10**	**28.10**	**17.70**	**24.90**
Arsenic	6	**21.40 J**	**34.20 J**	**34.70 J**	**23.10 J**	**26 J**
Barium	…	298 J	583 J	400 J	401 J	520 J
Beryllium	…	0.72 J	0.97	0.58 J	0.64 J	0.53 J
Cadmium	0.6	**22.50 J**	**57.50 J**	**186 J**	**33.40 J**	**76.50 J**
Calcium	…	38,400 J	18,200 J	12,000 J	12,900 J	15,600 J
Chromium	26	**147 J**	**283 J**	**731 J**	**214 J**	**397 J**
Cobalt	…	12.00 J	17.80 J	19.90 J	12.80 J	15.40 J
Copper	16	**610 J**	**1,380 J**	**2,300 J**	**941 J**	**1,370 J**
Iron	20,000 (2.0 %)	**134,000**	**101,000**	**59,400**	**43,800**	**53,900**
Lead	31	**1,220 J**	**2,250 J**	**2,070 J**	**1,360 J**	**1,880 J**
Magnesium	…	10,700	12,800	9,050	12,200	11,900
Manganese	460	**811 J**	450 J	289 J	180 J	249 J
Mercury	0.15	**1.20**	**2.50 D**	**5.70 D**	**2.70**	**8.40**
Nickel	16	**124 J**	**245 J**	**524 J**	**171 J**	**250 J**
Potassium	…	1,480	2,550	2,060	3,080	2,620
Selenium	…	2.60 U	3.42	6.04	5.17	8.76
Silver	1	1.30 U	1.46 U	**20.60 J**	**13.20 J**	**9.79 J**
Sodium	…	16,200	18,000	18,800	34,000	30,500
Thallium	…	5.21 U	5.85 U	5.70 U	8.56 U	9.71 U
Vanadium	…	51.90 J	82.70 J	113 J	67.80 J	80.90 J
Zinc	120	**2,050 J**	**5,290 J**	**6,530 J**	**3,560 J**	**5,120 J**

NOTES:
NYSDEC - New York State Department of Environmental Conservation
... - No Standard
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the sediment criteria for the Lowest Effect Level as defined by the Technical Guidance for Screening Contaminated Sediments document
All units are milligrams per kilogram (mg/kg) - parts per million (ppm)
U = Not Detected
J = Estimated Value
D = Diluted Sample

TABLE 2-36
SEDIMENT ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Human Health Bioaccumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Human Health Bioaccumulation	SED-1		SED-2		SED-2 DUP		SED-3		SED-4	
Date		11/20/2009		11/20/2009		11/20/2009		11/20/2009		11/20/2009	
PCBs Method 8082											
Aroclor 1016	0.8	290	U	400	U	350	U	560	U	480	U
Aroclor 1221	0.8	290	U	400	U	350	U	560	U	480	U
Aroclor 1232	0.8	290	U	400	U	350	U	560	U	480	U
Aroclor 1242	0.8	290	U	400	U	350	U	560	U	480	U
Aroclor 1248	0.8	**1,300**		**790**	J	**2800**	J	**1900**		**4,800**	
Aroclor 1254	0.8	290	U	400	U	350	U	560	U	480	U
Aroclor 1260	0.8	290	U	400	U	350	U	560	U	480	U
Total Arochlors		1,300		790		2,800		1,900		4,800	

NOTES:
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Standard applies to the total arochlors
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Values in **bold** exceed the Sediment Criteria for Human Health Bioaccumulation
U = Not Detected
J = Estimated Value

TABLE 2-37
SEDIMENT ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Benthic Aquatic Life Toxicity Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Acute Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
PCBs Method 8082						
Aroclor 1016	13,803,800	290 U	400 U	350 U	560 U	480 U
Aroclor 1221	13,803,800	290 U	400 U	350 U	560 U	480 U
Aroclor 1232	13,803,800	290 U	400 U	350 U	560 U	480 U
Aroclor 1242	13,803,800	290 U	400 U	350 U	560 U	480 U
Aroclor 1248	13,803,800	1,300	790 J	2800 J	1900	4,800
Aroclor 1254	13,803,800	290 U	400 U	350 U	560 U	480 U
Aroclor 1260	13,803,800	290 U	400 U	350 U	560 U	480 U
Total Arochlors		1,300	790	2,800	1,900	4,800

NOTES:
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Standard applies to the total arochlors
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Values in **bold** exceed the Sediment Criteria for Benthic Aquatic Life Acute Toxicity
U = Not Detected
J = Estimated Value

TABLE 2-38
SEDIMENT ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Benthic Aquatic Life Chronic Toxicity

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Chronic Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009		11/20/2009	11/20/2009
PCBs Method 8082						
Aroclor 1016	41,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1221	41,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1232	41,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1242	41,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1248	41,400	1,300	790 J	2800 J	1900	4,800
Aroclor 1254	41,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1260	41,400	290 U	400 U	350 U	560 U	480 U
Total Arochlors		1,300	790	2,800	1,900	4,800

NOTES:
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Standard applies to the total arochlors
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Values in **bold** exceed the Sediment Criteria for Bnethic Aquatic Life Chronic Toxicity
U = Not Detected
J = Estimated Value

TABLE 2-39
SEDIMENT ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Wildlife Accumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Wildlife Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009		11/20/2009	11/20/2009
PCBs Method 8082						
Aroclor 1016	1,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1221	1,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1232	1,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1242	1,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1248	1,400	1,300	790 J	**2800** J	**1900**	**4,800**
Aroclor 1254	1,400	290 U	400 U	350 U	560 U	480 U
Aroclor 1260	1,400	290 U	400 U	350 U	560 U	480 U
Total Arochlors		1,300	790	2,800	1,900	4,800

NOTES:
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Standard applies to the total arochlors
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
Values in **bold** exceed the Sediment Criteria for Wildlife Accumulation
U = Not Detected
J = Estimated Value

TABLE 2-40
SEDIMENT ANALYTICAL RESULTS - PESTICIDES
Human Health Bioaccumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Human Health Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
Pesticides Method 8081						
4,4-DDD	10	29 U	40 U	35 U	56 U	48 U
4,4-DDE	10	29 U	40 U	35 U	56 U	48 U
4,4-DDT	10	29 U	40 U	35 U	56 U	48 U
Aldrin	100	29 U	40 U	35 U	56 U	48 U
alpha-BHC	…	29 U	40 U	35 U	56 U	48 U
alpha-Chlordane*	1	29 U	40 U	35 U	56 U	48 U
beta-BHC	…	29 U	40 U	35 U	56 U	48 U
delta-BHC	…	29 U	40 U	35 U	56 U	48 U
Dieldrin	100	29 U	40 U	35 U	56 U	48 U
Endosulfan I	…	29 U	40 U	35 U	56 U	48 U
Endosulfan II	…	29 U	40 U	35 U	56 U	48 U
Endosulfan Sulfate	…	29 U	40 U	35 U	56 U	48 U
Endrin	800	29 U	40 U	35 U	56 U	48 U
Endrin aldehyde	…	29 U	40 U	35 U	56 U	48 U
Endrin ketone	…	29 U	40 U	35 U	56 U	48 U
gamma-BHC	…	29 U	40 U	35 U	56 U	48 U
gamma-Chlordane*	1	29 U	40 U	35 U	56 U	48 U
Heptachlor	0.8	29 U	40 U	35 U	56 U	48 U
Heptachlor epoxide	0.8	29 U	40 U	35 U	56 U	48 U
Methoxychlor	…	29 U	40 U	35 U	56 U	48 U
Toxaphene	…	290 U	400 U	350 U	560 U	480 U
Total Pesticides		U	U	U	U	U

Notes:
* = Objective equals the sum of alpha-Chlordane and gamma-Chlordane
Samples analyzed by Chemtech Laboratories Inc. of Mountainside, NJ
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
... - No standard available

U-The compound was not detected at the indicated concentration
D = Diluted Sample
J = Estimated Value

TABLE 2-41
SEDIMENT ANALYTICAL RESULTS - PESTICIDES
Benthic Aquatic Life Acute Toxicity Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Acute Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
Pesticides Method 8081						
4,4-DDD	130,000	29 U	40 U	35 U	56 U	48 U
4,4-DDE	130,000	29 U	40 U	35 U	56 U	48 U
4,4-DDT	130,000	29 U	40 U	35 U	56 U	48 U
Aldrin	…	29 U	40 U	35 U	56 U	48 U
alpha-BHC		29 U	40 U	35 U	56 U	48 U
alpha-Chlordane	50 *	29 U	40 U	35 U	56 U	48 U
beta-BHC	…	29 U	40 U	35 U	56 U	48 U
delta-BHC	…	29 U	40 U	35 U	56 U	48 U
Dieldrin	…	29 U	40 U	35 U	56 U	48 U
Endosulfan I	120 **	29 U	40 U	35 U	56 U	48 U
Endosulfan II	120 **	29 U	40 U	35 U	56 U	48 U
Endosulfan Sulfate	120 **	29 U	40 U	35 U	56 U	48 U
Endrin	…	29 U	40 U	35 U	56 U	48 U
Endrin aldehyde	…	29 U	40 U	35 U	56 U	48 U
Endrin ketone	…	29 U	40 U	35 U	56 U	48 U
gamma-BHC	…	29 U	40 U	35 U	56 U	48 U
gamma-Chlordane*	50 *	29 U	40 U	35 U	56 U	48 U
Heptachlor	13,100	29 U	40 U	35 U	56 U	48 U
Heptachlor epoxide	1,300	29 U	40 U	35 U	56 U	48 U
Methoxychlor	…	29 U	40 U	35 U	56 U	48 U
Toxaphene	…	290 U	400 U	350 U	560 U	480 U
Total Pesticides		U	U	U	U	U

Notes:
* = Objective equals the sum of alpha-Chlordane and gamma-Chlordane
** = Criteria equals the sum of Endosulfan
Samples analyzed by Chemtech Laboratories Inc. of Mountainside, NJ
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
... - No standard available

U-The compound was not detected at the indicated concentration
D = Diluted Sample
J = Estimated Value

TABLE 2-42
SEDIMENT ANALYTICAL RESULTS - PESTICIDES
Benthic Aquatic Life Chronic Toxicity Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Benthic Aquatic Life Chronic Toxicity	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
Pesticides Method 8081						
4,4-DDD	1,000	29 U	40 U	35 U	56 U	48 U
4,4-DDE	1,000	29 U	40 U	35 U	56 U	48 U
4,4-DDT	1,000	29 U	40 U	35 U	56 U	48 U
Aldrin	…	29 U	40 U	35 U	56 U	48 U
alpha-BHC	…	29 U	40 U	35 U	56 U	48 U
alpha-Chlordane*	2	29 U	40 U	35 U	56 U	48 U
beta-BHC	…	29 U	40 U	35 U	56 U	48 U
delta-BHC	…	29 U	40 U	35 U	56 U	48 U
Dieldrin	…	29 U	40 U	35 U	56 U	48 U
Endosulfan	4 **	29 U	40 U	35 U	56 U	48 U
Endosulfan II	4 **	29 U	40 U	35 U	56 U	48 U
Endosulfan Sulfate	4 **	29 U	40 U	35 U	56 U	48 U
Endrin	730 ***	29 U	40 U	35 U	56 U	48 U
Endrin aldehyde	…	29 U	40 U	35 U	56 U	48 U
Endrin ketone	…	29 U	40 U	35 U	56 U	48 U
gamma-BHC	…	29 U	40 U	35 U	56 U	48 U
gamma-Chlordane*	2	29 U	40 U	35 U	56 U	48 U
Heptachlor	100	29 U	40 U	35 U	56 U	48 U
Heptachlor epoxide	90	29 U	40 U	35 U	56 U	48 U
Methoxychlor	…	29 U	40 U	35 U	56 U	48 U
Toxaphene	…	290 U	400 U	350 U	560 U	480 U
Total Pesticides		U	U	U	U	U

Notes:
* = Objective equals the sum of alpha-Chlordane and gamma-Chlordane
** = Criteria equals the sum of Endosulfan
*** = EPA Proposed sediment quality criteria
Samples analyzed by Chemtech Laboratories Inc. of Mountainside, NJ
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
... - No standard available

U-The compound was not detected at the indicated concentration
D = Diluted Sample
J = Estimated Value

TABLE 2-43
SEDIMENT ANALYTICAL RESULTS - PESTICIDES
Wildlife Bioaccumulation Comparison

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	Wildlife Bioaccumulation	SED-1	SED-2	SED-2 DUP	SED-3	SED-4
Date		11/20/2009	11/20/2009	11/20/2009	11/20/2009	11/20/2009
Pesticides Method 8081						
4,4-DDD	1,000	29 U	40 U	35 U	56 U	48 U
4,4-DDE	1,000	29 U	40 U	35 U	56 U	48 U
4,4-DDT	1,000	29 U	40 U	35 U	56 U	48 U
Aldrin	770	29 U	40 U	35 U	56 U	48 U
alpha-BHC	…	29 U	40 U	35 U	56 U	48 U
alpha-Chlordane*	6	29 U	40 U	35 U	56 U	48 U
beta-BHC	…	29 U	40 U	35 U	56 U	48 U
delta-BHC		29 U	40 U	35 U	56 U	48 U
Dieldrin	17000 ***	29 U	40 U	35 U	56 U	48 U
Endosulfan I	…	29 U	40 U	35 U	56 U	48 U
Endosulfan II	…	29 U	40 U	35 U	56 U	48 U
Endosulfan Sulfate	…	29 U	40 U	35 U	56 U	48 U
Endrin	…	29 U	40 U	35 U	56 U	48 U
Endrin aldehyde	…	29 U	40 U	35 U	56 U	48 U
Endrin ketone	…	29 U	40 U	35 U	56 U	48 U
gamma-BHC	…	29 U	40 U	35 U	56 U	48 U
gamma-Chlordane*	6	29 U	40 U	35 U	56 U	48 U
Heptachlor	…	29 U	40 U	35 U	56 U	48 U
Heptachlor epoxide	…	29 U	40 U	35 U	56 U	48 U
Methoxychlor	…	29 U	40 U	35 U	56 U	48 U
Toxaphene	…	290 U	400 U	350 U	560 U	480 U
Total Pesticides		U	U	U	U	U

Notes:
* = Objective equals the sum of alpha-Chlordane and gamma-Chlordane
** = Criteria equals the sum of Endosulfan
*** = EPA Proposed sediment quality criteria
Samples analyzed by Chemtech Laboratories Inc. of Mountainside, NJ
All units are micrograms per kilogram (µg/kg) - parts per billion (ppb)
... - No standard available

U-The compound was not detected at the indicated concentration
D = Diluted Sample
J = Estimated Value

TABLE 2-44
SURFACE WATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)
Human Consumption of Fish (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1,1-Trichloroethane	…	5 U	5 U
1,1,2,2-Tetrachloroethane	…	5 U	5 U
1,1,2-Trichloroethane	…	5 U	5 U
1,1,2-Trichlorotrifluoroethane	…	5 U	5 U
1,1-Dichloroethane	…	5 U	5 U
1,1-Dichloroethene	…	5 U	5 U
1,2,4-Trichlorobenzene	…	5 UJ	5 UJ
1,2-Dibromo-3-Chloropropane	…	5 U	5 U
1,2-Dibromoethane	…	5 U	5 U
1,2-Dichlorobenzene	…	5 U	5 U
1,2-Dichloroethane	…	5 U	5 U
1,2-Dichloropropane	…	5 U	5 U
1,3-Dichlorobenzene	…	5 U	5 U
1,4-Dichlorobenzene	…	0.5 J	5 U
2-Butanone	…	25 U	25 U
2-Hexanone	…	25 U	25 U
4-Methyl-2-Pentanone	…	25 U	25 U
Acetone	…	6.5 J	25 U
Benzene*	10	5 U	5 U
Bromodichloromethane	…	5 U	5 U
Bromoform	…	5 U	5 U
Bromomethane	…	5 U	5 U
Carbon Disulfide	…	5 U	5 U
Carbon Tetrachloride	…	5 U	5 U
Chlorobenzene	400	5 U	5 U
Chloroethane	…	5 U	5 U
Chloroform	…	0.6 J	5 U
Chloromethane	…	5 U	5 U
cis-1,2-Dichloroethene	…	0.7 J	1.6 J
cis-1,3-Dichloropropene	…	5 U	5 U
Cyclohexane	…	5 U	5 U
Dibromochloromethane	…	5 U	5 U
Dichlorodifluoromethane	…	5 U	5 U
Ethyl Benzene*	…	5 U	5 U
Isopropylbenzene*	…	5 U	5 U
m/p-Xylenes	…	10 U	10 U
Methyl Acetate	…	5 UJ	5 U
Methyl tert-butyl Ether*	…	5 U	0.7 J
Methylcyclohexane	…	2 U	2 U
Methylene Chloride	200	0.8 J	0.8 J
o-Xylene	…	5 U	5 U
Styrene	…	5 U	5 U
t-1,3-Dichloropropene	…	5 U	5 U
Tetrachloroethene	1	5 U	5 U
Toluene*	6,000	2.3 J	0.7 J
trans-1,2-Dichloroethene	…	5 U	5 U
Trichloroethene	40	5 U	5 U
Trichlorofluoromethane	…	5 U	5 U
Vinyl Chloride	…	5 U	0.6 J
Total VOC	…	11.4	4.4

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remedaition Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for human consumption of fish
All units are µg/L (parts per billion)
B = Analyte found in associated Method Blank
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-45
SURFACE WATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)
Fish Survival (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1,1-Trichloroethane	…	5 U	5 U
1,1,2,2-Tetrachloroethane	…	5 U	5 U
1,1,2-Trichloroethane	…	5 U	5 U
1,1,2-Trichlorotrifluoroethane	…	5 U	5 U
1,1-Dichloroethane	…	5 U	5 U
1,1-Dichloroethene	…	5 U	5 U
1,2,4-Trichlorobenzene	…	5 UJ	5 UJ
1,2-Dibromo-3-Chloropropane	…	5 U	5 U
1,2-Dibromoethane	…	5 U	5 U
1,2-Dichlorobenzene	…	5 U	5 U
1,2-Dichloroethane	…	5 U	5 U
1,2-Dichloropropane	…	5 U	5 U
1,3-Dichlorobenzene	…	5 U	5 U
1,4-Dichlorobenzene	…	0.5 J	5 U
2-Butanone	…	25 U	25 U
2-Hexanone	…	25 U	25 U
4-Methyl-2-Pentanone	…	25 U	25 U
Acetone	…	6.5 J	25 U
Benzene*	670	5 U	5 U
Bromodichloromethane	…	5 U	5 U
Bromoform	…	5 U	5 U
Bromomethane	…	5 U	5 U
Carbon Disulfide	…	5 U	5 U
Carbon Tetrachloride	…	5 U	5 U
Chlorobenzene	…	5 U	5 U
Chloroethane	…	5 U	5 U
Chloroform	…	0.6 J	5 U
Chloromethane	…	5 U	5 U
cis-1,2-Dichloroethene	…	0.7 J	1.6 J
cis-1,3-Dichloropropene	…	5 U	5 U
Cyclohexane	…	5 U	5 U
Dibromochloromethane	…	5 U	5 U
Dichlorodifluoromethane	…	5 U	5 U
Ethyl Benzene*	41	5 U	5 U
Isopropylbenzene*	…	5 U	5 U
m/p-Xylenes	170	10 U	10 U
Methyl Acetate	…	5 UJ	5 U
Methyl tert-butyl Ether*	…	5 U	0.7 J
Methylcyclohexane	…	2 U	2 U
Methylene Chloride	…	0.8 J	0.8 J
o-Xylene	170	5 U	5 U
Styrene	…	5 U	5 U
t-1,3-Dichloropropene	…	5 U	5 U
Tetrachloroethene	…	5 U	5 U
Toluene*	430	2.3 J	0.7 J
trans-1,2-Dichloroethene	…	5 U	5 U
Trichloroethene	…	5 U	5 U
Trichlorofluoromethane	…	5 U	5 U
Vinyl Chloride	…	5 U	0.6 J
Total VOC	…	11.4	4.4

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remedaition Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for fish survival
All units are µg/L (parts per billion)
B = Analyte found in associated Method Blank
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-46
SURFACE WATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)
Wildlife Protection (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1,1-Trichloroethane	…	5 U	5 U
1,1,2,2-Tetrachloroethane	…	5 U	5 U
1,1,2-Trichloroethane	…	5 U	5 U
1,1,2-Trichlorotrifluoroethane	…	5 U	5 U
1,1-Dichloroethane	…	5 U	5 U
1,1-Dichloroethene	…	5 U	5 U
1,2,4-Trichlorobenzene	…	5 UJ	5 UJ
1,2-Dibromo-3-Chloropropane	…	5 U	5 U
1,2-Dibromoethane	…	5 U	5 U
1,2-Dichlorobenzene	…	5 U	5 U
1,2-Dichloroethane	…	5 U	5 U
1,2-Dichloropropane	…	5 U	5 U
1,3-Dichlorobenzene	…	5 U	5 U
1,4-Dichlorobenzene	…	0.5 J	5 U
2-Butanone	…	25 U	25 U
2-Hexanone	…	25 U	25 U
4-Methyl-2-Pentanone	…	25 U	25 U
Acetone	…	6.5 J	25 U
Benzene*	…	5 U	5 U
Bromodichloromethane	…	5 U	5 U
Bromoform	…	5 U	5 U
Bromomethane	…	5 U	5 U
Carbon Disulfide	…	5 U	5 U
Carbon Tetrachloride	…	5 U	5 U
Chlorobenzene	…	5 U	5 U
Chloroethane	…	5 U	5 U
Chloroform	…	0.6 J	5 U
Chloromethane	…	5 U	5 U
cis-1,2-Dichloroethene	…	0.7 J	1.6 J
cis-1,3-Dichloropropene	…	5 U	5 U
Cyclohexane	…	5 U	5 U
Dibromochloromethane	…	5 U	5 U
Dichlorodifluoromethane	…	5 U	5 U
Ethyl Benzene*	…	5 U	5 U
Isopropylbenzene*	…	5 U	5 U
m/p-Xylenes	…	10 U	10 U
Methyl Acetate	…	5 UJ	5 U
Methyl tert-butyl Ether*	…	5 U	0.7 J
Methylcyclohexane	…	2 U	2 U
Methylene Chloride	…	0.8 J	0.8 J
o-Xylene	…	5 U	5 U
Styrene	…	5 U	5 U
t-1,3-Dichloropropene	…	5 U	5 U
Tetrachloroethene	…	5 U	5 U
Toluene*	…	2.3 J	0.7 J
trans-1,2-Dichloroethene	…	5 U	5 U
Trichloroethene	…	5 U	5 U
Trichlorofluoromethane	…	5 U	5 U
Vinyl Chloride	…	5 U	0.6 J
Total VOC	…	11.4	4.4

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remedaition Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for wildlife protection
All units are µg/L (parts per billion)
B = Analyte found in associated Method Blank
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-47
SURFACE WATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS (VOCs)
Aesthetic Waters (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1,1-Trichloroethane	…	5 U	5 U
1,1,2,2-Tetrachloroethane	…	5 U	5 U
1,1,2-Trichloroethane	…	5 U	5 U
1,1,2-Trichlorotrifluoroethane	…	5 U	5 U
1,1-Dichloroethane	…	5 U	5 U
1,1-Dichloroethene	…	5 U	5 U
1,2,4-Trichlorobenzene	50	5 UJ	5 UJ
1,2-Dibromo-3-Chloropropane	…	5 U	5 U
1,2-Dibromoethane	…	5 U	5 U
1,2-Dichlorobenzene	50	5 U	5 U
1,2-Dichloroethane	…	5 U	5 U
1,2-Dichloropropane	…	5 U	5 U
1,3-Dichlorobenzene	50	5 U	5 U
1,4-Dichlorobenzene	50	0.5 J	5 U
2-Butanone	…	25 U	25 U
2-Hexanone	…	25 U	25 U
4-Methyl-2-Pentanone	…	25 U	25 U
Acetone	…	6.5 J	25 U
Benzene*	…	5 U	5 U
Bromodichloromethane	…	5 U	5 U
Bromoform	…	5 U	5 U
Bromomethane	…	5 U	5 U
Carbon Disulfide	…	5 U	5 U
Carbon Tetrachloride	…	5 U	5 U
Chlorobenzene	50	5 U	5 U
Chloroethane	…	5 U	5 U
Chloroform	…	0.6 J	5 U
Chloromethane	…	5 U	5 U
cis-1,2-Dichloroethene	…	0.7 J	1.6 J
cis-1,3-Dichloropropene	…	5 U	5 U
Cyclohexane	…	5 U	5 U
Dibromochloromethane	…	5 U	5 U
Dichlorodifluoromethane	…	5 U	5 U
Ethyl Benzene*	…	5 U	5 U
Isopropylbenzene*	…	5 U	5 U
m/p-Xylenes	…	10 U	10 U
Methyl Acetate	…	5 UJ	5 U
Methyl tert-butyl Ether*	…	5 U	0.7 J
Methylcyclohexane	…	2 U	2 U
Methylene Chloride	…	0.8 J	0.8 J
o-Xylene	…	5 U	5 U
Styrene	…	5 U	5 U
t-1,3-Dichloropropene	…	5 U	5 U
Tetrachloroethene	…	5 U	5 U
Toluene*	…	2.3 J	0.7 J
trans-1,2-Dichloroethene	…	5 U	5 U
Trichloroethene	…	5 U	5 U
Trichlorofluoromethane	…	5 U	5 U
Vinyl Chloride	…	5 U	0.6 J
Total VOC	…	11.4	4.4

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remedaition Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for aesthetic waters
All units are µg/L (parts per billion)
B = Analyte found in associated Method Blank
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-48
SURFACE WATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)
Human Consumption of Fish (Saline Waters)
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1-Biphenyl	…	10 U	10 U
2,2-oxybis(1-Chloropropane)	…	10 U	10 U
2,4,5-Trichlorophenol	…	10 U	10 U
2,4,6-Trichlorophenol	…	10 U	10 U
2,4-Dichlorophenol	…	10 U	10 U
2,4-Dimethylphenol	1000	10 U	10 U
2,4-Dinitrophenol	400	10 U	10 UJ
2,4-Dinitrotoluene	…	10 U	10 U
2,6-Dinitrotoluene	…	10 U	10 U
2-Chloronaphthalene	…	10 U	10 U
2-Chlorophenol	…	10 U	10 U
2-Methylnaphthalene	…	10 U	10 U
2-Methylphenol	…	10 U	10 U
2-Nitroaniline	…	10 U	10 U
2-Nitrophenol	…	10 U	10 U
3,3-Dichlorobenzidine	…	10 U	10 U
3+4-Methylphenols	…	10 U	10 U
3-Nitroaniline	…	10 U	10 U
4,6-Dinitro-2-methylphenol	…	10 U	10 UJ
4-Bromophenyl-phenylether	…	10 U	10 U
4-Chloro-3-methylphenol	…	10 U	10 U
4-Chloroaniline	…	10 U	10 U
4-Chlorophenyl-phenylether	…	10 U	10 U
4-Nitroaniline	…	10 U	10 U
4-Nitrophenol	…	10 U	10 U
Acenaphthene*	…	10 U	10 U
Acenaphthylene*	…	10 U	10 U
Acetophenone	…	10 U	10 U
Anthracene*	…	10 U	10 U
Atrazine	…	10 U	10 U
Benzaldehyde	…	10 U	10 U
Benzo(a)anthracene*	…	10 U	10 U
Benzo(a)pyrene	0.0006	10 U	10 U
Benzo(b)fluoranthene	…	10 U	10 U
Benzo(g,h,i)perylene	…	10 U	10 U
Benzo(k)fluoranthene	…	10 U	10 U
bis(2-Chloroethoxy)methane	…	10 U	10 U
bis(2-Chloroethyl)ether	…	10 U	10 U
bis(2-Ethylhexyl)phthalate	…	10 U	10 U
Butylbenzylphthalate	…	10 U	10 U
Caprolactam	…	10 U	10 U
Carbazole	…	10 U	10 U
Chrysene*	…	10 U	10 U
Dibenz(a,h)anthracene	…	10 U	10 U
Dibenzofuran	…	10 U	10 U
Diethylphthalate	…	10 U	10 U
Dimethylphthalate	…	10 U	10 U
Di-n-butylphthalate	…	10 U	10 U
Di-n-octyl phthalate	…	10 U	10 U
Fluoranthene*	…	10 U	10 U
Fluorene*	…	10 U	10 U
Hexachlorobenzene	0.00003	10 U	10 U
Hexachlorobutadiene	0.01	10 U	10 U
Hexachlorocyclopentadiene	…	10 U	10 U
Hexachloroethane	0.6	10 U	10 U
Indeno(1,2,3-cd)pyrene	…	10 U	10 U
Isophorone	…	10 U	10 U
Naphthalene*	…	10 U	10 U
Nitrobenzene	…	10 U	10 U
N-Nitroso-di-n-propylamine	…	10 U	10 U
N-Nitrosodiphenylamine	…	10 U	10 U
Pentachlorophenol	…	10 UJ	10 UJ
Phenanthrene*	…	10 U	10 U
Phenol	…	10 U	10 U
Pyrene*	…	10 U	10 U
Total SVOC	…	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for human consumption of fish
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-49
SURFACE WATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)
Fish Survival (Saline Waters)
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1-Biphenyl	…	10 U	10 U
2,2-oxybis(1-Chloropropane)	…	10 U	10 U
2,4,5-Trichlorophenol	…	10 U	10 U
2,4,6-Trichlorophenol	…	10 U	10 U
2,4-Dichlorophenol	…	10 U	10 U
2,4-Dimethylphenol	…	10 U	10 U
2,4-Dinitrophenol	…	10 U	10 UJ
2,4-Dinitrotoluene	…	10 U	10 U
2,6-Dinitrotoluene	…	10 U	10 U
2-Chloronaphthalene	…	10 U	10 U
2-Chlorophenol	…	10 U	10 U
2-Methylnaphthalene	38	10 U	10 U
2-Methylphenol	…	10 U	10 U
2-Nitroaniline	…	10 U	10 U
2-Nitrophenol	…	10 U	10 U
3,3-Dichlorobenzidine	…	10 U	10 U
3+4-Methylphenols	…	10 U	10 U
3-Nitroaniline	…	10 U	10 U
4,6-Dinitro-2-methylphenol	…	10 U	10 UJ
4-Bromophenyl-phenylether	…	10 U	10 U
4-Chloro-3-methylphenol	…	10 U	10 U
4-Chloroaniline	…	10 U	10 U
4-Chlorophenyl-phenylether	…	10 U	10 U
4-Nitroaniline	…	10 U	10 U
4-Nitrophenol	…	10 U	10 U
Acenaphthene*	60	10 U	10 U
Acenaphthylene*	…	10 U	10 U
Acetophenone	…	10 U	10 U
Anthracene*	…	10 U	10 U
Atrazine	…	10 U	10 U
Benzaldehyde	…	10 U	10 U
Benzo(a)anthracene*	…	10 U	10 U
Benzo(a)pyrene	…	10 U	10 U
Benzo(b)fluoranthene	…	10 U	10 U
Benzo(g,h,i)perylene	…	10 U	10 U
Benzo(k)fluoranthene	…	10 U	10 U
bis(2-Chloroethoxy)methane	…	10 U	10 U
bis(2-Chloroethyl)ether	…	10 U	10 U
bis(2-Ethylhexyl)phthalate	…	10 U	10 U
Butylbenzylphthalate	…	10 U	10 U
Caprolactam	…	10 U	10 U
Carbazole	…	10 U	10 U
Chrysene*	…	10 U	10 U
Dibenz(a,h)anthracene	…	10 U	10 U
Dibenzofuran	…	10 U	10 U
Diethylphthalate	…	10 U	10 U
Dimethylphthalate	…	10 U	10 U
Di-n-butylphthalate	…	10 U	10 U
Di-n-octyl phthalate	…	10 U	10 U
Fluoranthene*	…	10 U	10 U
Fluorene*	23	10 U	10 U
Hexachlorobenzene	…	10 U	10 U
Hexachlorobutadiene	3	10 U	10 U
Hexachlorocyclopentadiene	0.7	10 U	10 U
Hexachloroethane	…	10 U	10 U
Indeno(1,2,3-cd)pyrene	…	10 U	10 U
Isophorone	…	10 U	10 U
Naphthalene*	140	10 U	10 U
Nitrobenzene	…	10 U	10 U
N-Nitroso-di-n-propylamine	…	10 U	10 U
N-Nitrosodiphenylamine	…	10 U	10 U
Pentachlorophenol	…	10 UJ	10 UJ
Phenanthrene*	14	10 U	10 U
Phenol	…	10 U	10 U
Pyrene*	…	10 U	10 U
Total SVOC	…	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for fish survival
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-50
SURFACE WATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)
Wildlife Protection (Saline Waters)
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1-Biphenyl	…	10 U	10 U
2,2-oxybis(1-Chloropropane)	…	10 U	10 U
2,4,5-Trichlorophenol	…	10 U	10 U
2,4,6-Trichlorophenol	…	10 U	10 U
2,4-Dichlorophenol	…	10 U	10 U
2,4-Dimethylphenol	…	10 U	10 U
2,4-Dinitrophenol	…	10 U	10 UJ
2,4-Dinitrotoluene	…	10 U	10 U
2,6-Dinitrotoluene	…	10 U	10 U
2-Chloronaphthalene	…	10 U	10 U
2-Chlorophenol	…	10 U	10 U
2-Methylnaphthalene	…	10 U	10 U
2-Methylphenol	…	10 U	10 U
2-Nitroaniline	…	10 U	10 U
2-Nitrophenol	…	10 U	10 U
3,3-Dichlorobenzidine	…	10 U	10 U
3+4-Methylphenols	…	10 U	10 U
3-Nitroaniline	…	10 U	10 U
4,6-Dinitro-2-methylphenol	…	10 U	10 UJ
4-Bromophenyl-phenylether	…	10 U	10 U
4-Chloro-3-methylphenol	…	10 U	10 U
4-Chloroaniline	…	10 U	10 U
4-Chlorophenyl-phenylether	…	10 U	10 U
4-Nitroaniline	…	10 U	10 U
4-Nitrophenol	…	10 U	10 U
Acenaphthene*	…	10 U	10 U
Acenaphthylene*	…	10 U	10 U
Acetophenone	…	10 U	10 U
Anthracene*	…	10 U	10 U
Atrazine	…	10 U	10 U
Benzaldehyde	…	10 U	10 U
Benzo(a)anthracene*	…	10 U	10 U
Benzo(a)pyrene	…	10 U	10 U
Benzo(b)fluoranthene	…	10 U	10 U
Benzo(g,h,i)perylene	…	10 U	10 U
Benzo(k)fluoranthene	…	10 U	10 U
bis(2-Chloroethoxy)methane	…	10 U	10 U
bis(2-Chloroethyl)ether	…	10 U	10 U
bis(2-Ethylhexyl)phthalate	…	10 U	10 U
Butylbenzylphthalate	…	10 U	10 U
Caprolactam	…	10 U	10 U
Carbazole	…	10 U	10 U
Chrysene*	…	10 U	10 U
Dibenz(a,h)anthracene	…	10 U	10 U
Dibenzofuran	…	10 U	10 U
Diethylphthalate	…	10 U	10 U
Dimethylphthalate	…	10 U	10 U
Di-n-butylphthalate	…	10 U	10 U
Di-n-octyl phthalate	…	10 U	10 U
Fluoranthene*	…	10 U	10 U
Fluorene*	…	10 U	10 U
Hexachlorobenzene	…	10 U	10 U
Hexachlorobutadiene	…	10 U	10 U
Hexachlorocyclopentadiene	…	10 U	10 U
Hexachloroethane	…	10 U	10 U
Indeno(1,2,3-cd)pyrene	…	10 U	10 U
Isophorone	…	10 U	10 U
Naphthalene*	…	10 U	10 U
Nitrobenzene	…	10 U	10 U
N-Nitroso-di-n-propylamine	…	10 U	10 U
N-Nitrosodiphenylamine	…	10 U	10 U
Pentachlorophenol	…	10 UJ	10 UJ
Phenanthrene*	…	10 U	10 U
Phenol	…	10 U	10 U
Pyrene*	…	10 U	10 U
Total SVOC	…	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for wildlife protection
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-51
SURFACE WATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS (SVOCs)
Aesthetic Waters (Saline Waters)
FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2010	11/20/2010
1,1-Biphenyl	…	10 U	10 U
2,2-oxybis(1-Chloropropane)	…	10 U	10 U
2,4,5-Trichlorophenol	…	10 U	10 U
2,4,6-Trichlorophenol	…	10 U	10 U
2,4-Dichlorophenol	…	10 U	10 U
2,4-Dimethylphenol		10 U	10 U
2,4-Dinitrophenol	…	10 U	10 UJ
2,4-Dinitrotoluene	…	10 U	10 U
2,6-Dinitrotoluene	…	10 U	10 U
2-Chloronaphthalene	…	10 U	10 U
2-Chlorophenol	…	10 U	10 U
2-Methylnaphthalene	…	10 U	10 U
2-Methylphenol	…	10 U	10 U
2-Nitroaniline	…	10 U	10 U
2-Nitrophenol	…	10 U	10 U
3,3-Dichlorobenzidine	…	10 U	10 U
3+4-Methylphenols	…	10 U	10 U
3-Nitroaniline	…	10 U	10 U
4,6-Dinitro-2-methylphenol	…	10 U	10 UJ
4-Bromophenyl-phenylether	…	10 U	10 U
4-Chloro-3-methylphenol	…	10 U	10 U
4-Chloroaniline	…	10 U	10 U
4-Chlorophenyl-phenylether	…	10 U	10 U
4-Nitroaniline	…	10 U	10 U
4-Nitrophenol	…	10 U	10 U
Acenaphthene*	…	10 U	10 U
Acenaphthylene*	…	10 U	10 U
Acetophenone	…	10 U	10 U
Anthracene*	…	10 U	10 U
Atrazine	…	10 U	10 U
Benzaldehyde	…	10 U	10 U
Benzo(a)anthracene*	…	10 U	10 U
Benzo(a)pyrene	…	10 U	10 U
Benzo(b)fluoranthene	…	10 U	10 U
Benzo(g,h,i)perylene	…	10 U	10 U
Benzo(k)fluoranthene	…	10 U	10 U
bis(2-Chloroethoxy)methane	…	10 U	10 U
bis(2-Chloroethyl)ether	…	10 U	10 U
bis(2-Ethylhexyl)phthalate	…	10 U	10 U
Butylbenzylphthalate	…	10 U	10 U
Caprolactam	…	10 U	10 U
Carbazole	…	10 U	10 U
Chrysene*	…	10 U	10 U
Dibenz(a,h)anthracene	…	10 U	10 U
Dibenzofuran	…	10 U	10 U
Diethylphthalate	…	10 U	10 U
Dimethylphthalate	…	10 U	10 U
Di-n-butylphthalate	…	10 U	10 U
Di-n-octyl phthalate	…	10 U	10 U
Fluoranthene*	…	10 U	10 U
Fluorene*	…	10 U	10 U
Hexachlorobenzene	…	10 U	10 U
Hexachlorobutadiene	…	10 U	10 U
Hexachlorocyclopentadiene	…	10 U	10 U
Hexachloroethane	…	10 U	10 U
Indeno(1,2,3-cd)pyrene	…	10 U	10 U
Isophorone	…	10 U	10 U
Naphthalene*	…	10 U	10 U
Nitrobenzene	…	10 U	10 U
N-Nitroso-di-n-propylamine	…	10 U	10 U
N-Nitrosodiphenylamine	…	10 U	10 U
Pentachlorophenol	…	10 UJ	10 UJ
Phenanthrene*	…	10 U	10 U
Phenol	…	10 U	10 U
Pyrene*	…	10 U	10 U
Total SVOC	…	U	U

NOTES:
NYSDEC - New York State Department of Environmental Conservation
*- Compound is on the NYSDEC Spill Technology and Remediation Series (STARS) list
… - No standard available
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for aesthetic waters
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
UJ = The analyte was not detected above the sampling reporting limit; and the reporting limit is approximate

TABLE 2-52
SURFACE WATER ANALYTICAL RESULTS
TAL METALS
Human Consumption of Fish (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aluminum	…	45.2 J	62
Antimony	…	25 U	25 U
Arsenic	…	10 U	10 U
Barium	…	35 J	29 J
Beryllium	…	3 U	3 U
Cadmium	2.7	3 U	3 U
Calcium	…	155,000	108,000
Chromium	…	5 U	5 U
Cobalt	…	15 U	15 U
Copper	…	2.98 J	5 J
Iron	…	91	171
Lead	…	4.39 J	2.26 J
Magnesium	…	491,000	335,000
Manganese	…	115	90
Mercury	0.0007	0.2 U	0.2 U
Nickel	…	20 U	5 J
Potassium	…	165,000	111,000
Selenium	…	10 U	10 U
Silver	…	5 U	5 U
Sodium	…	3,780,000 D	2,620,000 D
Thallium	…	20 U	20 U
Vanadium	…	20 U	20 U
Zinc	…	60.1	69 U
Total Metals		4,591,354	3,174,364

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for human consumption of fish
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
… - No standard available
D = The reported value is from a secondary analysis with a dilution factor.

TABLE 2-53
SURFACE WATER ANALYTICAL RESULTS
TAL METALS
Fish Survival (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aluminum	…	45.2 J	62
Antimony	…	25 U	25 U
Arsenic	120	10 U	10 U
Barium	…	35 J	29 J
Beryllium	…	3 U	3 U
Cadmium	21	3 U	3 U
Calcium	…	155,000	108,000
Chromium	…	5 U	5 U
Cobalt	…	15 U	15 U
Copper	4.8	2.98 J	**5 J**
Iron	…	91	171
Lead	204	4.39 J	2.26 J
Magnesium	…	491,000	335,000
Manganese	…	115	90
Mercury	…	0.2 U	0.2 U
Nickel	74	20 U	5 J
Potassium	…	165,000	111,000
Selenium	…	10 U	10 U
Silver	2.3	5 U	5 U
Sodium	…	3,780,000 D	2,620,000 D
Thallium	…	20 U	20 U
Vanadium	…	20 U	20 U
Zinc	95	60.1	69 U
Total Metals		4,591,354	3,174,364

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for fish survival
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
… - No standard available
D = The reported value is from a secondary analysis with a dilution factor.

TABLE 2-54
SURFACE WATER ANALYTICAL RESULTS
TAL METALS
Wildlife Protection (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aluminum	…	45.2 J	62
Antimony	…	25 U	25 U
Arsenic		10 U	10 U
Barium		35 J	29 J
Beryllium	…	3 U	3 U
Cadmium	…	3 U	3 U
Calcium	…	155,000	108,000
Chromium	…	5 U	5 U
Cobalt	…	15 U	15 U
Copper	…	2.98 J	5 J
Iron	…	91	171
Lead	…	4.39 J	2.26 J
Magnesium	…	491,000	335,000
Manganese	…	115	90
Mercury	…	0.2 U	0.2 U
Nickel	…	20 U	5 J
Potassium	…	165,000	111,000
Selenium	…	10 U	10 U
Silver	…	5 U	5 U
Sodium	…	3,780,000 D	2,620,000 D
Thallium	…	20 U	20 U
Vanadium	…	20 U	20 U
Zinc	95	60.1	69 U
Total Metals		4,591,354	3,174,364

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for wildlife protection
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
… - No standard available
D = The reported value is from a secondary analysis with a dilution factor.

TABLE 2-55
SURFACE WATER ANALYTICAL RESULTS
TAL METALS
Aesthetic Waters (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aluminum	…	45.2 J	62
Antimony	…	25 U	25 U
Arsenic		10 U	10 U
Barium		35 J	29 J
Beryllium	…	3 U	3 U
Cadmium	…	3 U	3 U
Calcium	…	155,000	108,000
Chromium	…	5 U	5 U
Cobalt	…	15 U	15 U
Copper	…	2.98 J	5 J
Iron	…	91	171
Lead	…	4.39 J	2.26 J
Magnesium	…	491,000	335,000
Manganese	…	115	90
Mercury	0.0026	0.2 U	0.2 U
Nickel	…	20 U	5 J
Potassium	…	165,000	111,000
Selenium	…	10 U	10 U
Silver	…	5 U	5 U
Sodium	…	3,780,000 D	2,620,000 D
Thallium	…	20 U	20 U
Vanadium	…	20 U	20 U
Zinc	95	60.1	69 U
Total Metals		4,591,354	3,174,364

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
Values in **bold** exceed the NYSDEC Guidance Values for aesthetic waters
All units are µg/L (parts per billion)
U = Not Detected
J = Estimated Value
… - No standard available
D = The reported value is from a secondary analysis with a dilution factor.

TABLE 2-56
SURFACE WATER ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS
Human Consumption of Fish (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aroclor 1016*	…	0.05 U	0.06 U
Aroclor 1221*	…	0.05 U	0.06 U
Aroclor 1232*	…	0.05 U	0.06 U
Aroclor 1242*	…	0.05 U	0.06 U
Aroclor 1248*	…	0.05 U	0.06 U
Aroclor 1254*	…	0.05 U	0.06 U
Aroclor 1260*	…	0.05 U	0.06 U
Total Aroclors		U	U

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to total Aroclors
Values in **bold** exceed the NYSDEC Guidance Values for human consumption of fish
All units are µg/L (parts per billion)
U = Not Detected
… - No standard available

TABLE 2-57
SURFACE WATER ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS
Fish Survival (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aroclor 1016*	…	0.05 U	0.06 U
Aroclor 1221*	…	0.05 U	0.06 U
Aroclor 1232*	…	0.05 U	0.06 U
Aroclor 1242*	…	0.05 U	0.06 U
Aroclor 1248*	…	0.05 U	0.06 U
Aroclor 1254*	…	0.05 U	0.06 U
Aroclor 1260*	…	0.05 U	0.06 U
Total Aroclors		U	U

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to total Aroclors
Values in **bold** exceed the NYSDEC Guidance Values for fish survival
All units are µg/L (parts per billion)
U = Not Detected
… - No standard available

TABLE 2-58
SURFACE WATER ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS
Wildlife Protection (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aroclor 1016*	…	0.05 U	0.06 U
Aroclor 1221*	…	0.05 U	0.06 U
Aroclor 1232*	…	0.05 U	0.06 U
Aroclor 1242*	…	0.05 U	0.06 U
Aroclor 1248*	…	0.05 U	0.06 U
Aroclor 1254*	…	0.05 U	0.06 U
Aroclor 1260*	…	0.05 U	0.06 U
Total Aroclors		U	U

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to total Aroclors
Values in **bold** exceed the NYSDEC Guidance Values for wildlife protection
All units are µg/L (parts per billion)
U = Not Detected
… - No standard available

TABLE 2-59
SURFACE WATER ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS
Aesthetic Waters (Saline Waters)

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Compound	NYSDEC Groundwater Guidance Values	SW-1	SW-2
Date		11/20/2009	11/20/2009
Aroclor 1016*	…	0.05 U	0.06 U
Aroclor 1221*	…	0.05 U	0.06 U
Aroclor 1232*	…	0.05 U	0.06 U
Aroclor 1242*	…	0.05 U	0.06 U
Aroclor 1248*	…	0.05 U	0.06 U
Aroclor 1254*	…	0.05 U	0.06 U
Aroclor 1260*	…	0.05 U	0.06 U
Total Aroclors		U	U

NYSDEC - New York State Department of Environmental Conservation
Samples analysis by Chemtech Laboratories of Mountainside, NJ
* Standard applies to total Aroclors
Values in **bold** exceed the NYSDEC Guidance Values for aesthetic
All units are µg/L (parts per billion)
U = Not Detected
… - No standard available

TABLE 4-1
IDENTIFICATION AND SCREENING OF TECHNOLOGIES FOR SOIL

REMEDIAL INVESTIGATION
202-218 MORGAN AVENUE - C224133
BROOKLYN NEW YORK

General Corrective Action	Corrective Measure Technology Type	Technology Process Options	Technology Implementability	Screening Results
Institutional Controls	Use Restriction	Groundwater Use Restriction	Applicable with most alternatives. Not often used as a stand-alone alternative.	Retained
	Alternate Water Supply	Alternate Water Supply	Provide alternative water supply to current and potential groundwater users. The groundwater at the site is not a potable source.	Eliminated
	Access Restriction	Fencing	Potentially applicable with most alternatives.	Retained
	Deed Restriction	Land Use Restriction	Land use restrictions would restrict the use of the property to a specific use.	Retained
Containment	Capping	Soil Cap	A compacted, low-permeability soil cap would act as a barrier to prevent ingestion, direct contact, and inhalation of contaminated soil to human and ecological receptors. A Soil cap would also reduce the mobility of contaminants by minimizing their vertical migration to groundwater. Would not be effective for localized "hot spots".	Retained
		Asphalt/Concrete Cap	An asphalt or concrete cap would act as a barrier to prevent ingestion, direct contact, and inhalation of contaminants to human and ecological sources. An asphalt or concrete cap would also reduce the mobility of contaminants by minimizing their vertical migration to groundwater. The thickness of the asphalt cap would be significantly less than a RCRA or low-permeability soil cap. Long-term monitoring ad maintenance would be required. An asphalt or concrete cap may not be an aesthetic approach for containment in areas intended for future recreation. Would not be effective for localized "hot spots".	Retained
Collection	Excavation	Soil Excavation	Effective and implementable option for handling contaminated soil in limited "hot spot" areas. Excavated soil may be used in combination with treatment such as stabilization. Excavated soil may require dewatering and associated water may require management. collection technologies must be teamed with disposal technology, and may also require treatment prior to disposal.	Retained
Treatment	*In-Situ:* Biological Processes	Bioremediation	Bioremediation involves the activity of naturally occurring microbes to enhance degradation of organic contaminants. The *in-situ* bioremediation of soil typically involves the percolation or injection of groundwater or uncontaminated water mixed with nutrients and saturated with dissolved oxygen. Typically effective for organic contaminants. Not effective for metals, PCBs, and low permeability soil. The primary contaminants in soil at the Fifth Street Yard site includes metals, PCBs, and semi-volatile organic compounds (SVOCs). In-situ bioremediation would be effective for treating the SVOCs but not the metals and PCBs. It is not cost effective to implement different technologies for different contaminant groups at the same location. Due to the heterogeneous nature of the site, injection is not easily implementable.	Eliminated

General Corrective Action	Corrective Measure Technology Type	Technology Process Options	Technology Implementability	Screening Results
Treatment	*In-Situ:* Biological Processes	Bioventing	Oxygen is delivered to soil by forced air to stimulate aerobic biodegradation of organic contaminants, particularly petroleum hydrocarbons (SVOCs) and VOCs. Not effective for metals and PCBs and low permeability soil. Due to the heterogeneous nature of the Fifth Street Yard site, injection is not easily implementable.	Eliminated
		Natural Attenuation	Natural process such as dilution, dispersion, volatilization, biodegradation, absorption, and chemical reactions with soil materials reduce contaminant concentrations. Most high molecular weight organic and many inorganic contaminants will be immobilized in the subsurface matrix. This technology requires long-term monitoring. Although organic chemicals may be bioremediated over time, metals must rely on dispersion for concentration reduction.	Eliminated
		Land Treatment	Contaminant surface soil is treated in place by tilling to achieve aeration. Aerating by periodically tilling enhances biological activity. Effective for treating petroleum hydrocarbons but not effective for metals. Land treatment is only effective for treatment of surface soils. Soil contamination at Fifth Street yard is not limited tot he surface soils. Petroleum hydrocarbon (SVOCs) contamination is typically present in subsurface soils rather than surface soil.	Eliminated
		Phytoremediation	Phytoremediation is a process that uses plants to remove, stabilize, and destroy organic and inorganic contamination in soil. The mechanisms of phytoremediation include enhanced rhizosphere biodegradation, phytoextraction, phytodegradation, and phytostabilization. Plants can uptake metals and be harvested. This technology is limited to shallow zones and plant root zone. The depth of contamination in some areas of the site extends up to 8 feet in some areas. Also, not effective for petroleum hydrocarbons (SVOCs) and metals.	Eliminated
	In-Situ: Physical/Chemical Processes	Stabilization/Solidification	Involves injecting or mixing in place chemical compounds into contaminated soil, which renders contaminants insoluble or binds contaminants chemically or physically to soil matrix. Effective for metals and PCBs but not for petroleum hydrocarbons (SVOCs) and free product. Difficult to implement in-situ due to the heterogeneous nature of the site.	Retained
		Electrical Separation	Involves inducing an electrical current in the soil, which causes migration and concentration of metals for their removal. This is an experimental technology and difficult to implement.	Eliminated
		Pneumatic Fracturing	Process of injecting pressurized air beneath the soil surface to develop cracks in low permeability and over-consolidated soils/sediments. This process increases the efficiency of other *in-situ* processes and enhances extraction efficiencies by increasing contact between contaminants adsorbed onto soil particles and the extraction medium. Primarily used to fracture silts, clays, shale, and bedrock. Should not be used in areas with seismic activity.	Eliminated

General Corrective Action	Corrective Measure Technology Type	Technology Process Options	Technology Implementability	Screening Results
Treatment	*In-Situ:* Physical/Chemical Processes	Soil Vapor Extraction	A vacuum is applied to the soil to induce the controlled flow of air and remove organics from the soil. Not effective for metals, petroleum hydrocarbons (SVOCs), or low permeability dredge material.	Eliminated
		Soil Flushing/Extraction	Involves injection of an aqueous fluid into contaminated soils, causing mobilization of sorbed contaminants. The solution is then extracted for treatment and recirculated. May be difficult to capture all of the injected solution. This technology offers the potential for recovery of metals. Low permeability soils are difficult to treat.	Eliminated
	In-Situ: Thermal Processes	Vitrification	Uses an electric current for the conversion of contaminated soils into molten glass and a crystalline structure with very low leaching or volatilizing/gas emission characteristics. Applicable for metals; however, few full-scale applications available. This is a very energy-intensive process.	Eliminated
		Thermally Enhanced Soil Vapor Extraction	Involves using steam/hot-air or electric/radio frequency heating to increase the mobility of organics and facilitate extraction. Not effective for metals or low permeability soil.	Eliminated
	Ex-Situ: Biological Processes	Slurry Phase Biological Treatment	Involves the controlled treatment of excavated soil in a bioreactor. Sizing of materials prior to placing into a reactor and dewatering of soil fines after treatment may be difficult. Management of recycled wastewater is also required. Since PCBs have a low biodegradability, this technology would be relatively ineffective in reducing concentrations of these chemicals. Not effective for metals.	Eliminated
		Controlled Solid Phase Biological Treatment	Processes include prepared treatment beds, biotreatment cells, soil piles and composting, where soil is mixed with bulking agents and organic amendments such as woodchips, hay, manure, and vegetative wastes to enhance biodegradation of organic contaminants. Treatment volume is significantly increased by amendment addition. Not effective for metals. This treatment would not be time and cost effective for the contaminants and volume of contamination at the Fifth Street Yard site.	Eliminated
		Landfarming	Contaminated soils are applied onto the soil surface and periodically turned over or tilled into the soil to aerate the waste. May be amended with bulking agents to increase oxygen availability or nutrients. Effective for organics. Not effective for metals. The soil contamination at the Fifth Street Yard site is not limited to the surface soils.	Eliminated
	Ex-Situ: Physical/Chemical Processes	Stabilization/Solidification	Similar to in-situ stabilization except the soil is excavated and mixed with stabilizing agents utilizing a pugmill system or other method of external mixing. Effective for PCBs and metals but not for petroleum hydrocarbons (SVOCs) and free product. Most of the areas of site contamination contain petroleum hydrocarbons (SVOCs). Would be teamed with collection and disposal technologies.	Retained

TABLE 4-1
IDENTIFICATION AND SCREENING OF TECHNOLOGIES FOR SOIL

REMEDIAL INVESTIGATION
202-218 MORGAN AVENUE - C224133
BROOKLYN NEW YORK

General Corrective Action	Corrective Measure Technology Type	Technology Process Options	Technology Implementability	Screening Results
Treatment	*Ex-Situ:* Physical/Chemical Processes	Chemical Oxidation/Reduction	Oxidation/reduction reactions involve the transfer of electrons from one compound to another and converts contaminants to less toxic compounds that are more stable, less mobile, and/or inert. The oxidizing agents most commonly used are ozone, hydrogen, peroxide, and chlorine. Effective for some metals, PCBs, and petroleum hydrocarbons (SVOCs).	Eliminated
		Soil Washing	The soil washing process extracts contaminants from the soil using a liquid medium such as water or a surfactant. Liquids generated during washing will require management. The treatment may require more than one solvent to extract different contaminants. Effective for metals, PCBs, and petroleum hydrocarbons (SVOCs). Difficult to implement with low permeability soils and clays. Several solutions would be needed for the contaminant groups.	Eliminated
		Dehalogenation	Contaminated soils are mixed with a reagent and heated in a vessel to dehalogenate aromatic compounds. Effective for PCBs, but not for metals and petroleum hydrocarbons (SVOCs).	Eliminated
		Solvent Extraction	Waste and solvent are mixed in an extractor, dissolving the organic contaminants into the solvent. Traces of solvent may remain in the soil matrix. After extraction, the solvent requires management. Not effective for metals.	Eliminated
		Soil Vapor Extraction	A vacuum is applied to a network of aboveground piping to enhance volatilization of organic compounds. Not effective for PCBs, metals, or petroleum hydrocarbons (SVOCs).	Eliminated
		Particle Separation	Reduction of volume of contaminated soil through particle separation using sieves of various diameters based on contaminants tendency to adsorb better to smaller or clayey particles rather than large particles. Can be combined with other treatment technologies. Effective for metals, SVOCs, and pesticides. Difficult to implement with clayey soils.	Eliminated
	Ex-Situ: Thermal Processes	Plasma Hearth Process	This process uses high temperature with plasma as its heat source. Transforms waste material into a stable basalt-like rock for long storage. Not a full-scale technology.	Eliminated
		Thermal Desorption	High-temperature thermal desorption volatilizes and desorbs organic contaminants from the soil without combustion. Organic contaminants are not destroyed during the process. Not effective for metals.	Eliminated
		Pyrolysis	Chemical decomposition is induced in organic materials by heat in the absence of oxygen. The target contaminant groups are SVOCs, not effective for metals.	Eliminated
		Incineration	High temperatures are used to volatilize and combust organic contaminants. Not effective for metals.	Eliminated
Excavation	On-Site Disposal	On-site Disposal	Treated soil would be placed back into excavations.	Retained
	Off-Site Disposal	Off-site Disposal	Transport waste material to an off-site disposal facility. Soils would have to meet landfills regulatory requirements prior to disposal.	Retained

TABLE 4-2
COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Alternatives	Overall Protection of Public Health and the Environment		Compliance with SCGs		Long-Term Effectiveness and Permanence		Reduction of Toxicity, Mobility, or Volume through Treatment		Short-Term Effectiveness		Implementability		Reasonableness of Cost		Community Acceptance		Scoring	
	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Score	Rank
Alternative No. 1 No Action	1) Does not achieve RAO.	1	1) Does not achieve SCGs.	1	1) Does not achieve long-term effectiveness.	1	1) Does not reduce toxicity, mobility or volume.	1	1) Does not achieve short-term effectiveness.	1	1) Easy to implement.	5	1) Reasonable costs.	5	1) Community acceptance is not anticipated. 2) This alternative will not allow the Site to be beneficially reused consistent with the BCP designated commercial/ industrial use and the intended zoning of 'Heavy Manufacturing.	1	16	6
Alternative No. 2 Soil Excavation - Exceeding Unrestricted Use SCOs	1) Achieves RAO through the excavation of contaminated soil exceeding Unrestricted Use SCOs to a depth of 11 feet.	5	1) Achieves SCGs through the excavation of contaminated soil exceeding Unrestricted Use SCOs to a depth of 11 feet.	5	1) Achieves long-term effectiveness through the excavation of soils with concentrations exceeding the Unrestricted Use SCOs to a depth of 11 feet. 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	5	1) Reduces toxicity, mobility, and volume from the surface to a depth of 11 feet. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	5	1) Achieves short-term effectiveness assuming soils exceeding Part 375 SCOs are not disturbed or altered to a depth greater than the excavation depths. 2) Short-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with short-term reliability.	5	1) Use of heavy machinery and hauling represents moderate to significant risk to community. 2) Improper management could lead to human exposure.	1	1) Unreasonable costs. 2) Cost will likely range from $8.5M to $9M.	1	1) Community acceptance is anticipated since the site can be redeveloped after remediation, provide tax ratable, and will no longer be a vacant property. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	5	32	5
Alternative No. 3 Soil Excavation - Exceeding Restricted Use - Commercial SCOs	1) Achieves RAO through the excavation of contaminated soil exceeding Restricted Use - Commercial SCOs.	4	1) Achieves SCGs through the excavation of contaminated soil exceeding Restricted Use - Commercial SCOs.	4	1) Achieves long-term effectiveness through the excavation of soils with concentrations exceeding the Restricted Use - Commercial SCOs to a depth of 11 feet. 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	4	1) Reduces toxicity, mobility, and volume through the excavation and off-site disposal of 32,600 cubic yards of soil with concentrations exceeding the Restricted Use - Commercial SCOs. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	5	1) Achieves short-term effectiveness assuming soils exceeding Part 375 SCOs are not disturbed or altered to a depth greater than the excavation depths. 2) Short-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with short-term reliability.	5	1) Use of heavy machinery and hauling represents moderate to significant risk to community. 2) Improper management could lead to human exposure.	2	1) Unreasonable costs. 2) Cost will likely range from $6M to $6.5M.	2	1) Community acceptance is anticipated since the site can be redeveloped after remediation, provide tax ratable, and will no longer be a vacant property. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	5	31	5
Alternative No. 4 Soil Excavation - Exceeding Restricted Use - Industrial SCOs	1) Achieves RAO through the excavation of contaminated soil exceeding Restricted Use - Industrial SCOs.	4	1) Achieves SCGs through the excavation of contaminated soil exceeding Restricted Use - Industrial SCOs.	4	1) Achieves long-term effectiveness through the excavation of soils with concentrations exceeding the Restricted Use - Industrial SCOs to a depth of 11 feet. 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	4	1) Reduces toxicity, mobility, and volume through the excavation and off-site disposal of 27,800 cubic yards of soil with concentrations exceeding the Restricted Use - Industrial SCOs. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	5	1) Achieves short-term effectiveness assuming soils exceeding Part 375 SCOs are not disturbed or altered to a depth greater than the excavation depths. 2) Short-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with short-term reliability.	5	1) Use of heavy machinery and hauling represents moderate to significant risk to community. 2) Improper management could lead to human exposure.	3	1) Unreasonable costs. 2) Cost will likely range from $5.5M to $6M.	2	1) Community acceptance is anticipated since the site can be redeveloped after remediation, provide tax ratable, and will no longer be a vacant property. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	5	32	1
Alternative No. 5 Soil Removal - "Hot Spot" area excavation, Site-Specific RAO for Arsenic, Lead, and Mercury, and Restricted Use - Industrial SCOs for PCBs	1) Achieves RAO through the excavation of "Hot Spot" areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs.	5	1) Achieves SCGs through the excavation of "Hot Spot" soil areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs.	4	1) Achieves long-term effectiveness assuming subsurface soil exceeding Part 375 is not disturbed or altered below the depth of excavation for each "Hot Spot" area. 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	4	1) Reduces toxicity, mobility, and volume through the excavation and off-site disposal of 6,800 cubic yards of "Hot Spot" soil areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	4	1) Achieves short-term effectiveness assuming soils exceeding Part 375 SCOs are not disturbed or altered to a depth greater than the excavation depths. 2) Short-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with short-term reliability.	5	1) Use of heavy machinery represents minor to moderate risk to community. 2) Improper management could lead to human exposure.	4	1) Reasonable costs. 2) Cost will likely range from $1.5M to $2M.	4	1) Community acceptance is anticipated since the site can be redeveloped after remediation, provide tax ratable, and will no longer be a vacant property. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	4	34	4
Alternative No. 6 Ex-Situ Treatment (Solidification /Stabilization) Site-Specific RAO for Arsenic, Lead, and Mercury, and Restricted Use - Industrial SCOs for PCBs	1) Achieves RAO through the ex-situ treatment of "Hot Spot" areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs.	5	1) Achieves SCGs through the ex-situ treatment of "Hot Spot" soil areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs.	4	1) Achieves long-term effectiveness assuming subsurface soil exceeding Part 375 is not disturbed or altered below the depth of excavation for each "Hot Spot" area. 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	5	1) Reduces toxicity and mobility, but not volume, through the ex-situ treatment of 4,400 cubic yards of "Hot Spot" soil areas exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	4	1) Achieves short-term effectiveness through the treatment of the surface and subsurface soil exceeding the site-specific RAO for arsenic, lead, and mercury and Restricted Use - Industrial SCOs for PCBs. 2) Short-term reliability relies on proper management and maintenance.	5	1) Use of heavy machinery and soil movement during treatment represents minor to moderate risk to community. 2) Improper management could lead to human exposure.	3	1) Reasonable costs. 2) Cost will likely range from $2.5M to $3M.	2	1) Community acceptance is anticipated since the site can be redeveloped after remediation, provide tax ratable, and will no longer be a vacant property. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	4	32	2
Alternative No. 7 Asphalt Cover System	1) Achieves RAO through the installation of an 6-inch layer of asphalt (plus 6-inches of subbase) above surface soil exceeding Part 375 SCOs.	5	1) Achieves SCGs through installing an 6-inch layer of asphalt (plus 6-inches of subbase) above surface soil exceeding Part 375 SCOs.	4	1) Achieves long-term effectiveness assuming subsurface soil exceeding Part 375 is not disturbed or altered below the 6-inch layer of asphalt (plus 6-inches of subbase) . 2) Long-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with long-term reliability.	4	1) Does not reduce toxicity, mobility or volume. This alternative provides a 6-inch layer of asphalt (plus 6-inches of subbase) above the surface soil exceeding Part 375 SCOs. Includes the removal of 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria.	2	1) Achieves short-term effectiveness assuming subsurface soil exceeding Part 375 is not disturbed or altered below the asphalt layer(plus 6-inches of subbase) . 2) Short-term reliability relies on proper management and maintenance. 3) Minimal uncertainty with short-term reliability.	5	1) Use of heavy machinery represents minor risk to community. 2) Improper management could lead to human exposure.	4	1) Reasonable costs. 2) Cost will likely range from $0.5M to $1M.	4	1) Community acceptance is anticipated, however, under this alternative the operation and maintenance of the "engineered" cover system would be require as part of future site development. 2) This alternative would allow the Site to be reused consistent with the BCP designated commercial/industrial use and the intended zoning of 'Heavy Manufacturing.'	4	32	3

Notes:
1 = Sufficient; 2 = Rather Good; 3 = Satisfactory; 4 = Good; 5 = Excellent

TABLE 4-3
REMEDIAL ALTERNAIVE COST ESTIMATES

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

REMEDIAL ALTERNATIVE NUMBER	PROPOSED REMEDIAL ALTERNATIVE	ESTIMATED COSTS	PROPOSED REMEDIAL ACTION
1	No Action	$0	Institutional Controls would be placed through an environmental easement. Administrative costs will be incurred to prepare and file the paperwork necessary to place an environmental easement on the entire Site.
2	Soil Excavation Unrestricted Use	$8,600,000	Excavate the entire site to a depth of approximate 11 feet (45,600 cubic yards) with concentrations above Unrestricted Use SCOs for off-site disposal which includes 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria. Backfill the excavations with clean soil. Environmental easement will be required to limit future excavation below 11 feet.
3	Soil Excavation Restricted Use - Commercial SCOs	$6,100,000	Excavate contaminated soil (32,600 cubic yards) with concentrations above Restricted Use - Commercial SCOs for off-site disposal which includes 1,400 cubic yards of PCB soils exceeding TSCA criteria and Lead soils exceeding RCRA criteria. Backfill the excavations with clean soil. Environmental easement will be required to limit future excavation at the Site.
4	Soil Excavation Restricted Use - Industrial SCOs	$5,600,000	Excavate contaminated soil (27,800 cubic yards) with concentrations above Restricted Use - Industrial SCOs for off-site disposal which includes 1,400 cubic yards of PCBs exceeding TSCA criteria and Lead exceeding RCRA criteria. Backfill the excavations with clean soil. Environmental easement will be required to limit future excavation at the Site.
5	Soil Excavation "Hot Spot", Site-Specific RAOs and Restricted Use - Industrial SCOs	$1,900,000	Excavate site-specific "Hot Spot" areas (6,800 cubic yards) with concentrations exceeding the site-specific RAO of 100 mg/kg for arsenic, 3,900 mg/kg for lead, 15 mg/kg for mercury, and exceeding the Industrial SCOs of 25 mg/kg for PCBs for off-site disposal which includes 1,400 cubic yards of PCBs exceeding TSCA criteria and Lead exceeding RCRA criteria. Backfill the "Hot Spot" excavations with clean soil. Asphalt cover system will be included under this alternative for the entire Site with a 6-inch asphalt (plus 6-inches of subbase). Environmental easement will be required to limit future excavation at the Site.
6	Ex-Situ Treatment (Solidification/Stabilization)	$2,740,000	Excavate site-specific "Hot Spot" areas (6,800 cubic yards) with concentrations exceeding the site-specific RAO of 100 mg/kg for arsenic, 3,900 mg/kg for lead, 15 mg/kg for mercury, and exceeding the Industrial SCOs of 25 mg/kg for PCBs (4,400 cubic yards) and combine soil with cement mixture. Treated soil will be used to backfill excavation areas. Approximately 1,400 cubic yards of PCB soil exceeding TSCA criteria and Lead soils exceeding RCRA criteria will be excavated for off-site disposal. Asphalt cover system will be included under this alternative for the entire Site with a 6-inch asphalt (plus 6-inches of subbase). Environmental easement will be required to limit future excavation at the Site.
7	Asphalt Cover System	$500,000	Asphalt cover system for the entire Site with a 6-inch asphalt (plus 6-inches of subbase). Approximately 1,400 cubic yards of PCB soil exceeding TSCA criteria and Lead soils exceeding RCRA criteria will be excavated for off-site disposal. Environmental easement will be required to limit future excavation below the asphalt cover system.

TABLE 4-4

ENDPOINT SAMPLE LOCATIONS

SAMPLING DESIGNATION AND LABORATORY SAMPLING AND ANALYSIS

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Sample Designation	Sample Depth Intervals (Inches)	Proposed Sampling Depths	Soil Sample Analysis			
			Arsenic	Lead	Mercury	PCBs
SB-1	SB-1-1 (12-14)	12 to 14 inches	x			
	SB-1-2 (12-14)	12 to 14 inches	x			
	SB-1-3 (12-14)	12 to 14 inches	x			
	SB-1-4 (72-74)	72 to 74 inches	x			
	SB-1-5 (72-74)	72 to 74 inches	x			
	SB-1-6 (72-74)	72 to 74 inches	x			
	SB-1-7 (120-126)	120 to 126 inches	x			
SB-6	SB-6-1 (12-14)	12 to 14 inches		x		x
	SB-6-2 (12-14)	12 to 14 inches		x		x
	SB-6-3 (12-14)	12 to 14 inches		x		x
	SB-6-4 (12-14)	12 to 14 inches		x		x
	SB-6-5 (54-56)	54 to 56 inches		x		x
	SB-6-6 (54-56)	54 to 56 inches		x		x
	SB-6-7 (54-56)	54 to 56 inches		x		x
	SB-6-8 (54-56)	54 to 56 inches		x		x
	SB-6-9 (84-90)	84 to 90 inches		x		x
SB-7	SB-7-1 (12-14)	12 to 14 inches				x
	SB-7-2 (12-14)	12 to 14 inches				x
	SB-7-3 (12-14)	12 to 14 inches				x
	SB-7-4 (12-14)	12 to 14 inches				x
	SB-7-5 (84-86)	84 to 86 inches				x
	SB-7-6 (84-86)	84 to 86 inches				x
	SB-7-7 (84-86)	84 to 86 inches				x
	SB-7-8 (84-86)	84 to 86 inches				x
	SB-7-9 (144-150)	144 to 150 inches				x
SB-8	SB-8-1 (12-14)	12 to 14 inches				x
	SB-8-2 (12-14)	12 to 14 inches				x
	SB-8-3 (12-14)	12 to 14 inches				x
	SB-8-4 (42-44)	42 to 44 inches				x
	SB-8-5 (42-44)	42 to 44 inches				x
	SB-8-6 (42-44)	42 to 44 inches				x
	SB-8-7 (60-66)	60 to 66 inches				x
SB-8-1	SB-8-1-1 (12-14)	12 to 14 inches		x		
	SB-8-1-2 (12-14)	12 to 14 inches		x		
	SB-8-1-3 (60-62)	60 to 62 inches		x		
	SB-8-1-4 (60-62)	60 to 62 inches		x		
	SB-8-1-5 (60-62)	60 to 62 inches		x		
	SB-8-1-6 (96-102)	96 to 102 inches		x		
SB-8-2	SB-8-2-1 (12-14)	12 to 14 inches		x		x
	SB-8-2-2 (60-62)	60 to 62 inches		x		x
	SB-8-2-3 (60-62)	60 to 62 inches		x		x
	SB-8-2-4 (96-102)	96 to 102 inches		x		x
SB-9	SB-9-1 (12-14)	12 to 14 inches				x
	SB-9-2 (12-14)	12 to 14 inches				x
	SB-9-3 (12-14)	12 to 14 inches				x
	SB-9-4 (12-14)	12 to 14 inches				x
	SB-9-5 (54-56)	54 to 56 inches				x
	SB-9-6 (54-56)	54 to 56 inches				x
	SB-9-7 (54-56)	54 to 56 inches				x
	SB-9-8 (54-56)	54 to 56 inches				x
	SB-9-9 (84-90)	84 to 90 inches				x
SB-9-3	SB-9-3-1 (12-14)	12 to 14 inches				x
	SB-9-3-2 (12-14)	12 to 14 inches				x
	SB-9-3-3 (12-14)	12 to 14 inches				x
	SB-9-3-4 (36-38)	36 to 38 inches				x
	SB-9-3-5 (36-38)	36 to 38 inches				x
	SB-9-3-6 (36-38)	36 to 38 inches				x
	SB-9-3-7 (48-54)	48 to 54 inches				x

TABLE 4-4

ENDPOINT SAMPLE LOCATIONS

SAMPLING DESIGNATION AND LABORATORY SAMPLING AND ANALYSIS

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

Sample Designation	Sample Depth Intervals (Inches)	Proposed Sampling Depths	Soil Sample Analysis			
			Arsenic	Lead	Mercury	PCBs
SB-16	SB-16-1 (12-14)	12 to 14 inches				x
	SB-16-2 (12-14)	12 to 14 inches				x
	SB-16-3 (12-14)	12 to 14 inches				x
	SB-16-4 (66-68)	66 to 68 inches				x
	SB-16-5 (66-68)	66 to 68 inches				x
	SB-16-6 (66-68)	66 to 68 inches				x
	SB-16-7 (66-68)	66 to 68 inches				x
	SB-16-8 (108-114)	108 to 114 inches				x
SB-16-1	SB-16-1-1 (12-14)	12 to 14 inches		x		
	SB-16-1-2 (12-14)	12 to 14 inches		x		
	SB-16-1-3 (12-14)	12 to 14 inches		x		
	SB-16-1-4 (42-44)	42 to 44 inches		x		
	SB-16-1-5 (42-44)	42 to 44 inches		x		
	SB-16-1-6 (42-44)	42 to 44 inches		x		
	SB-16-1-7 (60-66)	60 to 66 inches		x		
SB-17	SB-17-1 (12-14)	12 to 14 inches				x
	SB-17-2 (12-14)	12 to 14 inches				x
	SB-17-3 (60-62)	60 to 62 inches				x
	SB-17-4 (60-62)	60 to 62 inches				x
	SB-17-5 (60-62)	60 to 62 inches				x
	SB-17-6 (96-102)	96 to 102 inches				x
SB-17-1	SB-17-1-1 (12-14)	12 to 14 inches				x
	SB-17-1-2 (12-14)	12 to 14 inches				x
	SB-17-1-3 (12-14)	12 to 14 inches				x
	SB-17-1-4 (42-44)	42 to 44 inches				x
	SB-17-1-5 (42-44)	42 to 44 inches				x
	SB-17-1-6 (42-44)	42 to 44 inches				x
	SB-17-1-7 (60-66)	60 to 66 inches				x
SB-17-2	SB-17-2-1 (12-14)	12 to 14 inches				x
	SB-17-2-2 (12-14)	12 to 14 inches				x
	SB-17-2-3 (12-14)	12 to 14 inches				x
	SB-17-2-4 (60-62)	60 to 62 inches				x
	SB-17-2-5 (60-62)	60 to 62 inches				x
	SB-17-2-6 (60-62)	60 to 62 inches				x
	SB-17-2-7 (96-102)	96 to 102 inches				x
SB-19	SB-19-1 (12-14)	12 to 14 inches				x
	SB-19-2 (12-14)	12 to 14 inches				x
	SB-19-3 (12-14)	12 to 14 inches				x
	SB-19-4 (12-14)	12 to 14 inches				x
	SB-19-5 (60-62)	60 to 62 inches				x
	SB-19-6 (60-62)	60 to 62 inches				x
	SB-19-7 (60-62)	60 to 62 inches				x
	SB-19-8 (60-62)	60 to 62 inches				x
	SB-19-9 (96-102)	96 to 102 inches				x
SB-20	SB-20-1 (12-14)	12 to 14 inches				x
	SB-20-2 (12-14)	12 to 14 inches				x
	SB-20-3 (12-14)	12 to 14 inches				x
	SB-20-4 (12-14)	12 to 14 inches				x
	SB-20-5 (36-38)	36 to 38 inches				x
	SB-20-6 (36-38)	36 to 38 inches				x
	SB-20-7 (36-38)	36 to 38 inches				x
	SB-20-8 (36-38)	36 to 38 inches				x
	SB-20-9 (48-54)	48 to 54 inches				x
SB-22	SB-22-1 (12-14)	12 to 14 inches		x		x
	SB-22-2 (12-14)	12 to 14 inches		x		x
	SB-22-3 (12-14)	12 to 14 inches		x		x
	SB-22-4 (72-74)	72 to 74 inches		x		x
	SB-22-5 (72-74)	72 to 74 inches		x		x
	SB-22-6 (72-74)	72 to 74 inches		x		x
	SB-22-7 (72-74)	72 to 74 inches		x		x
	SB-22-8 (120-126)	120 to 126 inches		x		x

TABLE 4-4

ENDPOINT SAMPLE LOCATIONS

SAMPLING DESIGNATION AND LABORATORY SAMPLING AND ANALYSIS

FRITO-LAY
202-218 MORGAN AVENUE - C224133
BROOKLYN, NEW YORK

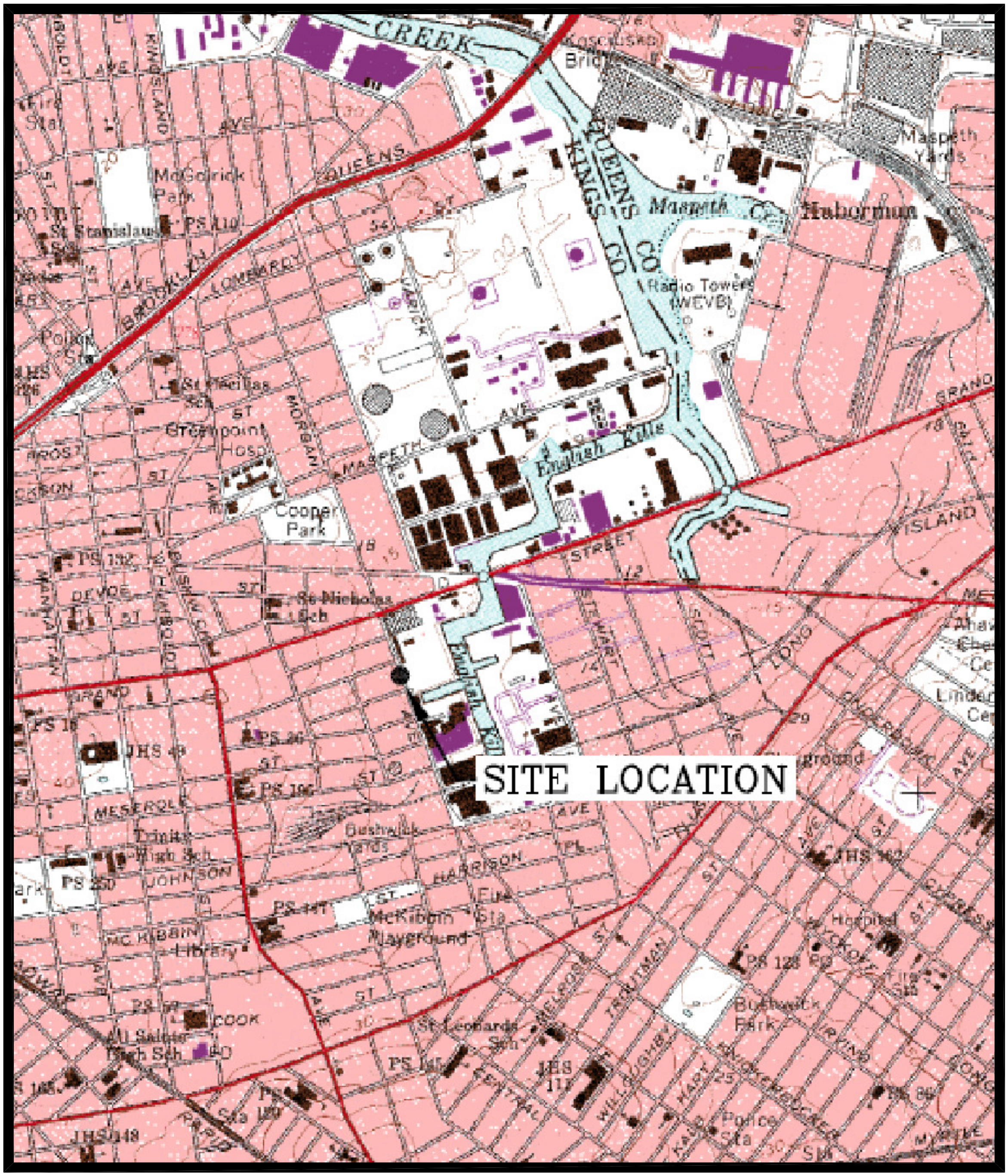
Sample Designation	Sample Depth Intervals (Inches)	Proposed Sampling Depths	Soil Sample Analysis			
			Arsenic	Lead	Mercury	PCBs
SB-23	SB-23-1 (12-14)	12 to 14 inches		x	x	x
	SB-23-2 (12-14)	12 to 14 inches		x	x	x
	SB-23-3 (12-14)	12 to 14 inches		x	x	x
	SB-23-4 (54-56)	54 to 56 inches		x	x	x
	SB-23-5 (54-56)	54 to 56 inches		x	x	x
	SB-23-6 (54-56)	54 to 56 inches		x	x	x
	SB-23-7 (84-90)	84 to 90 inches		x	x	x
SB-23-4	SB-23-4-1 (12-14)	12 to 14 inches				x
	SB-23-4-2 (12-14)	12 to 14 inches				x
	SB-23-4-3 (12-14)	12 to 14 inches				x
	SB-23-4-4 (60-62)	60 to 62 inches				x
	SB-23-4-5 (60-62)	60 to 62 inches				x
	SB-23-4-6 (60-62)	60 to 62 inches				x
	SB-23-4-7 (60-62)	60 to 62 inches				x
	SB-23-4-8 (96-102)	96 to 102 inches				x
SB-24	SB-24-1 (12-14)	12 to 14 inches				x
	SB-24-2 (12-14)	12 to 14 inches				x
	SB-24-3 (12-14)	12 to 14 inches				x
	SB-24-4 (12-14)	12 to 14 inches				x
	SB-24-5 (42-44)	42 to 44 inches				x
	SB-24-6 (42-44)	42 to 44 inches				x
	SB-24-7 (42-44)	42 to 44 inches				x
	SB-24-8 (42-44)	42 to 44 inches				x
	SB-24-9 (60-66)	60 to 66 inches				x
SB-27	SB-27-1 (12-14)	12 to 14 inches			x	x
	SB-27-2 (12-14)	12 to 14 inches			x	x
	SB-27-3 (12-14)	12 to 14 inches			x	x
	SB-27-4 (12-14)	12 to 14 inches			x	x
	SB-27-5 (84-86)	84 to 86 inches			x	x
	SB-27-6 (84-86)	84 to 86 inches			x	x
	SB-27-7 (84-86)	84 to 86 inches			x	x
	SB-27-8 (84-86)	84 to 86 inches			x	x
	SB-27-9 (144-150)	144 to 150 inches			x	x
SB-28	SB-28-1 (12-14)	12 to 14 inches	x			
	SB-28-2 (12-14)	12 to 14 inches	x			
	SB-28-3 (12-14)	12 to 14 inches	x			
	SB-28-4 (36-38)	36 to 38 inches	x			
	SB-28-5 (36-38)	36 to 38 inches	x			
	SB-28-6 (36-38)	36 to 38 inches	x			
	SB-28-7 (48-54)	48 to 54 inches	x			
SB-29	SB-29-1 (12-14)	12 to 14 inches	x			
	SB-29-2 (12-14)	12 to 14 inches	x			
	SB-29-3 (12-14)	12 to 14 inches	x			
	SB-29-4 (84-86)	84 to 86 inches	x			
	SB-29-5 (84-86)	84 to 86 inches	x			
	SB-29-6 (84-86)	84 to 86 inches	x			
	SB-29-7 (84-86)	84 to 86 inches	x			
	SB-29-8 (144-150)	144 to 150 inches	x			
SB-32	SB-32-1 (12-14)	12 to 14 inches	x	x		
	SB-32-2 (12-14)	12 to 14 inches	x	x		
	SB-32-3 (36-38)	36 to 38 inches	x	x		
	SB-32-4 (36-38)	36 to 38 inches	x	x		
	SB-32-5 (48-54)	48 to 54 inches	x	x		
SB-102	SB-102-1 (12-14)	12 to 14 inches		x		x
	SB-102-2 (12-14)	12 to 14 inches		x		x
	SB-102-3 (12-14)	12 to 14 inches		x		x
	SB-102-4 (12-14)	12 to 14 inches		x		x
	SB-102-5 (60-62)	60 to 62 inches		x		x
	SB-102-6 (60-62)	60 to 62 inches		x		x
	SB-102-7 (60-62)	60 to 62 inches		x		x
	SB-102-8 (60-62)	60 to 62 inches		x		x
	SB-102-9 (96-102)	96 to 102 inches		x		x

Gannett Fleming

FIGURE 1–1

202–218 MORGAN AVENUE

BROOKLYN, NEW YORK



SCALE 1"=2000'

U.S.G.S. 7.5 MINUTE QUADRANGLE
ELMIRA, NEW YORK

LOCATION MAP

S:\PROJECTS\47\43 - Frito Lay\Brady Files\New Figures\Site Plan\FIGURE 1-1 TOPO.dwg, 4/6/2010 7:51:56 AM

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FIGURE 1–2

LEGEND

SITE LOCATION

AERIAL LOCATION MAP

FRITO LAY, INC.
202–218 MORGAN AVENUE
BROOKLYN, NEW YORK

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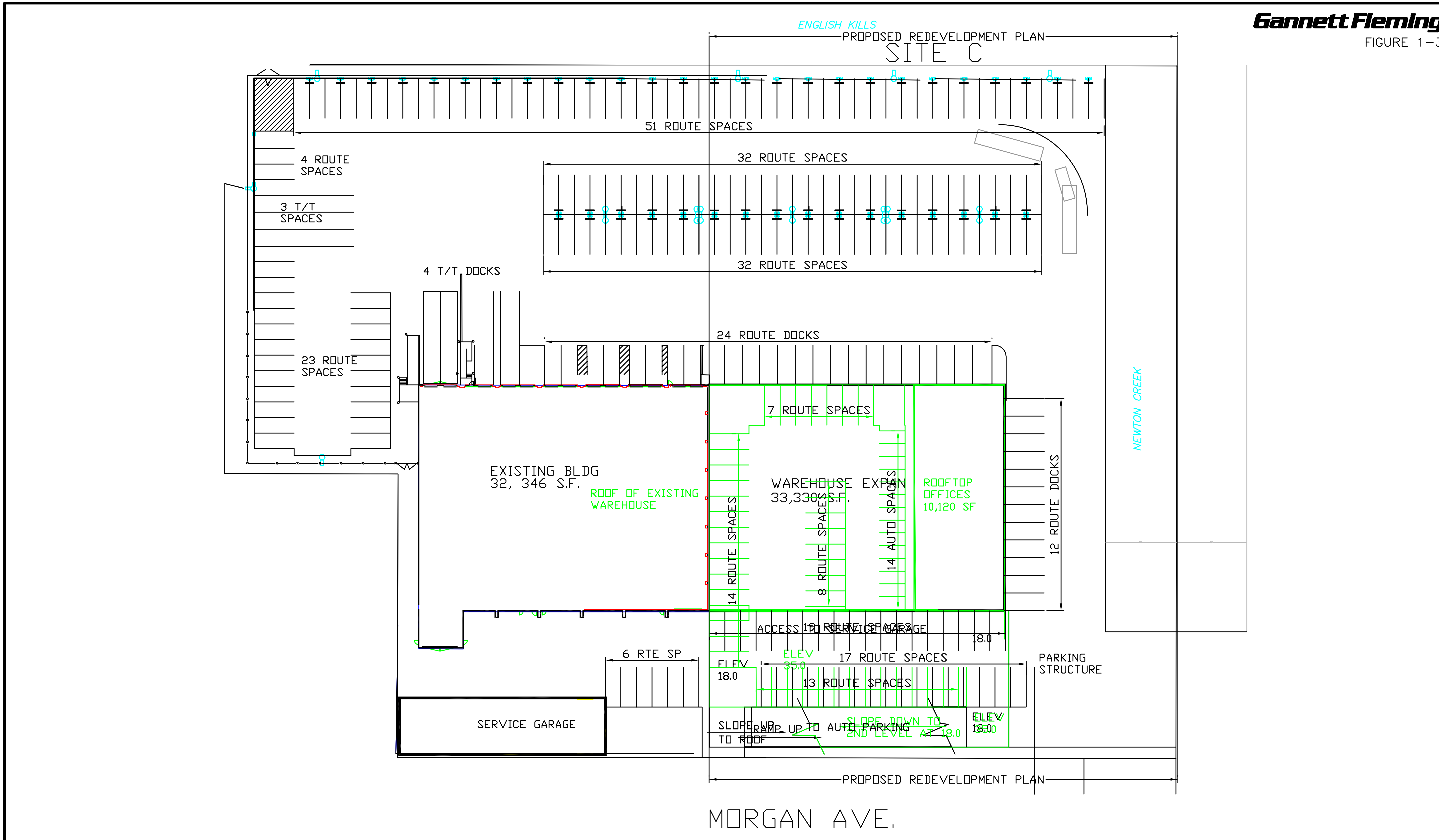


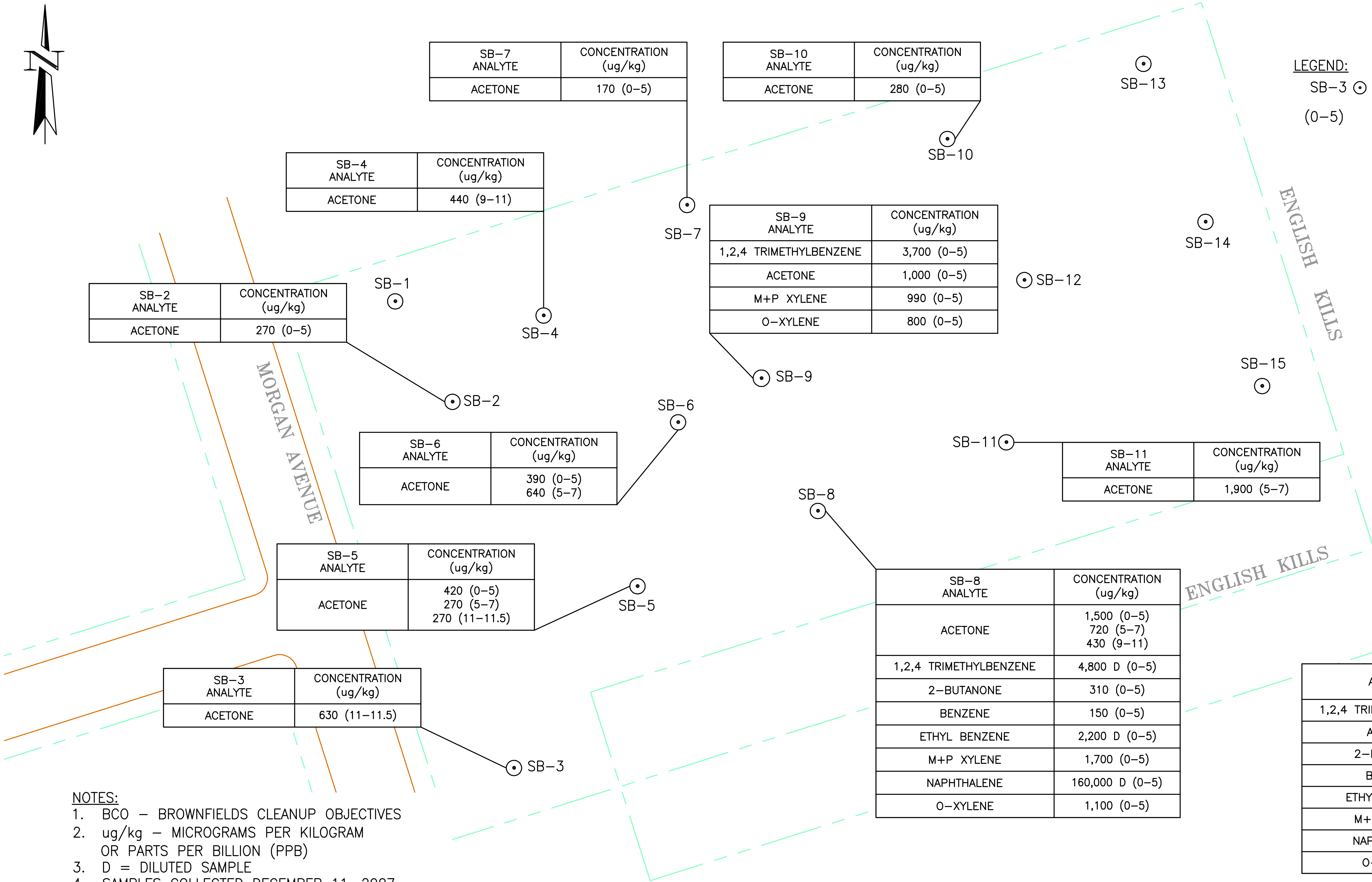
PROPOSED REDEVELOPMENT PLAN

FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–1



LEGEND:

SB–3 ⊙ SOIL BORING LOCATION

(0–5) SAMPLE DEPTH (IN FEET)

SB–7 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	170 (0–5)

SB–10 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	280 (0–5)

SB–4 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	440 (9–11)

SB–9 ANALYTE	CONCENTRATION (ug/kg)
1,2,4 TRIMETHYLBENZENE	3,700 (0–5)
ACETONE	1,000 (0–5)
M+P XYLENE	990 (0–5)
O–XYLENE	800 (0–5)

SB–2 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	270 (0–5)

SB–6 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	390 (0–5) 640 (5–7)

SB–11 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	1,900 (5–7)

SB–5 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	420 (0–5) 270 (5–7) 270 (11–11.5)

SB–8 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	1,500 (0–5) 720 (5–7) 430 (9–11)
1,2,4 TRIMETHYLBENZENE	4,800 D (0–5)
2–BUTANONE	310 (0–5)
BENZENE	150 (0–5)
ETHYL BENZENE	2,200 D (0–5)
M+P XYLENE	1,700 (0–5)
NAPHTHALENE	160,000 D (0–5)
O–XYLENE	1,100 (0–5)

SB–3 ANALYTE	CONCENTRATION (ug/kg)
ACETONE	630 (11–11.5)

ANALYTE	BCO–GROUNDWATER (ug/kg)
1,2,4 TRIMETHYLBENZENE	3,600
ACETONE	50
2–BUTANONE	120
BENZENE	60
ETHYL BENZENE	1,000
M+P XYLENE	1,600
NAPHTHALENE	12,000
O–XYLENE	1,600

NOTES:
1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. ug/kg – MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (PPB)
3. D = DILUTED SAMPLE
4. SAMPLES COLLECTED DECEMBER 11, 2007
5. NO EXCEEDENCES FOR BCO COMMERCIAL – VOCs

0 50'

Scale In Feet

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF GROUNDWATER CLEANUP OBJECTIVES FOR NON–CHLORINATED VOLATILE ORGANIC COMPOUNDS (VOCs)

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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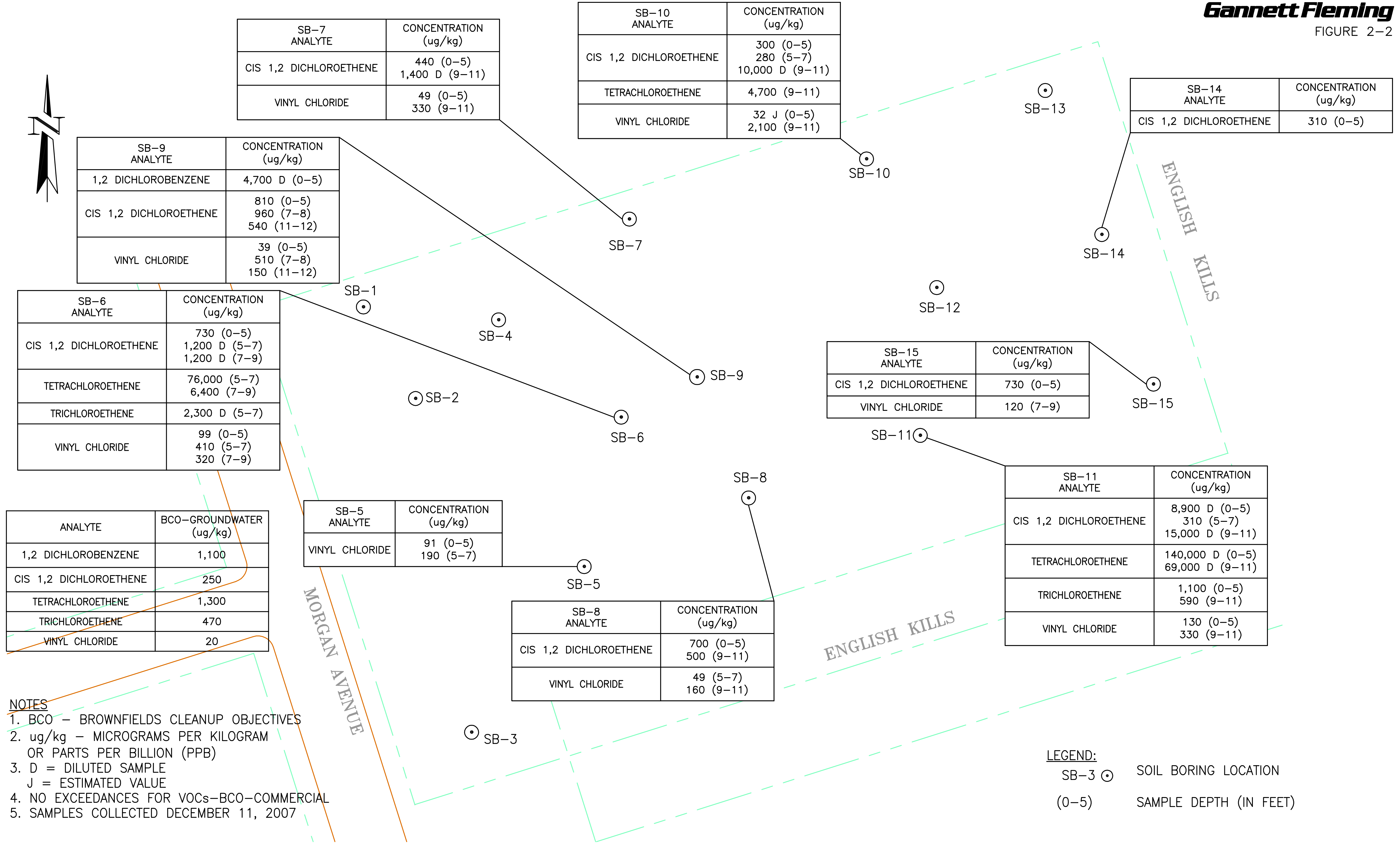
FIGURE 2-2



SB-7 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	440 (0-5) 1,400 D (9-11)
VINYL CHLORIDE	49 (0-5) 330 (9-11)

SB-10 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	300 (0-5) 280 (5-7) 10,000 D (9-11)
TETRACHLOROETHENE	4,700 (9-11)
VINYL CHLORIDE	32 J (0-5) 2,100 (9-11)

SB-14 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	310 (0-5)

SB-9 ANALYTE	CONCENTRATION (ug/kg)
1,2 DICHLOROBENZENE	4,700 D (0-5)
CIS 1,2 DICHLOROETHENE	810 (0-5) 960 (7-8) 540 (11-12)
VINYL CHLORIDE	39 (0-5) 510 (7-8) 150 (11-12)

SB-6 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	730 (0-5) 1,200 D (5-7) 1,200 D (7-9)
TETRACHLOROETHENE	76,000 (5-7) 6,400 (7-9)
TRICHLOROETHENE	2,300 D (5-7)
VINYL CHLORIDE	99 (0-5) 410 (5-7) 320 (7-9)

SB-15 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	730 (0-5)
VINYL CHLORIDE	120 (7-9)

ANALYTE	BCO-GROUNDWATER (ug/kg)
1,2 DICHLOROBENZENE	1,100
CIS 1,2 DICHLOROETHENE	250
TETRACHLOROETHENE	1,300
TRICHLOROETHENE	470
VINYL CHLORIDE	20

SB-5 ANALYTE	CONCENTRATION (ug/kg)
VINYL CHLORIDE	91 (0-5) 190 (5-7)

SB-11 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	8,900 D (0-5) 310 (5-7) 15,000 D (9-11)
TETRACHLOROETHENE	140,000 D (0-5) 69,000 D (9-11)
TRICHLOROETHENE	1,100 (0-5) 590 (9-11)
VINYL CHLORIDE	130 (0-5) 330 (9-11)

SB-8 ANALYTE	CONCENTRATION (ug/kg)
CIS 1,2 DICHLOROETHENE	700 (0-5) 500 (9-11)
VINYL CHLORIDE	49 (5-7) 160 (9-11)

NOTES

1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. ug/kg – MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (PPB)
3. D = DILUTED SAMPLE
   J = ESTIMATED VALUE
4. NO EXCEEDANCES FOR VOCs-BCO-COMMERCIAL
5. SAMPLES COLLECTED DECEMBER 11, 2007

LEGEND:

SB-3 ⊙ SOIL BORING LOCATION

(0-5) SAMPLE DEPTH (IN FEET)

0 50'

Scale In Feet

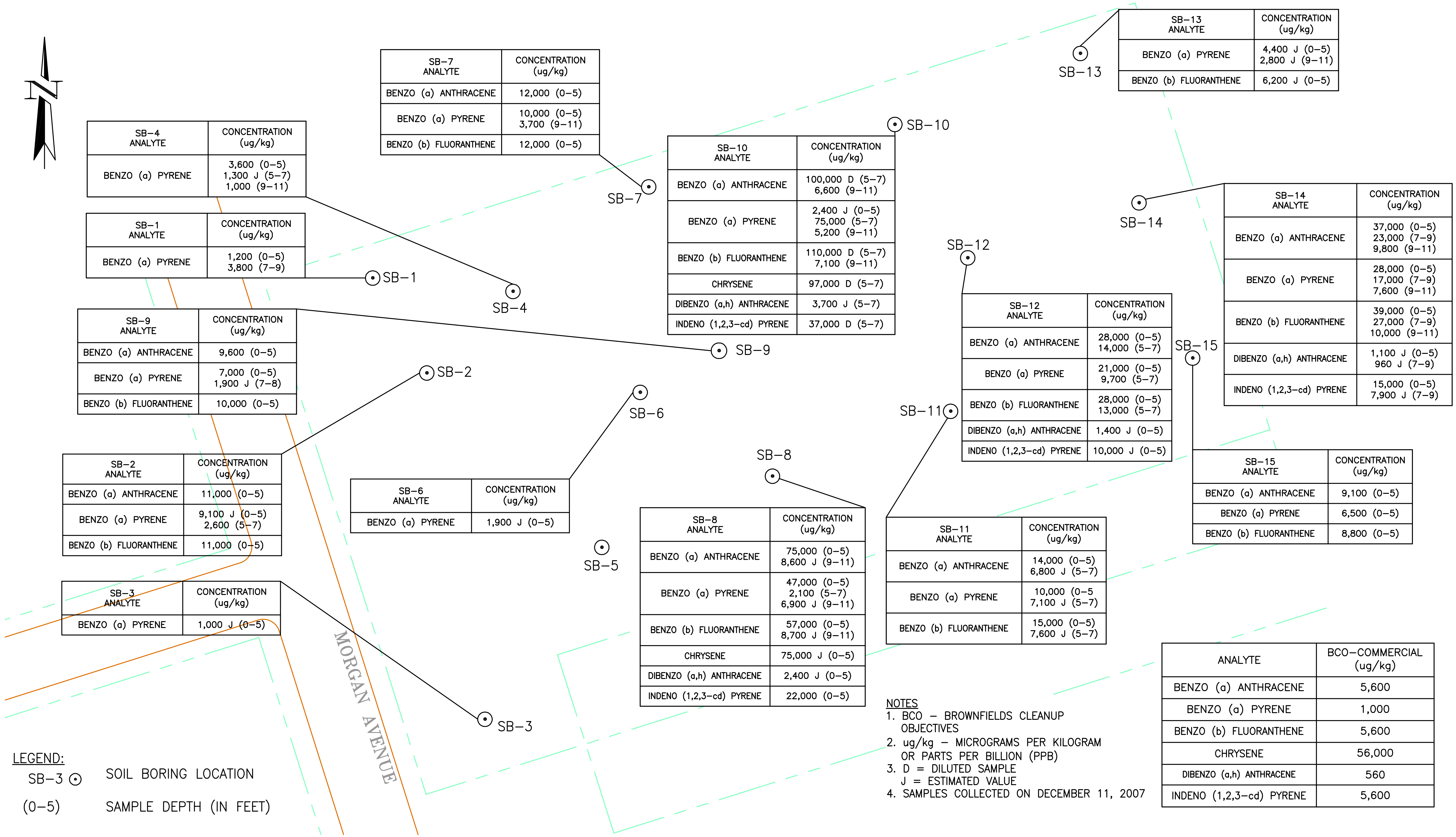
SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF GROUNDWATER CLEANUP OBJECTIVES FOR CHLORINATED VOLATILE ORGANIC COMPOUNDS (CVOCs)

FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–3



SB–4 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) PYRENE	3,600 (0–5) 1,300 J (5–7) 1,000 (9–11)

SB–1 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) PYRENE	1,200 (0–5) 3,800 (7–9)

SB–9 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	9,600 (0–5)
BENZO (a) PYRENE	7,000 (0–5) 1,900 J (7–8)
BENZO (b) FLUORANTHENE	10,000 (0–5)

SB–2 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	11,000 (0–5)
BENZO (a) PYRENE	9,100 J (0–5) 2,600 (5–7)
BENZO (b) FLUORANTHENE	11,000 (0–5)

SB–3 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) PYRENE	1,000 J (0–5)

SB–7 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	12,000 (0–5)
BENZO (a) PYRENE	10,000 (0–5) 3,700 (9–11)
BENZO (b) FLUORANTHENE	12,000 (0–5)

SB–6 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) PYRENE	1,900 J (0–5)

SB–10 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	100,000 D (5–7) 6,600 (9–11)
BENZO (a) PYRENE	2,400 J (0–5) 75,000 (5–7) 5,200 (9–11)
BENZO (b) FLUORANTHENE	110,000 D (5–7) 7,100 (9–11)
CHRYSENE	97,000 D (5–7)
DIBENZO (a,h) ANTHRACENE	3,700 J (5–7)
INDENO (1,2,3–cd) PYRENE	37,000 D (5–7)

SB–8 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	75,000 (0–5) 8,600 J (9–11)
BENZO (a) PYRENE	47,000 (0–5) 2,100 (5–7) 6,900 J (9–11)
BENZO (b) FLUORANTHENE	57,000 (0–5) 8,700 J (9–11)
CHRYSENE	75,000 J (0–5)
DIBENZO (a,h) ANTHRACENE	2,400 J (0–5)
INDENO (1,2,3–cd) PYRENE	22,000 (0–5)

SB–13 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) PYRENE	4,400 J (0–5) 2,800 J (9–11)
BENZO (b) FLUORANTHENE	6,200 J (0–5)

SB–12 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	28,000 (0–5) 14,000 (5–7)
BENZO (a) PYRENE	21,000 (0–5) 9,700 (5–7)
BENZO (b) FLUORANTHENE	28,000 (0–5) 13,000 (5–7)
DIBENZO (a,h) ANTHRACENE	1,400 J (0–5)
INDENO (1,2,3–cd) PYRENE	10,000 J (0–5)

SB–11 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	14,000 (0–5) 6,800 J (5–7)
BENZO (a) PYRENE	10,000 (0–5 7,100 J (5–7)
BENZO (b) FLUORANTHENE	15,000 (0–5) 7,600 J (5–7)

SB–14 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	37,000 (0–5) 23,000 (7–9) 9,800 (9–11)
BENZO (a) PYRENE	28,000 (0–5) 17,000 (7–9) 7,600 (9–11)
BENZO (b) FLUORANTHENE	39,000 (0–5) 27,000 (7–9) 10,000 (9–11)
DIBENZO (a,h) ANTHRACENE	1,100 J (0–5) 960 J (7–9)
INDENO (1,2,3–cd) PYRENE	15,000 (0–5) 7,900 J (7–9)

SB–15 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	9,100 (0–5)
BENZO (a) PYRENE	6,500 (0–5)
BENZO (b) FLUORANTHENE	8,800 (0–5)

ANALYTE	BCO–COMMERCIAL (ug/kg)
BENZO (a) ANTHRACENE	5,600
BENZO (a) PYRENE	1,000
BENZO (b) FLUORANTHENE	5,600
CHRYSENE	56,000
DIBENZO (a,h) ANTHRACENE	560
INDENO (1,2,3–cd) PYRENE	5,600

NOTES
1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. ug/kg – MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (PPB)
3. D = DILUTED SAMPLE
   J = ESTIMATED VALUE
4. SAMPLES COLLECTED ON DECEMBER 11, 2007

LEGEND:
SB–3 ⊙ SOIL BORING LOCATION
(0–5) SAMPLE DEPTH (IN FEET)

0 50'
Scale In Feet

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF PUBLIC HEALTH–COMMERCIAL CLEANUP OBJECTIVES FOR SEMI–VOLATILE ORGANIC COMPOUNDS (SVOCs)

FRITO LAY, INC.
202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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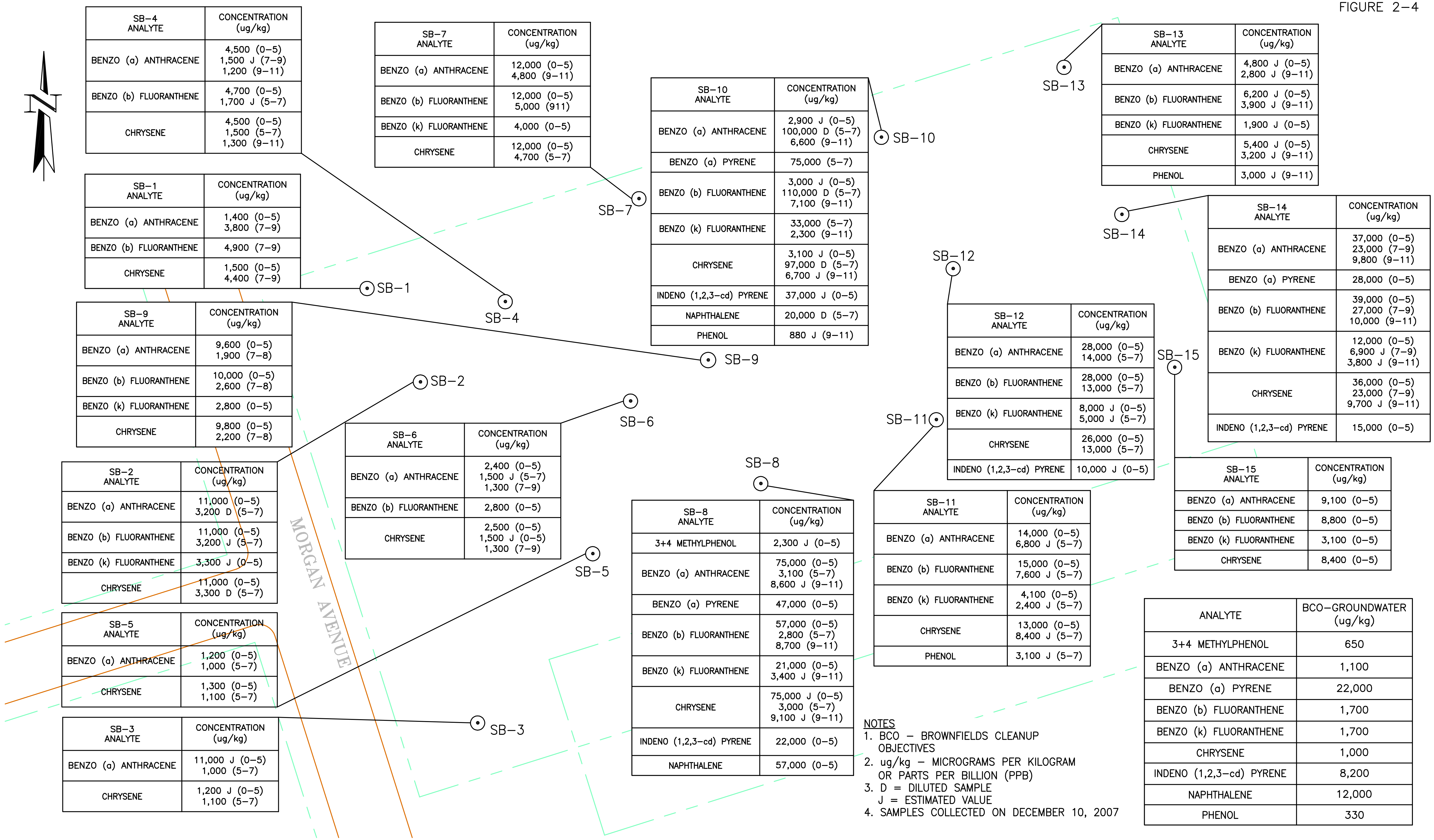
FIGURE 2–4



SB–4 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	4,500 (0–5) 1,500 J (7–9) 1,200 (9–11)
BENZO (b) FLUORANTHENE	4,700 (0–5) 1,700 J (5–7)
CHRYSENE	4,500 (0–5) 1,500 (5–7) 1,300 (9–11)

SB–1 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	1,400 (0–5) 3,800 (7–9)
BENZO (b) FLUORANTHENE	4,900 (7–9)
CHRYSENE	1,500 (0–5) 4,400 (7–9)

SB–9 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	9,600 (0–5) 1,900 (7–8)
BENZO (b) FLUORANTHENE	10,000 (0–5) 2,600 (7–8)
BENZO (k) FLUORANTHENE	2,800 (0–5)
CHRYSENE	9,800 (0–5) 2,200 (7–8)

SB–2 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	11,000 (0–5) 3,200 D (5–7)
BENZO (b) FLUORANTHENE	11,000 (0–5) 3,200 J (5–7)
BENZO (k) FLUORANTHENE	3,300 J (0–5)
CHRYSENE	11,000 (0–5) 3,300 D (5–7)

SB–5 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	1,200 (0–5) 1,000 (5–7)
CHRYSENE	1,300 (0–5) 1,100 (5–7)

SB–3 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	11,000 J (0–5) 1,000 (5–7)
CHRYSENE	1,200 J (0–5) 1,100 (5–7)

SB–7 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	12,000 (0–5) 4,800 (9–11)
BENZO (b) FLUORANTHENE	12,000 (0–5) 5,000 (911)
BENZO (k) FLUORANTHENE	4,000 (0–5)
CHRYSENE	12,000 (0–5) 4,700 (5–7)

SB–6 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	2,400 (0–5) 1,500 J (5–7) 1,300 (7–9)
BENZO (b) FLUORANTHENE	2,800 (0–5)
CHRYSENE	2,500 (0–5) 1,500 J (0–5) 1,300 (7–9)

SB–10 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	2,900 J (0–5) 100,000 D (5–7) 6,600 (9–11)
BENZO (a) PYRENE	75,000 (5–7)
BENZO (b) FLUORANTHENE	3,000 J (0–5) 110,000 D (5–7) 7,100 (9–11)
BENZO (k) FLUORANTHENE	33,000 (5–7) 2,300 (9–11)
CHRYSENE	3,100 J (0–5) 97,000 D (5–7) 6,700 J (9–11)
INDENO (1,2,3–cd) PYRENE	37,000 J (0–5)
NAPHTHALENE	20,000 D (5–7)
PHENOL	880 J (9–11)

SB–8 ANALYTE	CONCENTRATION (ug/kg)
3+4 METHYLPHENOL	2,300 J (0–5)
BENZO (a) ANTHRACENE	75,000 (0–5) 3,100 (5–7) 8,600 J (9–11)
BENZO (a) PYRENE	47,000 (0–5)
BENZO (b) FLUORANTHENE	57,000 (0–5) 2,800 (5–7) 8,700 (9–11)
BENZO (k) FLUORANTHENE	21,000 (0–5) 3,400 J (9–11)
CHRYSENE	75,000 J (0–5) 3,000 (5–7) 9,100 J (9–11)
INDENO (1,2,3–cd) PYRENE	22,000 (0–5)
NAPHTHALENE	57,000 (0–5)

SB–13 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	4,800 J (0–5) 2,800 J (9–11)
BENZO (b) FLUORANTHENE	6,200 J (0–5) 3,900 J (9–11)
BENZO (k) FLUORANTHENE	1,900 J (0–5)
CHRYSENE	5,400 J (0–5) 3,200 J (9–11)
PHENOL	3,000 J (9–11)

SB–12 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	28,000 (0–5) 14,000 (5–7)
BENZO (b) FLUORANTHENE	28,000 (0–5) 13,000 (5–7)
BENZO (k) FLUORANTHENE	8,000 J (0–5) 5,000 J (5–7)
CHRYSENE	26,000 (0–5) 13,000 (5–7)
INDENO (1,2,3–cd) PYRENE	10,000 J (0–5)

SB–14 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	37,000 (0–5) 23,000 (7–9) 9,800 (9–11)
BENZO (a) PYRENE	28,000 (0–5)
BENZO (b) FLUORANTHENE	39,000 (0–5) 27,000 (7–9) 10,000 (9–11)
BENZO (k) FLUORANTHENE	12,000 (0–5) 6,900 J (7–9) 3,800 J (9–11)
CHRYSENE	36,000 (0–5) 23,000 (7–9) 9,700 J (9–11)
INDENO (1,2,3–cd) PYRENE	15,000 (0–5)

SB–11 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	14,000 (0–5) 6,800 J (5–7)
BENZO (b) FLUORANTHENE	15,000 (0–5) 7,600 J (5–7)
BENZO (k) FLUORANTHENE	4,100 (0–5) 2,400 J (5–7)
CHRYSENE	13,000 (0–5) 8,400 J (5–7)
PHENOL	3,100 J (5–7)

SB–15 ANALYTE	CONCENTRATION (ug/kg)
BENZO (a) ANTHRACENE	9,100 (0–5)
BENZO (b) FLUORANTHENE	8,800 (0–5)
BENZO (k) FLUORANTHENE	3,100 (0–5)
CHRYSENE	8,400 (0–5)

ANALYTE	BCO–GROUNDWATER (ug/kg)
3+4 METHYLPHENOL	650
BENZO (a) ANTHRACENE	1,100
BENZO (a) PYRENE	22,000
BENZO (b) FLUORANTHENE	1,700
BENZO (k) FLUORANTHENE	1,700
CHRYSENE	1,000
INDENO (1,2,3–cd) PYRENE	8,200
NAPHTHALENE	12,000
PHENOL	330

NOTES
1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. ug/kg – MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (PPB)
3. D = DILUTED SAMPLE
   J = ESTIMATED VALUE
4. SAMPLES COLLECTED ON DECEMBER 10, 2007

LEGEND:
SB–3 ⊙ SOIL BORING LOCATION
(0–5) SAMPLE DEPTH (IN FEET)

0 50'
Scale In Feet

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF GROUNDWATER CLEANUP OBJECTIVES FOR SEMI–VOLATILE ORGANIC COMPOUNDS (SVOCs)

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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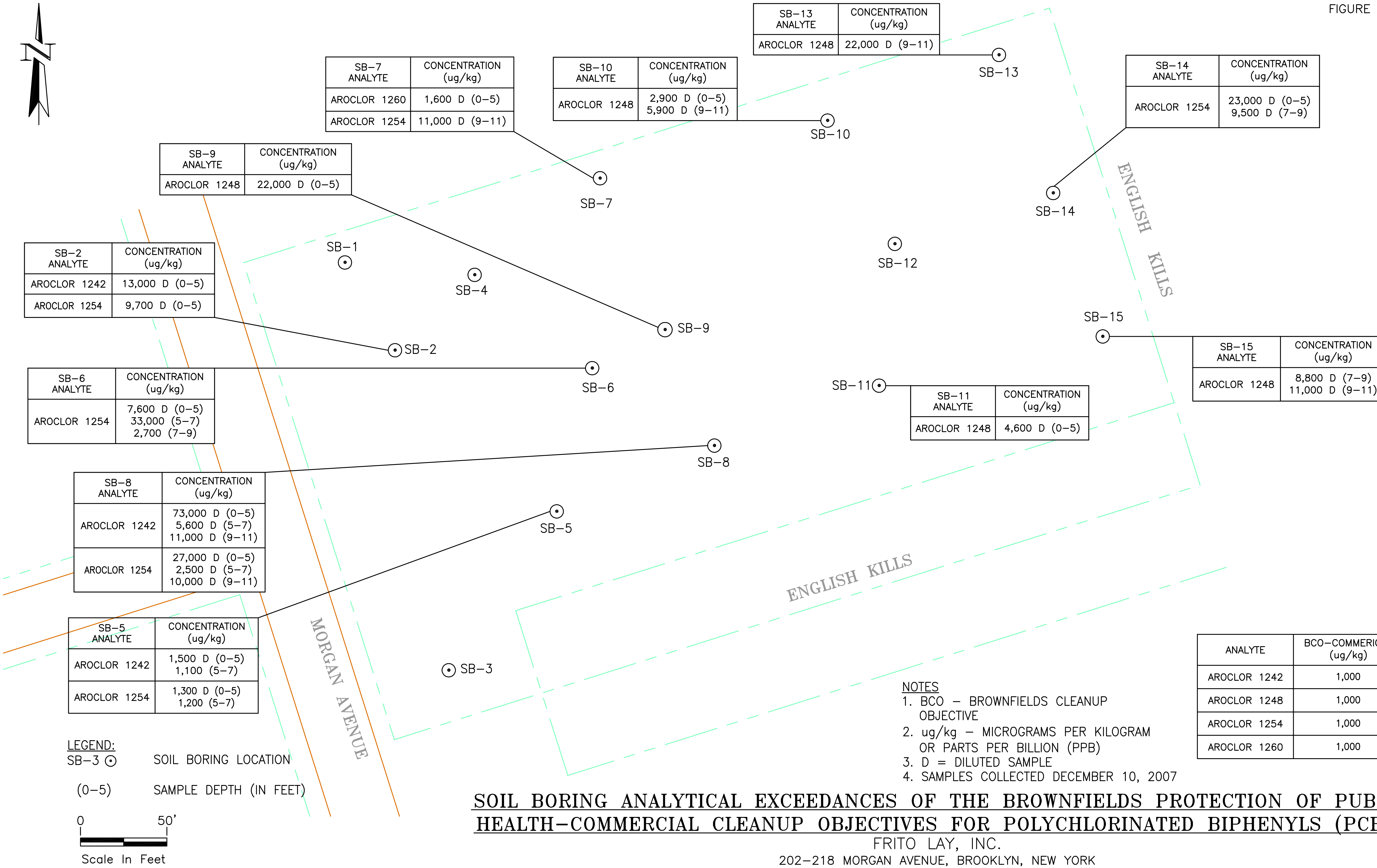
FIGURE 2-5

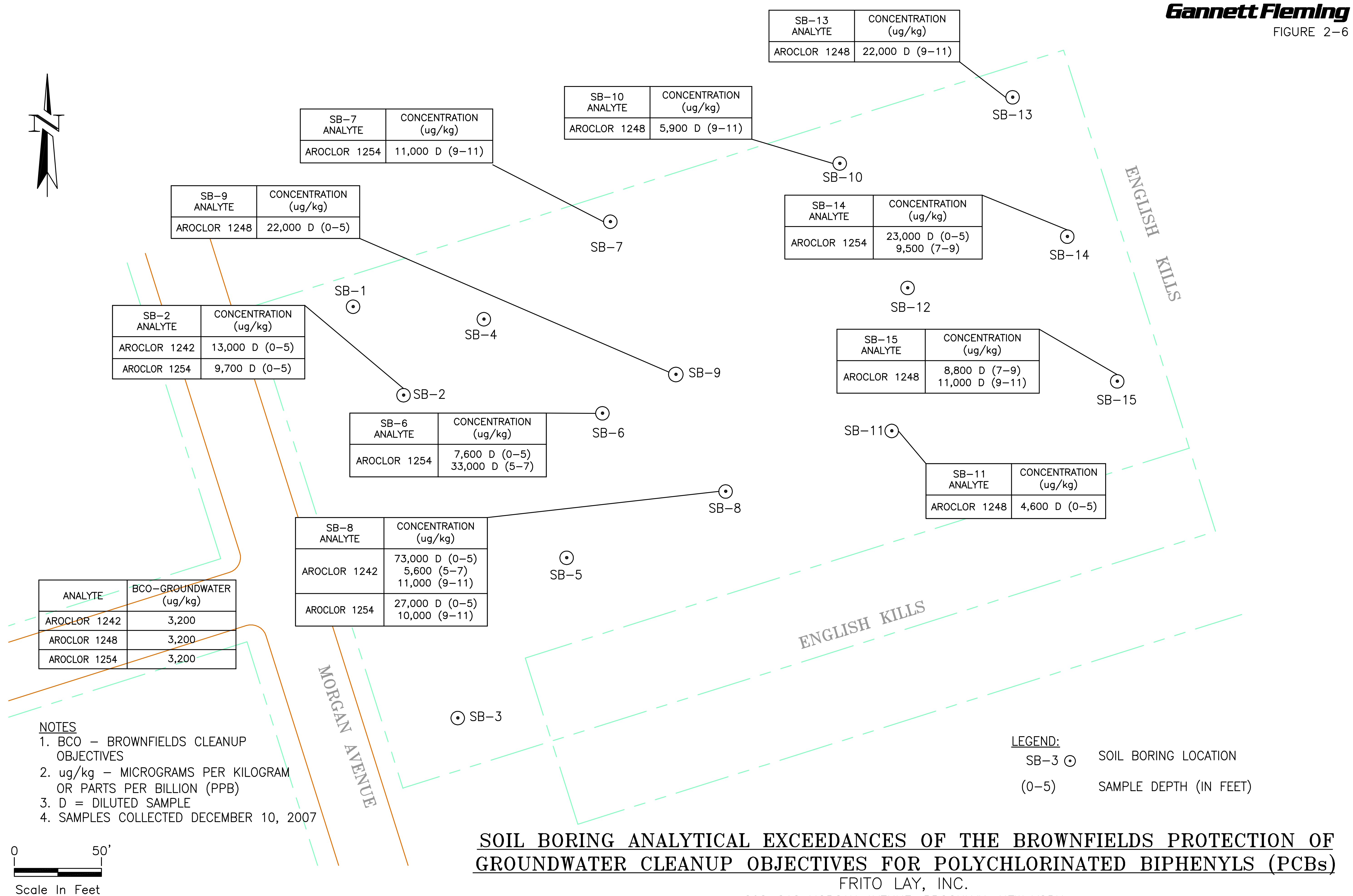


NOTES
1. BCO – BROWNFIELDS CLEANUP OBJECTIVE
2. ug/kg – MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (PPB)
3. D = DILUTED SAMPLE
4. SAMPLES COLLECTED DECEMBER 10, 2007

ANALYTE	BCO–COMMERICAL (ug/kg)
AROCLOR 1242	1,000
AROCLOR 1248	1,000
AROCLOR 1254	1,000
AROCLOR 1260	1,000

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF PUBLIC HEALTH–COMMERCIAL CLEANUP OBJECTIVES FOR POLYCHLORINATED BIPHENYLS (PCBs)

FRITO LAY, INC.
202–218 MORGAN AVENUE, BROOKLYN, NEW YORK



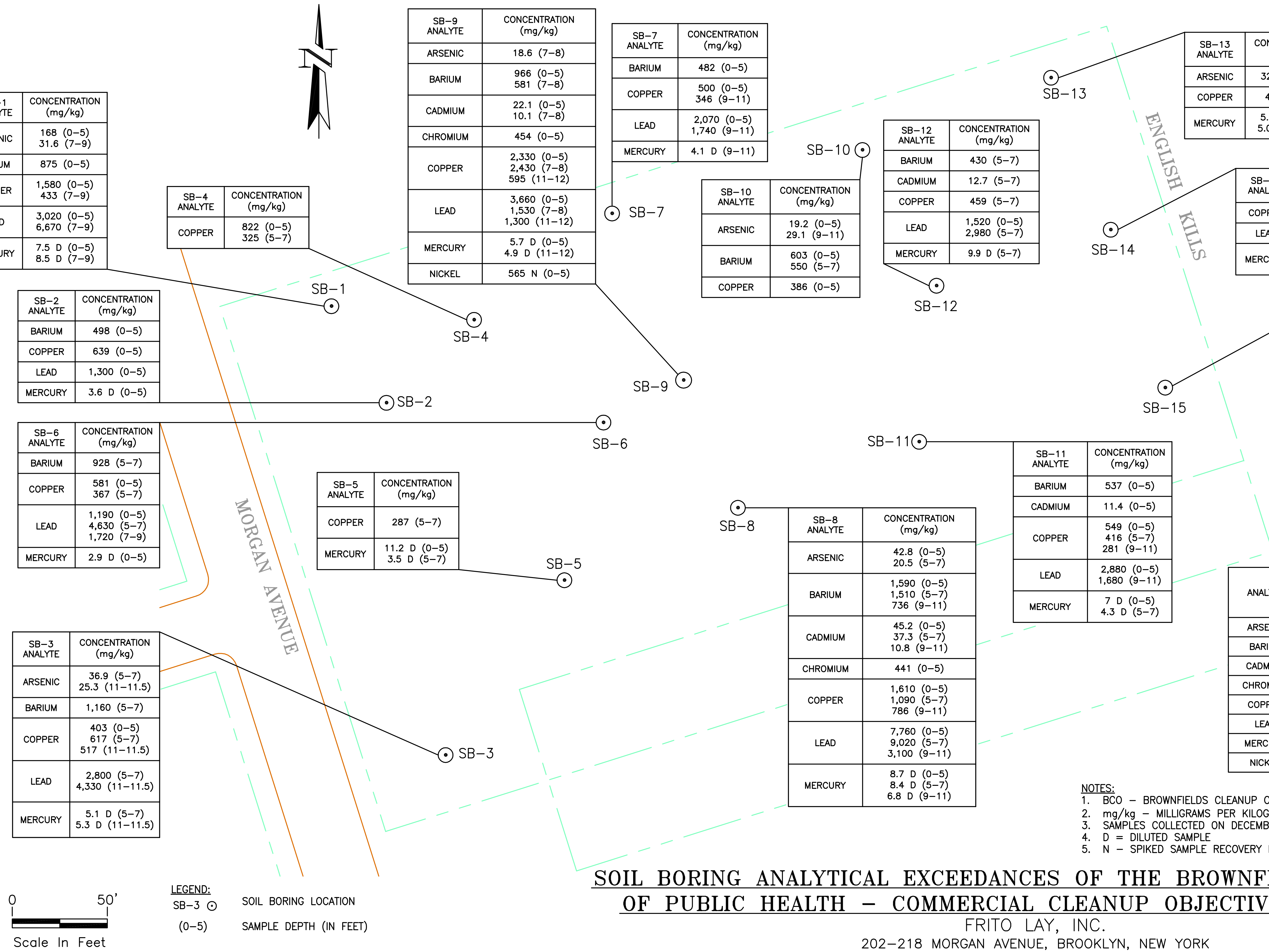
SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF GROUNDWATER CLEANUP OBJECTIVES FOR POLYCHLORINATED BIPHENYLS (PCBs)

FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–7



SB–1 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	168 (0–5) 31.6 (7–9)
BARIUM	875 (0–5)
COPPER	1,580 (0–5) 433 (7–9)
LEAD	3,020 (0–5) 6,670 (7–9)
MERCURY	7.5 D (0–5) 8.5 D (7–9)

SB–2 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	498 (0–5)
COPPER	639 (0–5)
LEAD	1,300 (0–5)
MERCURY	3.6 D (0–5)

SB–3 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	36.9 (5–7) 25.3 (11–11.5)
BARIUM	1,160 (5–7)
COPPER	403 (0–5) 617 (5–7) 517 (11–11.5)
LEAD	2,800 (5–7) 4,330 (11–11.5)
MERCURY	5.1 D (5–7) 5.3 D (11–11.5)

SB–4 ANALYTE	CONCENTRATION (mg/kg)
COPPER	822 (0–5) 325 (5–7)

SB–5 ANALYTE	CONCENTRATION (mg/kg)
COPPER	287 (5–7)
MERCURY	11.2 D (0–5) 3.5 D (5–7)

SB–6 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	928 (5–7)
COPPER	581 (0–5) 367 (5–7)
LEAD	1,190 (0–5) 4,630 (5–7) 1,720 (7–9)
MERCURY	2.9 D (0–5)

SB–7 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	482 (0–5)
COPPER	500 (0–5) 346 (9–11)
LEAD	2,070 (0–5) 1,740 (9–11)
MERCURY	4.1 D (9–11)

SB–8 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	42.8 (0–5) 20.5 (5–7)
BARIUM	1,590 (0–5) 1,510 (5–7) 736 (9–11)
CADMIUM	45.2 (0–5) 37.3 (5–7) 10.8 (9–11)
CHROMIUM	441 (0–5)
COPPER	1,610 (0–5) 1,090 (5–7) 786 (9–11)
LEAD	7,760 (0–5) 9,020 (5–7) 3,100 (9–11)
MERCURY	8.7 D (0–5) 8.4 D (5–7) 6.8 D (9–11)

SB–9 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	18.6 (7–8)
BARIUM	966 (0–5) 581 (7–8)
CADMIUM	22.1 (0–5) 10.1 (7–8)
CHROMIUM	454 (0–5)
COPPER	2,330 (0–5) 2,430 (7–8) 595 (11–12)
LEAD	3,660 (0–5) 1,530 (7–8) 1,300 (11–12)
MERCURY	5.7 D (0–5) 4.9 D (11–12)
NICKEL	565 N (0–5)

SB–10 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	19.2 (0–5) 29.1 (9–11)
BARIUM	603 (0–5) 550 (5–7)
COPPER	386 (0–5)

SB–11 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	537 (0–5)
CADMIUM	11.4 (0–5)
COPPER	549 (0–5) 416 (5–7) 281 (9–11)
LEAD	2,880 (0–5) 1,680 (9–11)
MERCURY	7 D (0–5) 4.3 D (5–7)

SB–12 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	430 (5–7)
CADMIUM	12.7 (5–7)
COPPER	459 (5–7)
LEAD	1,520 (0–5) 2,980 (5–7)
MERCURY	9.9 D (5–7)

SB–13 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	32.3 (9–11)
COPPER	403 (0–5)
MERCURY	5.0 D (0–5) 5.0 D (9–11)

SB–14 ANALYTE	CONCENTRATION (mg/kg)
COPPER	967 (7–9)
LEAD	2,960 (0–5)
MERCURY	4.2 D (0–5) 4.8 D (7–9)

SB–15 ANALYTE	CONCENTRATION (mg/kg)
COPPER	653 (0–5)
LEAD	1,180 (0–5)
MERCURY	3.9 D (0–5)

ANALYTE	BCO FOR PROTECTION OF PUBLIC HEALTH–COMMERCIAL (mg/kg)
ARSENIC	16
BARIUM	400
CADMIUM	9
CHROMIUM	400
COPPER	270
LEAD	1,000
MERCURY	2.8
NICKEL	310

NOTES:
1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. mg/kg – MILLIGRAMS PER KILOGRAM OR PARTS PER MILLION (PPM)
3. SAMPLES COLLECTED ON DECEMBER 10, 2007.
4. D = DILUTED SAMPLE
5. N – SPIKED SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS.

LEGEND:
SB–3 ⊙ SOIL BORING LOCATION
(0–5) SAMPLE DEPTH (IN FEET)

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF PUBLIC HEALTH – COMMERCIAL CLEANUP OBJECTIVES FOR METALS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

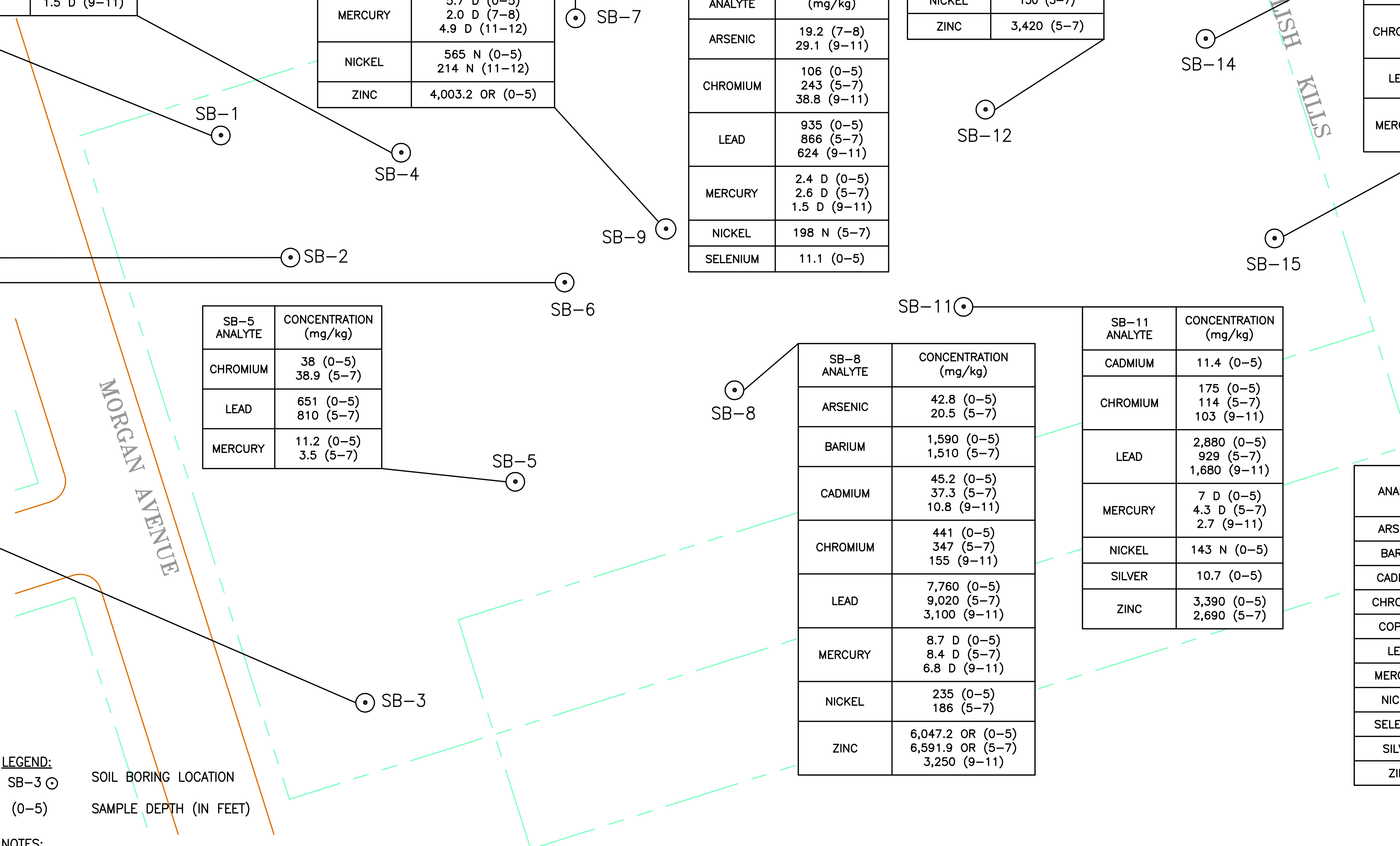
Gannett Fleming

FIGURE 2-8

SOIL BORING ANALYTICAL EXCEEDANCES OF THE BROWNFIELDS PROTECTION OF GROUNDWATER CLEANUP OBJECTIVES FOR METALS

FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK



SB-1 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	168 (0-5) 31.6 (7-9)
BARIUM	875 (0-5)
CHROMIUM	41.5 (0-5)
LEAD	3,020 (0-5) 6,670 (7-9)
MERCURY	7.5 D (0-5) 8.5 D (7-9)
SELENIUM	50 (0-5)

SB-2 ANALYTE	CONCENTRATION (mg/kg)
CHROMIUM	37.6 (0-5) 30.1 (5-7) 20.6 (7-9)
LEAD	1,300 (0-5) 570 (5-7)
MERCURY	3.6 D (0-5) 1.8 D (5-7)
ZINC	2,770 (0-5)

SB-3 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	36.9 (5-7) 25.3 (11-11.5)
BARIUM	1,160 (5-7)
CHROMIUM	24.6 (11-11.5)
LEAD	2,800 (5-7) 4,330 (11-11.5)
MERCURY	5.1 D (5-7) 5.3D (11-11.5)

SB-4 ANALYTE	CONCENTRATION (mg/kg)
CHROMIUM	39.1 (0-5) 40.9 (5-7) 22.3 (9-11)
LEAD	904 (0-5)
MERCURY	2.2 D (0-5) 1.4 D (5-7) 1.5 D (9-11)

SB-5 ANALYTE	CONCENTRATION (mg/kg)
CHROMIUM	38 (0-5) 38.9 (5-7)
LEAD	651 (0-5) 810 (5-7)
MERCURY	11.2 (0-5) 3.5 (5-7)

SB-6 ANALYTE	CONCENTRATION (mg/kg)
BARIUM	928 (5-7)
CHROMIUM	69 (0-5) 85.8 (5-7) 20.6 (7-9)
LEAD	1,190 (0-5) 4,630 (5-7) 1,720 (7-9)
MERCURY	2.9 D (0-5) 1.9 D (5-7) 2.4 D (7-9)

SB-7 ANALYTE	CONCENTRATION (mg/kg)
CADMIUM	8.49 D (0-5)
CHROMIUM	92 (0-5) 84.5 (9-11)
LEAD	2,070 (0-5) 1,740 (9-11)
MERCURY	2.1 D (0-5) 4.1 D (9-11)
ZINC	3,500 (0-5)

SB-8 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	42.8 (0-5) 20.5 (5-7)
BARIUM	1,590 (0-5) 1,510 (5-7)
CADMIUM	45.2 (0-5) 37.3 (5-7) 10.8 (9-11)
CHROMIUM	441 (0-5) 347 (5-7) 155 (9-11)
LEAD	7,760 (0-5) 9,020 (5-7) 3,100 (9-11)
MERCURY	8.7 D (0-5) 8.4 D (5-7) 6.8 D (9-11)
NICKEL	235 (0-5) 186 (5-7)
ZINC	6,047.2 OR (0-5) 6,591.9 OR (5-7) 3,250 (9-11)

SB-9 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	18.6 (7-8)
BARIUM	966 (0-5)
CADMIUM	22.1 (0-5) 10.1 (7-8)
CHROMIUM	454 (0-5) 99.4 (7-8) 147 (11-12)
COPPER	2,330 (0-5) 2,430 (7-8)
LEAD	3,660 (0-5) 1,530 (7-8) 1,300 (11-12)
MERCURY	5.7 D (0-5) 2.0 D (7-8) 4.9 D (11-12)
NICKEL	565 N (0-5) 214 N (11-12)
ZINC	4,003.2 OR (0-5)

SB-10 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	19.2 (7-8) 29.1 (9-11)
CHROMIUM	106 (0-5) 243 (5-7) 38.8 (9-11)
LEAD	935 (0-5) 866 (5-7) 624 (9-11)
MERCURY	2.4 D (0-5) 2.6 D (5-7) 1.5 D (9-11)
NICKEL	198 N (5-7)
SELENIUM	11.1 (0-5)

SB-11 ANALYTE	CONCENTRATION (mg/kg)
CADMIUM	11.4 (0-5)
CHROMIUM	175 (0-5) 114 (5-7) 103 (9-11)
LEAD	2,880 (0-5) 929 (5-7) 1,680 (9-11)
MERCURY	7 D (0-5) 4.3 D (5-7) 2.7 (9-11)
NICKEL	143 N (0-5)
SILVER	10.7 (0-5)
ZINC	3,390 (0-5) 2,690 (5-7)

SB-12 ANALYTE	CONCENTRATION (mg/kg)
CADMIUM	12.7 (0-5)
CHROMIUM	38.7 (0-5) 104 (5-7)
LEAD	1,520 (0-5) 2,980 (5-7)
MERCURY	2.4 D (0-5) 9.9 D (5-7)
NICKEL	130 (5-7)
ZINC	3,420 (5-7)

SB-13 ANALYTE	CONCENTRATION (mg/kg)
ARSENIC	32.3 (9-11)
CADMIUM	7.83 (9-11)
CHROMIUM	21.3 (0-5) 29.8 (9-11)
MERCURY	5.0 D (0-5) 5.0 D (9-11)
SELENIUM	71.1 (9-11)

SB-14 ANALYTE	CONCENTRATION (mg/kg)
CHROMIUM	20.4 (0-5) 56.9 (7-9) 27.4 (9-11)
LEAD	2,960 (0-5) 503 (9-11)
MERCURY	4.2 D (0-5) 4.8 D (7-9) 2.5 D (9-11)

SB-15 ANALYTE	CONCENTRATION (mg/kg)
CHROMIUM	85 (0-5)
LEAD	1,180 (0-5)
MERCURY	3.9 D (0-5)
ZINC	3,650 (0-5)

ANALYTE	BCO FOR PROTECTION OF GROUNDWATER (mg/kg)
ARSENIC	16
BARIUM	820
CADMIUM	7.5
CHROMIUM	19
COPPER	1,720
LEAD	450
MERCURY	0.73
NICKEL	130
SELENIUM	4
SILVER	8.3
ZINC	2,480

LEGEND:

SB-3 ⊙ SOIL BORING LOCATION

(0-5) SAMPLE DEPTH (IN FEET)

NOTES:

1. BCO – BROWNFIELDS CLEANUP OBJECTIVES
2. mg/kg – MILLIGRAMS PER KILOGRAM OR PARTS PER MILLION (PPM)
3. SAMPLES COLLECTED ON DECEMBER 10, 2007
4. N = SPIKED SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
   D = DILUTED SAMPLE
   OR – INDICATES THE ANALYTE'S CONCENTRATION EXCEEDS THE CALIBRATED RANGE OF INSTRUMENT FOR THAT SPECIFIC ANALYSIS

0 50'

Scale In Feet

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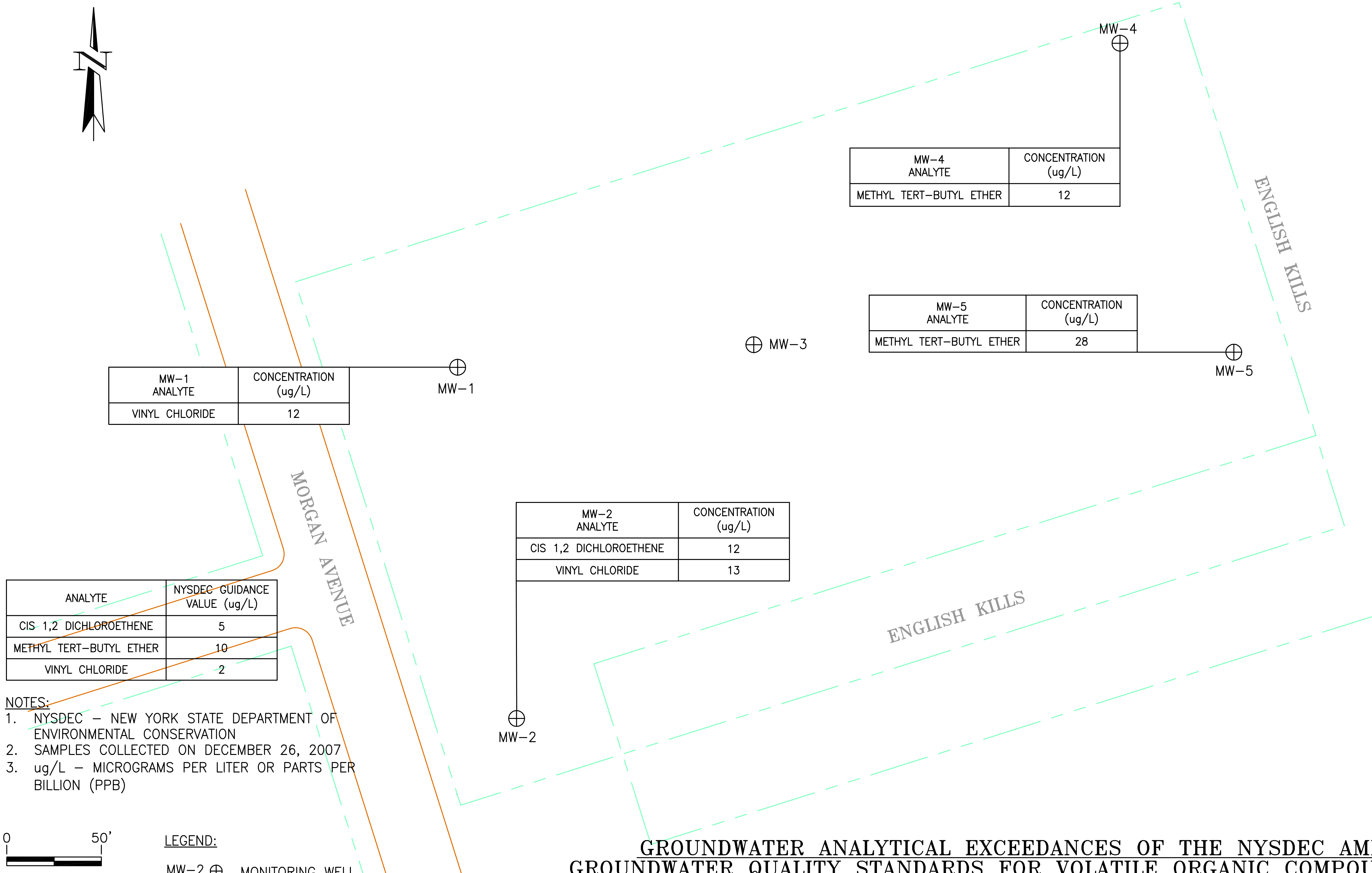
FIGURE 2–9



MW–1 ANALYTE	CONCENTRATION (ug/L)
VINYL CHLORIDE	12

MW–2 ANALYTE	CONCENTRATION (ug/L)
CIS 1,2 DICHLOROETHENE	12
VINYL CHLORIDE	13

MW–4 ANALYTE	CONCENTRATION (ug/L)
METHYL TERT–BUTYL ETHER	12

MW–5 ANALYTE	CONCENTRATION (ug/L)
METHYL TERT–BUTYL ETHER	28

ANALYTE	NYSDEC GUIDANCE VALUE (ug/L)
CIS 1,2 DICHLOROETHENE	5
METHYL TERT–BUTYL ETHER	10
VINYL CHLORIDE	2

NOTES:
1. NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2. SAMPLES COLLECTED ON DECEMBER 26, 2007
3. ug/L – MICROGRAMS PER LITER OR PARTS PER BILLION (PPB)

0 50'

Scale In Feet

LEGEND:

MW–2 ⊕ MONITORING WELL

GROUNDWATER ANALYTICAL EXCEEDANCES OF THE NYSDEC AMBIENT GROUNDWATER QUALITY STANDARDS FOR VOLATILE ORGANIC COMPOUNDS (VOCs)

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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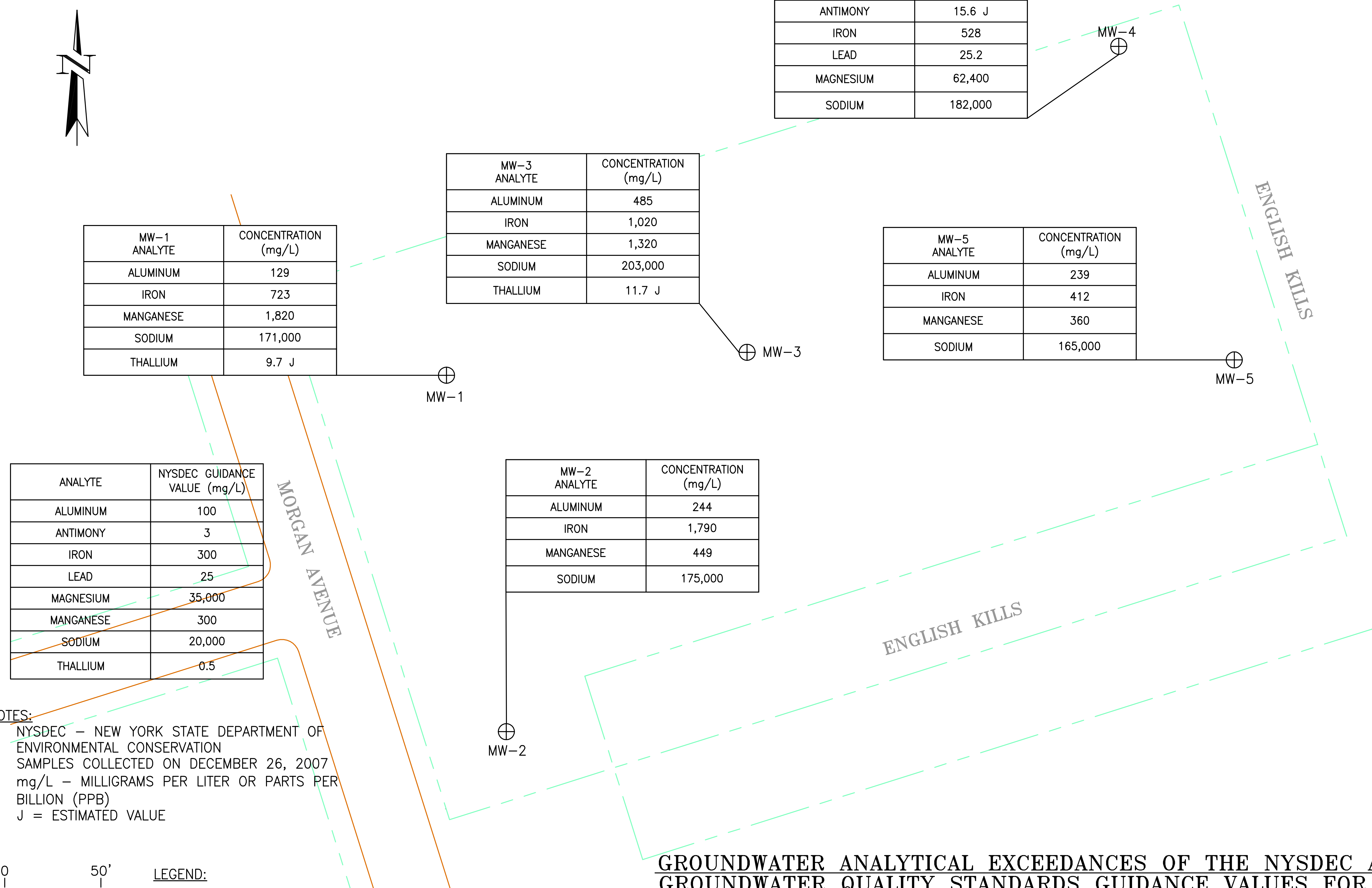
FIGURE 2–10



MW–4 ANALYTE	CONCENTRATION (mg/L)
ALUMINUM	251
ANTIMONY	15.6 J
IRON	528
LEAD	25.2
MAGNESIUM	62,400
SODIUM	182,000

MW–3 ANALYTE	CONCENTRATION (mg/L)
ALUMINUM	485
IRON	1,020
MANGANESE	1,320
SODIUM	203,000
THALLIUM	11.7 J

MW–1 ANALYTE	CONCENTRATION (mg/L)
ALUMINUM	129
IRON	723
MANGANESE	1,820
SODIUM	171,000
THALLIUM	9.7 J

MW–5 ANALYTE	CONCENTRATION (mg/L)
ALUMINUM	239
IRON	412
MANGANESE	360
SODIUM	165,000

ANALYTE	NYSDEC GUIDANCE VALUE (mg/L)
ALUMINUM	100
ANTIMONY	3
IRON	300
LEAD	25
MAGNESIUM	35,000
MANGANESE	300
SODIUM	20,000
THALLIUM	0.5

MW–2 ANALYTE	CONCENTRATION (mg/L)
ALUMINUM	244
IRON	1,790
MANGANESE	449
SODIUM	175,000

NOTES:
1. NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2. SAMPLES COLLECTED ON DECEMBER 26, 2007
3. mg/L – MILLIGRAMS PER LITER OR PARTS PER BILLION (PPB)
4. J = ESTIMATED VALUE

0 50'

Scale In Feet

LEGEND:

MW–2 ⊕ MONITORING WELL

GROUNDWATER ANALYTICAL EXCEEDANCES OF THE NYSDEC AMBIENT GROUNDWATER QUALITY STANDARDS GUIDANCE VALUES FOR METALS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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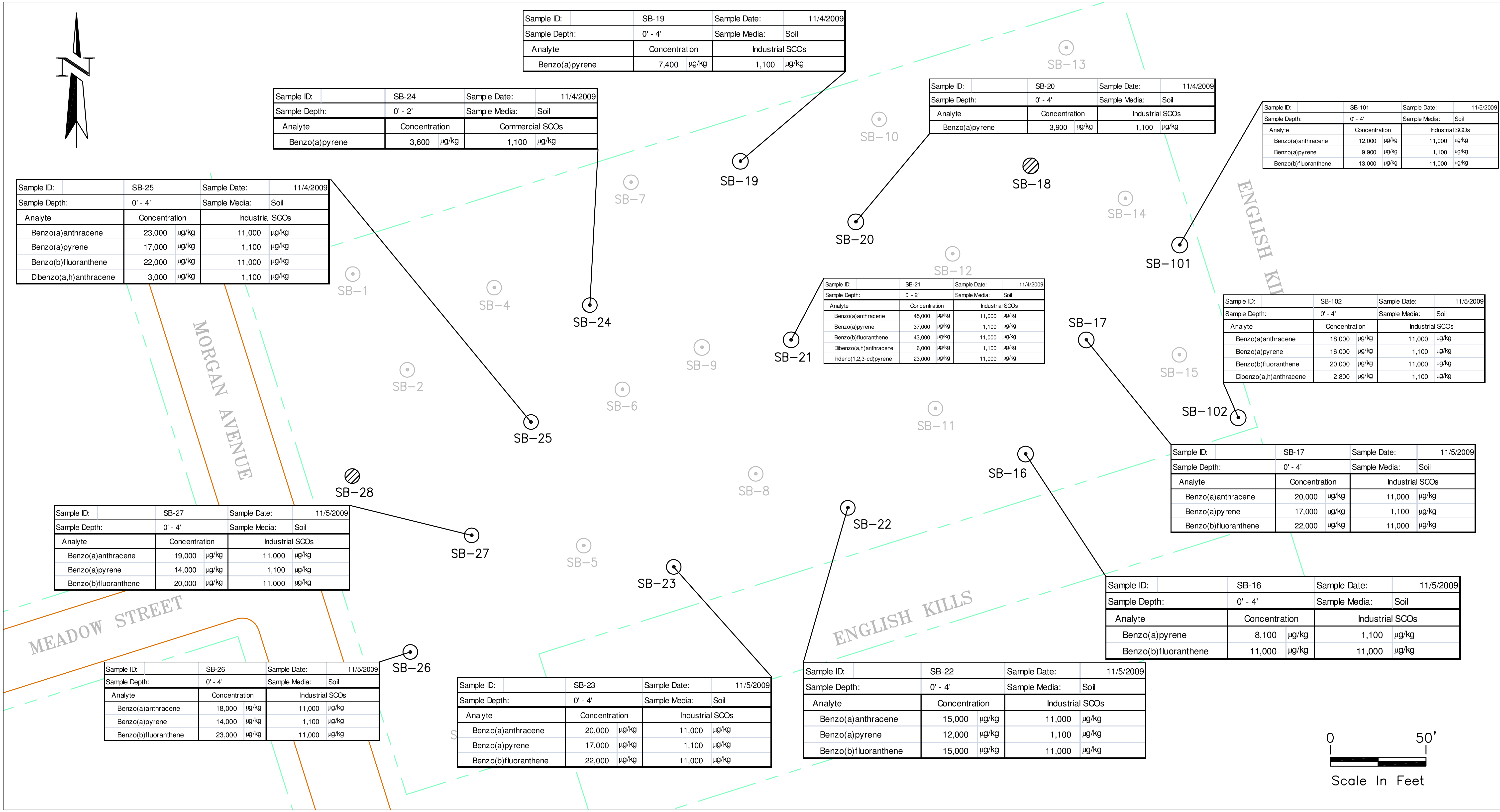
FIGURE 2–11



Sample ID:	SB-19	Sample Date:	11/4/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	7,400 µg/kg	1,100 µg/kg	

Sample ID:	SB-24	Sample Date:	11/4/2009
Sample Depth:	0' - 2'	Sample Media:	Soil
Analyte	Concentration	Commercial SCOs	
Benzo(a)pyrene	3,600 µg/kg	1,100 µg/kg	

Sample ID:	SB-20	Sample Date:	11/4/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	3,900 µg/kg	1,100 µg/kg	

Sample ID:	SB-101	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	12,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	9,900 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	13,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-25	Sample Date:	11/4/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	23,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	17,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	22,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	3,000 µg/kg	1,100 µg/kg	

Sample ID:	SB-21	Sample Date:	11/4/2009
Sample Depth:	0' - 2'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	45,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	37,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	43,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	6,000 µg/kg	1,100 µg/kg	
Indeno(1,2,3-cd)pyrene	23,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-102	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	18,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	16,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	20,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	2,800 µg/kg	1,100 µg/kg	

Sample ID:	SB-17	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	20,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	17,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	22,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-27	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	19,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	14,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	20,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-16	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	8,100 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	11,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-26	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	18,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	14,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	23,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-23	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	20,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	17,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	22,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-22	Sample Date:	11/5/2009
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	15,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	12,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	15,000 µg/kg	11,000 µg/kg	

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE SOIL CLEANUP OBJECTIVE PROTECTION OF PUBLIC HEALTH, INDUSTRIAL
- BORING WAS NOT SAMPLED IN 2009

2009 SVOC SOIL RESULTS (0'–4') – INDUSTRIAL SCOs

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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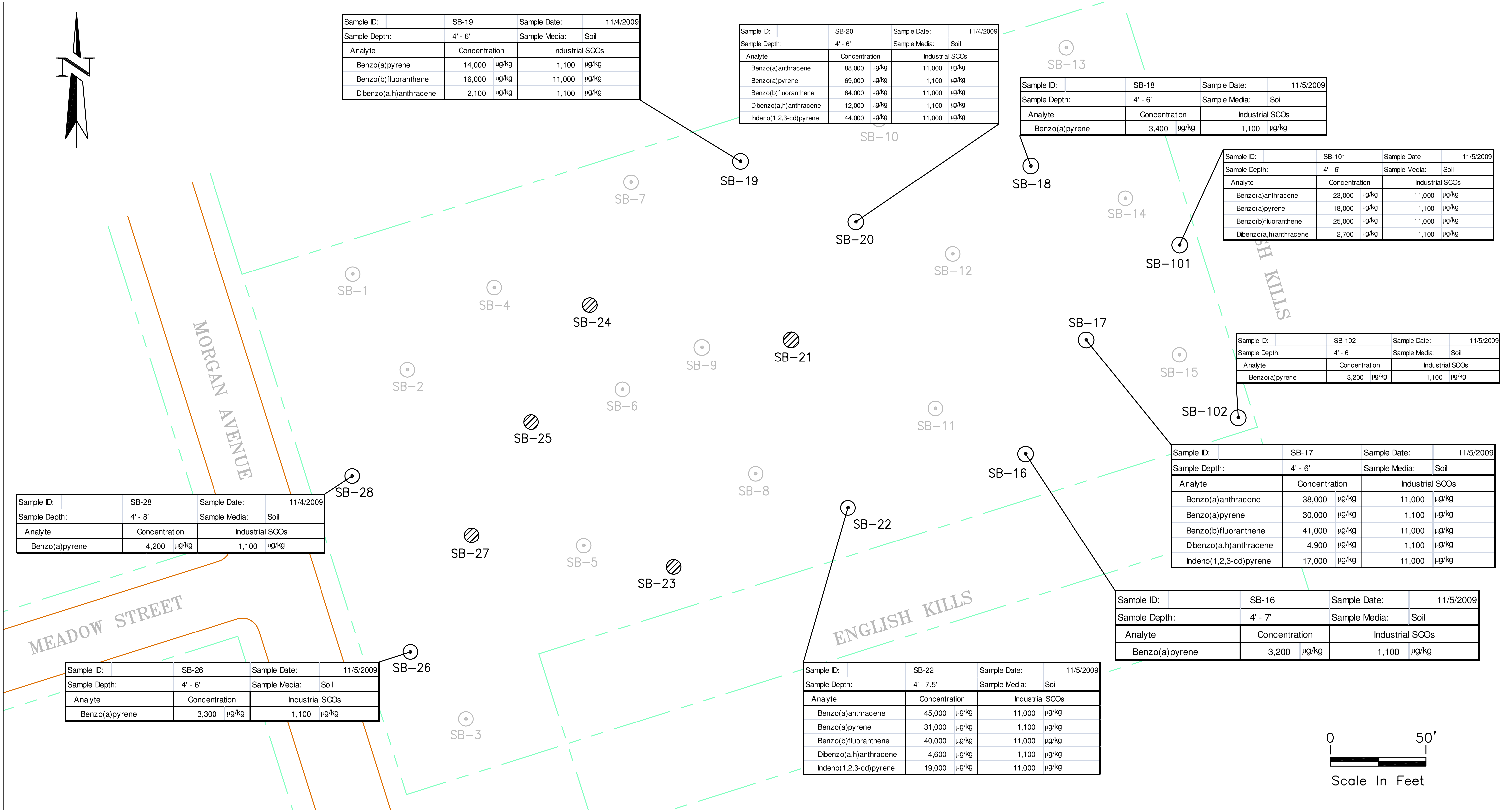
FIGURE 2–12



Sample ID:	SB-19	Sample Date:	11/4/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	14,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	16,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	2,100 µg/kg	1,100 µg/kg	

Sample ID:	SB-20	Sample Date:	11/4/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	88,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	69,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	84,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	12,000 µg/kg	1,100 µg/kg	
Indeno(1,2,3-cd)pyrene	44,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-18	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	3,400 µg/kg	1,100 µg/kg	

Sample ID:	SB-101	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	23,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	18,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	25,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	2,700 µg/kg	1,100 µg/kg	

Sample ID:	SB-102	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	3,200 µg/kg	1,100 µg/kg	

Sample ID:	SB-17	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	38,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	30,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	41,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	4,900 µg/kg	1,100 µg/kg	
Indeno(1,2,3-cd)pyrene	17,000 µg/kg	11,000 µg/kg	

Sample ID:	SB-16	Sample Date:	11/5/2009
Sample Depth:	4' - 7'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	3,200 µg/kg	1,100 µg/kg	

Sample ID:	SB-28	Sample Date:	11/4/2009
Sample Depth:	4' - 8'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	4,200 µg/kg	1,100 µg/kg	

Sample ID:	SB-26	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)pyrene	3,300 µg/kg	1,100 µg/kg	

Sample ID:	SB-22	Sample Date:	11/5/2009
Sample Depth:	4' - 7.5'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Benzo(a)anthracene	45,000 µg/kg	11,000 µg/kg	
Benzo(a)pyrene	31,000 µg/kg	1,100 µg/kg	
Benzo(b)fluoranthene	40,000 µg/kg	11,000 µg/kg	
Dibenzo(a,h)anthracene	4,600 µg/kg	1,100 µg/kg	
Indeno(1,2,3-cd)pyrene	19,000 µg/kg	11,000 µg/kg	

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE SOIL CLEANUP OBJECTIVE PROTECTION OF PUBLIC HEALTH, INDUSTRIAL
- BORING WAS NOT SAMPLED IN 2009

2009 SVOC SOIL RESULTS (4'–12') – INDUSTRIAL SCOs

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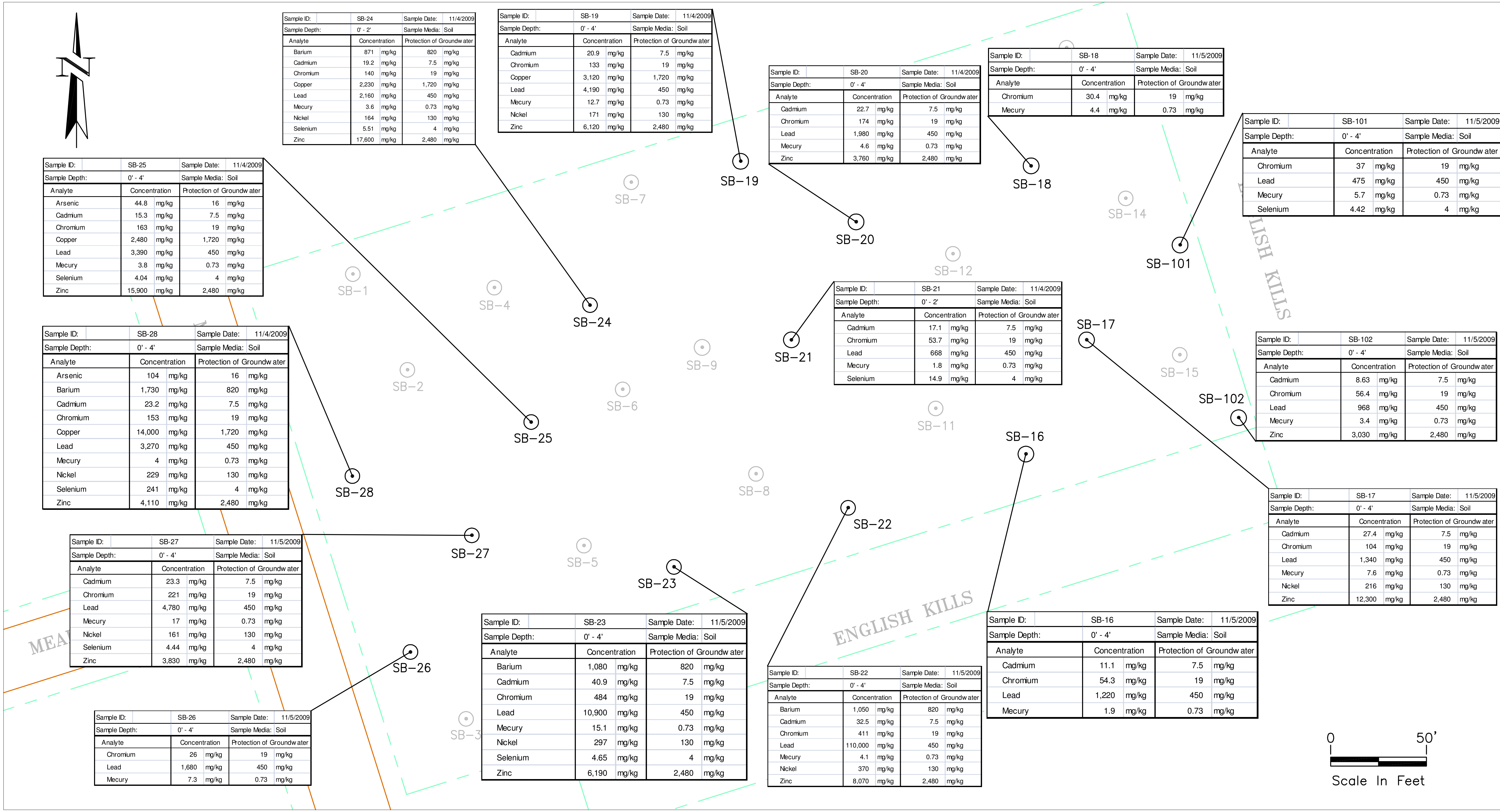
FIGURE 2–13



Sample ID:	SB-24		Sample Date:	11/4/2009
Sample Depth:	0' - 2'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Barium	871	mg/kg	820	mg/kg
Cadmium	19.2	mg/kg	7.5	mg/kg
Chromium	140	mg/kg	19	mg/kg
Copper	2,230	mg/kg	1,720	mg/kg
Lead	2,160	mg/kg	450	mg/kg
Mecury	3.6	mg/kg	0.73	mg/kg
Nickel	164	mg/kg	130	mg/kg
Selenium	5.51	mg/kg	4	mg/kg
Zinc	17,600	mg/kg	2,480	mg/kg

Sample ID:	SB-19		Sample Date:	11/4/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	20.9	mg/kg	7.5	mg/kg
Chromium	133	mg/kg	19	mg/kg
Copper	3,120	mg/kg	1,720	mg/kg
Lead	4,190	mg/kg	450	mg/kg
Mecury	12.7	mg/kg	0.73	mg/kg
Nickel	171	mg/kg	130	mg/kg
Zinc	6,120	mg/kg	2,480	mg/kg

Sample ID:	SB-20		Sample Date:	11/4/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	22.7	mg/kg	7.5	mg/kg
Chromium	174	mg/kg	19	mg/kg
Lead	1,980	mg/kg	450	mg/kg
Mecury	4.6	mg/kg	0.73	mg/kg
Zinc	3,760	mg/kg	2,480	mg/kg

Sample ID:	SB-18		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Chromium	30.4	mg/kg	19	mg/kg
Mecury	4.4	mg/kg	0.73	mg/kg

Sample ID:	SB-101		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Chromium	37	mg/kg	19	mg/kg
Lead	475	mg/kg	450	mg/kg
Mecury	5.7	mg/kg	0.73	mg/kg
Selenium	4.42	mg/kg	4	mg/kg

Sample ID:	SB-25		Sample Date:	11/4/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Arsenic	44.8	mg/kg	16	mg/kg
Cadmium	15.3	mg/kg	7.5	mg/kg
Chromium	163	mg/kg	19	mg/kg
Copper	2,480	mg/kg	1,720	mg/kg
Lead	3,390	mg/kg	450	mg/kg
Mecury	3.8	mg/kg	0.73	mg/kg
Selenium	4.04	mg/kg	4	mg/kg
Zinc	15,900	mg/kg	2,480	mg/kg

Sample ID:	SB-21		Sample Date:	11/4/2009
Sample Depth:	0' - 2'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	17.1	mg/kg	7.5	mg/kg
Chromium	53.7	mg/kg	19	mg/kg
Lead	668	mg/kg	450	mg/kg
Mecury	1.8	mg/kg	0.73	mg/kg
Selenium	14.9	mg/kg	4	mg/kg

Sample ID:	SB-28		Sample Date:	11/4/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Arsenic	104	mg/kg	16	mg/kg
Barium	1,730	mg/kg	820	mg/kg
Cadmium	23.2	mg/kg	7.5	mg/kg
Chromium	153	mg/kg	19	mg/kg
Copper	14,000	mg/kg	1,720	mg/kg
Lead	3,270	mg/kg	450	mg/kg
Mecury	4	mg/kg	0.73	mg/kg
Nickel	229	mg/kg	130	mg/kg
Selenium	241	mg/kg	4	mg/kg
Zinc	4,110	mg/kg	2,480	mg/kg

Sample ID:	SB-102		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	8.63	mg/kg	7.5	mg/kg
Chromium	56.4	mg/kg	19	mg/kg
Lead	968	mg/kg	450	mg/kg
Mecury	3.4	mg/kg	0.73	mg/kg
Zinc	3,030	mg/kg	2,480	mg/kg

Sample ID:	SB-17		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	27.4	mg/kg	7.5	mg/kg
Chromium	104	mg/kg	19	mg/kg
Lead	1,340	mg/kg	450	mg/kg
Mecury	7.6	mg/kg	0.73	mg/kg
Nickel	216	mg/kg	130	mg/kg
Zinc	12,300	mg/kg	2,480	mg/kg

Sample ID:	SB-27		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	23.3	mg/kg	7.5	mg/kg
Chromium	221	mg/kg	19	mg/kg
Lead	4,780	mg/kg	450	mg/kg
Mecury	17	mg/kg	0.73	mg/kg
Nickel	161	mg/kg	130	mg/kg
Selenium	4.44	mg/kg	4	mg/kg
Zinc	3,830	mg/kg	2,480	mg/kg

Sample ID:	SB-23		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Barium	1,080	mg/kg	820	mg/kg
Cadmium	40.9	mg/kg	7.5	mg/kg
Chromium	484	mg/kg	19	mg/kg
Lead	10,900	mg/kg	450	mg/kg
Mecury	15.1	mg/kg	0.73	mg/kg
Nickel	297	mg/kg	130	mg/kg
Selenium	4.65	mg/kg	4	mg/kg
Zinc	6,190	mg/kg	2,480	mg/kg

Sample ID:	SB-16		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Cadmium	11.1	mg/kg	7.5	mg/kg
Chromium	54.3	mg/kg	19	mg/kg
Lead	1,220	mg/kg	450	mg/kg
Mecury	1.9	mg/kg	0.73	mg/kg

Sample ID:	SB-26		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Chromium	26	mg/kg	19	mg/kg
Lead	1,680	mg/kg	450	mg/kg
Mecury	7.3	mg/kg	0.73	mg/kg

Sample ID:	SB-22		Sample Date:	11/5/2009
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Protection of Groundwater	
Barium	1,050	mg/kg	820	mg/kg
Cadmium	32.5	mg/kg	7.5	mg/kg
Chromium	411	mg/kg	19	mg/kg
Lead	110,000	mg/kg	450	mg/kg
Mecury	4.1	mg/kg	0.73	mg/kg
Nickel	370	mg/kg	130	mg/kg
Zinc	8,070	mg/kg	2,480	mg/kg

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE SOIL CLEANUP OBJECTIVES, PROTECTION OF GROUNDWATER
- BORING WAS NOT SAMPLED IN 2009

2009 TAL METALS SOIL RESULTS (0'–4') – PROTECTION OF GROUNDWATER SCOs

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S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\SOIL\Metals Results\FIGURE 5.6 2009 METALS RESULTS VS PROTECTION OF GROUNDWATER SHALLOW.DWG, 12/15/2010 12:24:48 PM

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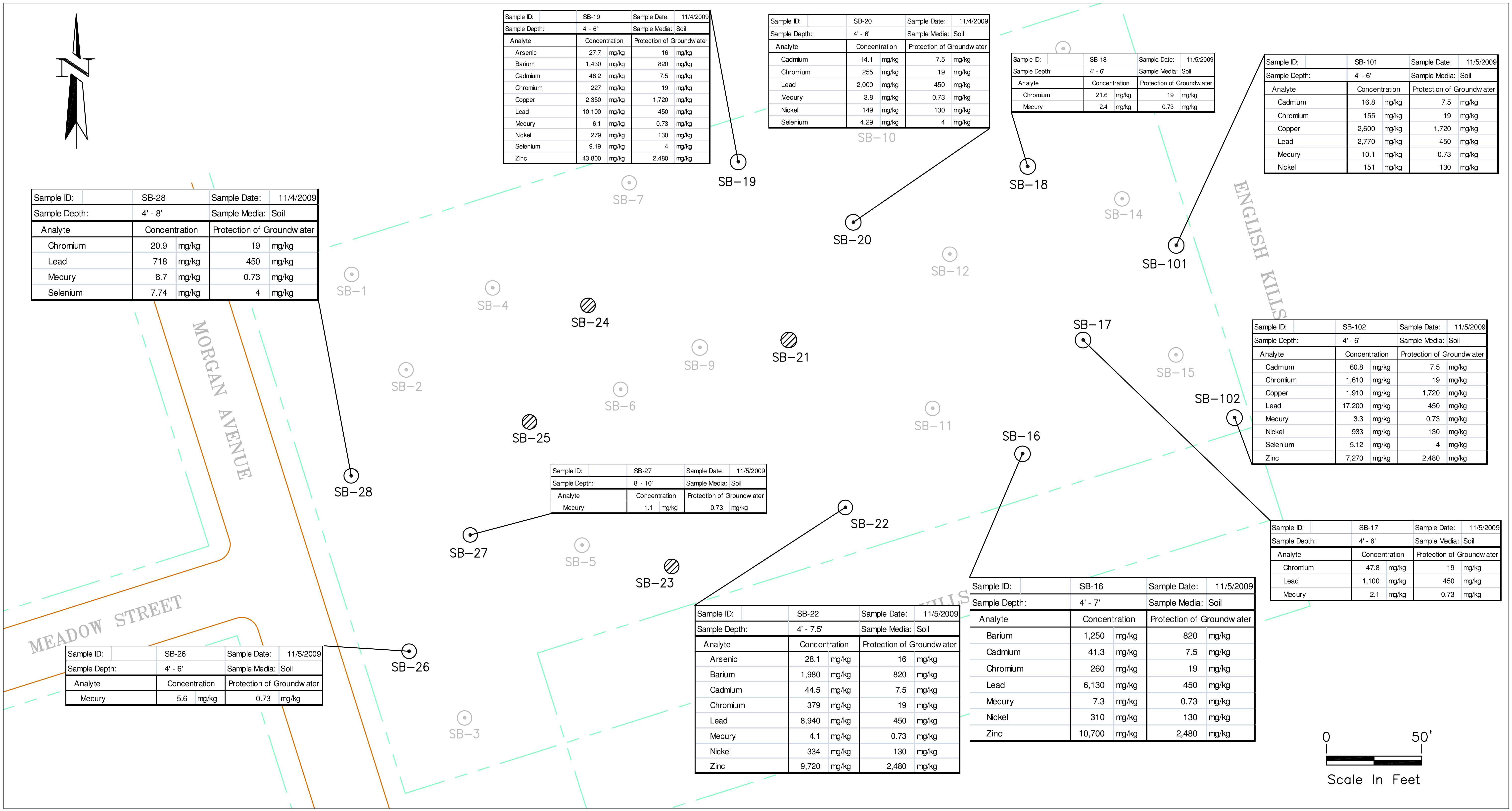
FIGURE 2–14



Sample ID:	SB-28	Sample Date:	11/4/2009
Sample Depth:	4' - 8'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Chromium	20.9 mg/kg	19 mg/kg	
Lead	718 mg/kg	450 mg/kg	
Mecury	8.7 mg/kg	0.73 mg/kg	
Selenium	7.74 mg/kg	4 mg/kg	

Sample ID:	SB-19	Sample Date:	11/4/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	27.7 mg/kg	16 mg/kg	
Barium	1,430 mg/kg	820 mg/kg	
Cadmium	48.2 mg/kg	7.5 mg/kg	
Chromium	227 mg/kg	19 mg/kg	
Copper	2,350 mg/kg	1,720 mg/kg	
Lead	10,100 mg/kg	450 mg/kg	
Mecury	6.1 mg/kg	0.73 mg/kg	
Nickel	279 mg/kg	130 mg/kg	
Selenium	9.19 mg/kg	4 mg/kg	
Zinc	43,800 mg/kg	2,480 mg/kg	

Sample ID:	SB-20	Sample Date:	11/4/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Cadmium	14.1 mg/kg	7.5 mg/kg	
Chromium	255 mg/kg	19 mg/kg	
Lead	2,000 mg/kg	450 mg/kg	
Mecury	3.8 mg/kg	0.73 mg/kg	
Nickel	149 mg/kg	130 mg/kg	
Selenium	4.29 mg/kg	4 mg/kg	

Sample ID:	SB-18	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Chromium	21.6 mg/kg	19 mg/kg	
Mecury	2.4 mg/kg	0.73 mg/kg	

Sample ID:	SB-101	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Cadmium	16.8 mg/kg	7.5 mg/kg	
Chromium	155 mg/kg	19 mg/kg	
Copper	2,600 mg/kg	1,720 mg/kg	
Lead	2,770 mg/kg	450 mg/kg	
Mecury	10.1 mg/kg	0.73 mg/kg	
Nickel	151 mg/kg	130 mg/kg	

Sample ID:	SB-102	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Cadmium	60.8 mg/kg	7.5 mg/kg	
Chromium	1,610 mg/kg	19 mg/kg	
Copper	1,910 mg/kg	1,720 mg/kg	
Lead	17,200 mg/kg	450 mg/kg	
Mecury	3.3 mg/kg	0.73 mg/kg	
Nickel	933 mg/kg	130 mg/kg	
Selenium	5.12 mg/kg	4 mg/kg	
Zinc	7,270 mg/kg	2,480 mg/kg	

Sample ID:	SB-27	Sample Date:	11/5/2009
Sample Depth:	8' - 10'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Mecury	1.1 mg/kg	0.73 mg/kg	

Sample ID:	SB-17	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Chromium	47.8 mg/kg	19 mg/kg	
Lead	1,100 mg/kg	450 mg/kg	
Mecury	2.1 mg/kg	0.73 mg/kg	

Sample ID:	SB-16	Sample Date:	11/5/2009
Sample Depth:	4' - 7'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Barium	1,250 mg/kg	820 mg/kg	
Cadmium	41.3 mg/kg	7.5 mg/kg	
Chromium	260 mg/kg	19 mg/kg	
Lead	6,130 mg/kg	450 mg/kg	
Mecury	7.3 mg/kg	0.73 mg/kg	
Nickel	310 mg/kg	130 mg/kg	
Zinc	10,700 mg/kg	2,480 mg/kg	

Sample ID:	SB-22	Sample Date:	11/5/2009
Sample Depth:	4' - 7.5'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	28.1 mg/kg	16 mg/kg	
Barium	1,980 mg/kg	820 mg/kg	
Cadmium	44.5 mg/kg	7.5 mg/kg	
Chromium	379 mg/kg	19 mg/kg	
Lead	8,940 mg/kg	450 mg/kg	
Mecury	4.1 mg/kg	0.73 mg/kg	
Nickel	334 mg/kg	130 mg/kg	
Zinc	9,720 mg/kg	2,480 mg/kg	

Sample ID:	SB-26	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Mecury	5.6 mg/kg	0.73 mg/kg	

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE SOIL CLEANUP OBJECTIVES, PROTECTION OF GROUNDWATER
- BORING WAS NOT SAMPLED IN 2009

2009 TAL METALS SOIL RESULTS (4'–12') – PROTECTION OF GROUNDWATER SCOs

FRITO LAY, INC.

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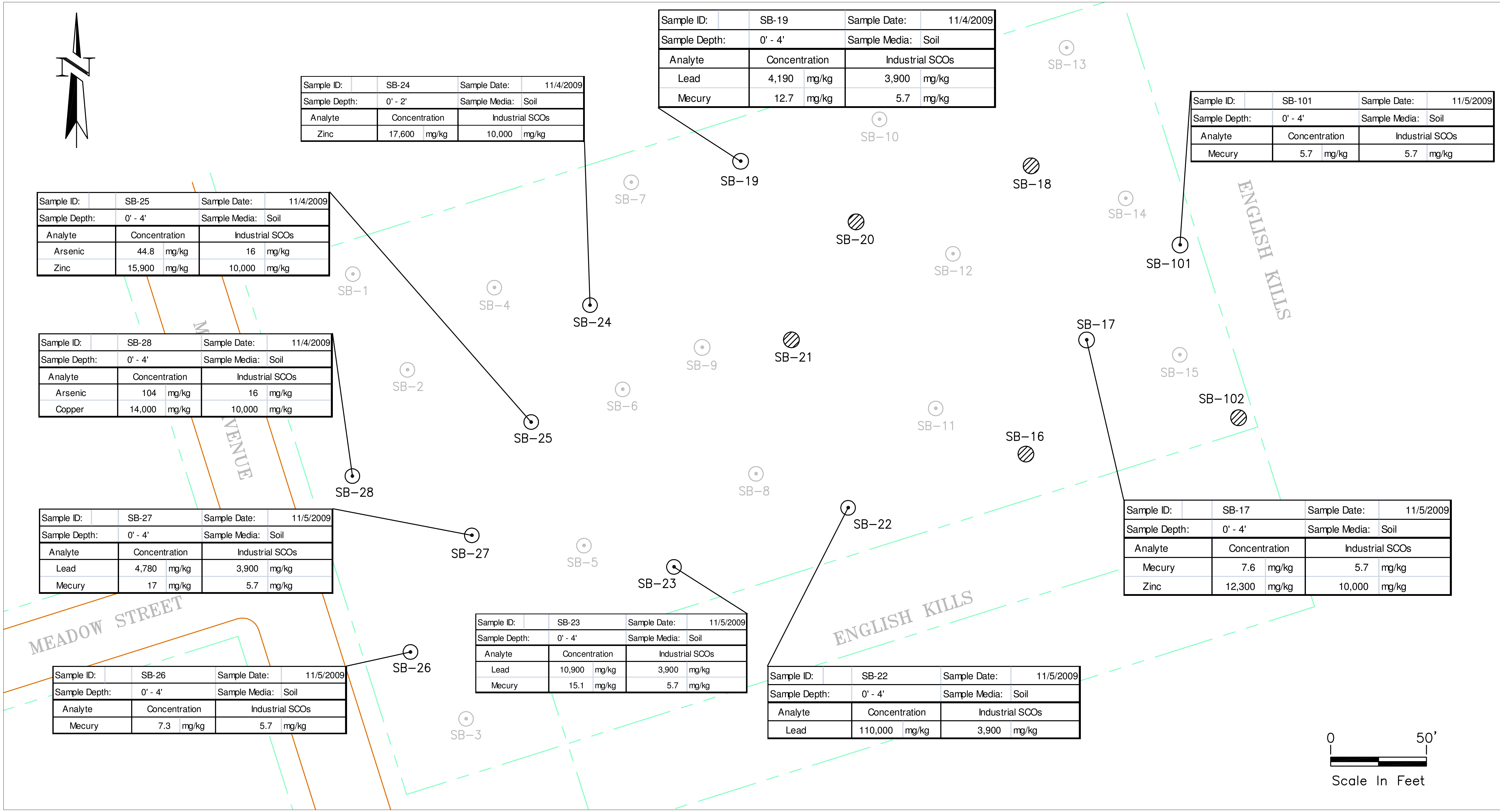
FIGURE 2–15



LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH–INDUSTRIAL SOIL CLEANUP OBJECTIVES
- BORING WAS NOT SAMPLED IN 2009

2009 TAL METALS SOIL RESULTS (0'–4') – INDUSTRIAL SCOs

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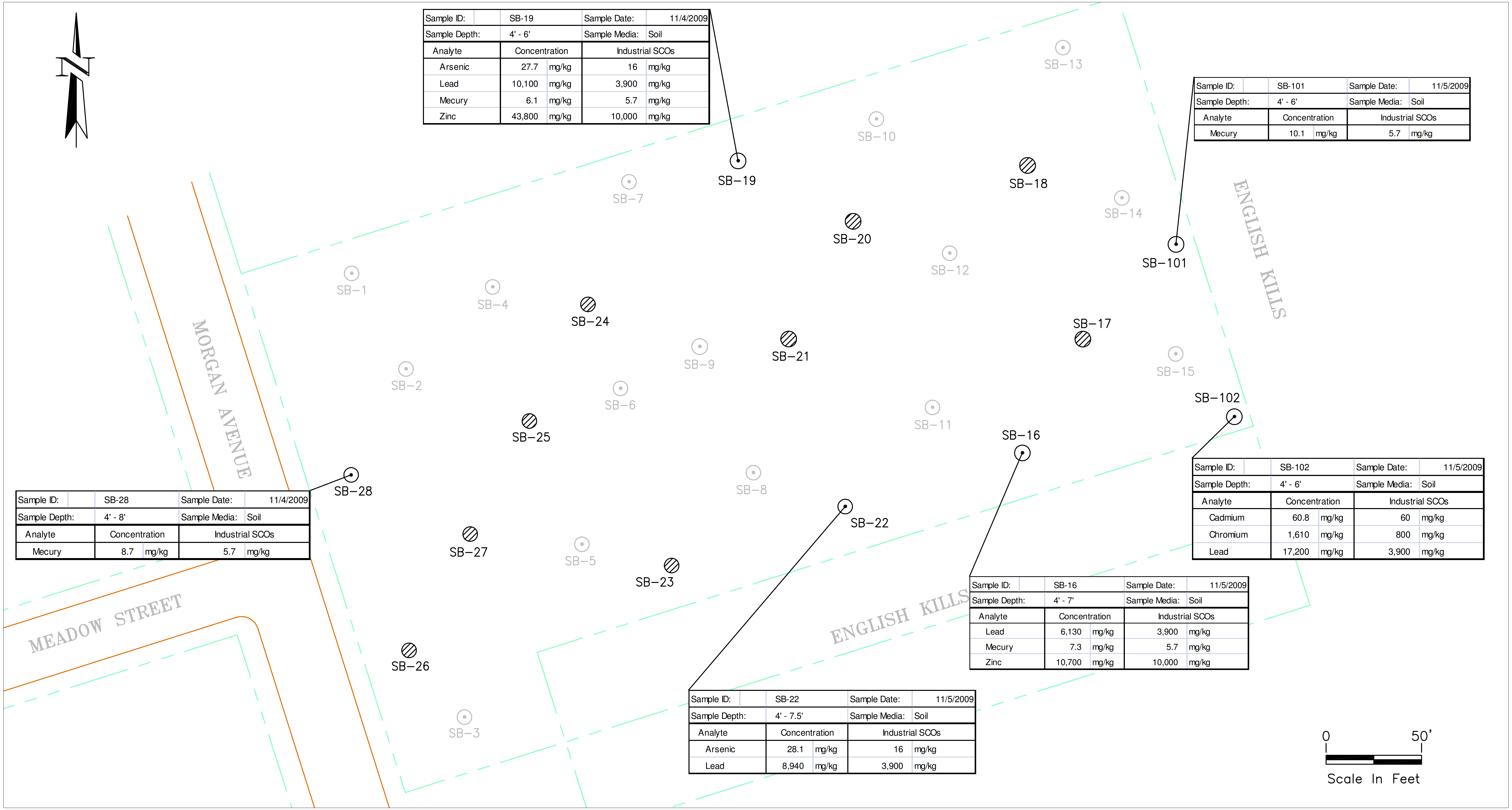
FIGURE 2–16



Sample ID:	SB-19	Sample Date:	11/4/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Arsenic	27.7 mg/kg	16 mg/kg	
Lead	10,100 mg/kg	3,900 mg/kg	
Mecury	6.1 mg/kg	5.7 mg/kg	
Zinc	43,800 mg/kg	10,000 mg/kg	

Sample ID:	SB-101	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Mecury	10.1 mg/kg	5.7 mg/kg	

Sample ID:	SB-28	Sample Date:	11/4/2009
Sample Depth:	4' - 8'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Mecury	8.7 mg/kg	5.7 mg/kg	

Sample ID:	SB-102	Sample Date:	11/5/2009
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Cadmium	60.8 mg/kg	60 mg/kg	
Chromium	1,610 mg/kg	800 mg/kg	
Lead	17,200 mg/kg	3,900 mg/kg	

Sample ID:	SB-16	Sample Date:	11/5/2009
Sample Depth:	4' - 7'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Lead	6,130 mg/kg	3,900 mg/kg	
Mecury	7.3 mg/kg	5.7 mg/kg	
Zinc	10,700 mg/kg	10,000 mg/kg	

Sample ID:	SB-22	Sample Date:	11/5/2009
Sample Depth:	4' - 7.5'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Arsenic	28.1 mg/kg	16 mg/kg	
Lead	8,940 mg/kg	3,900 mg/kg	

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED NYSDEC BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH–INDUSTRIAL SOIL CLEANUP OBJECTIVES
- BORING WAS NOT SAMPLED IN 2009

2009 TAL METALS SOIL RESULTS (4'–12') – INDUSTRIAL SCOs

FRITO LAY, INC.

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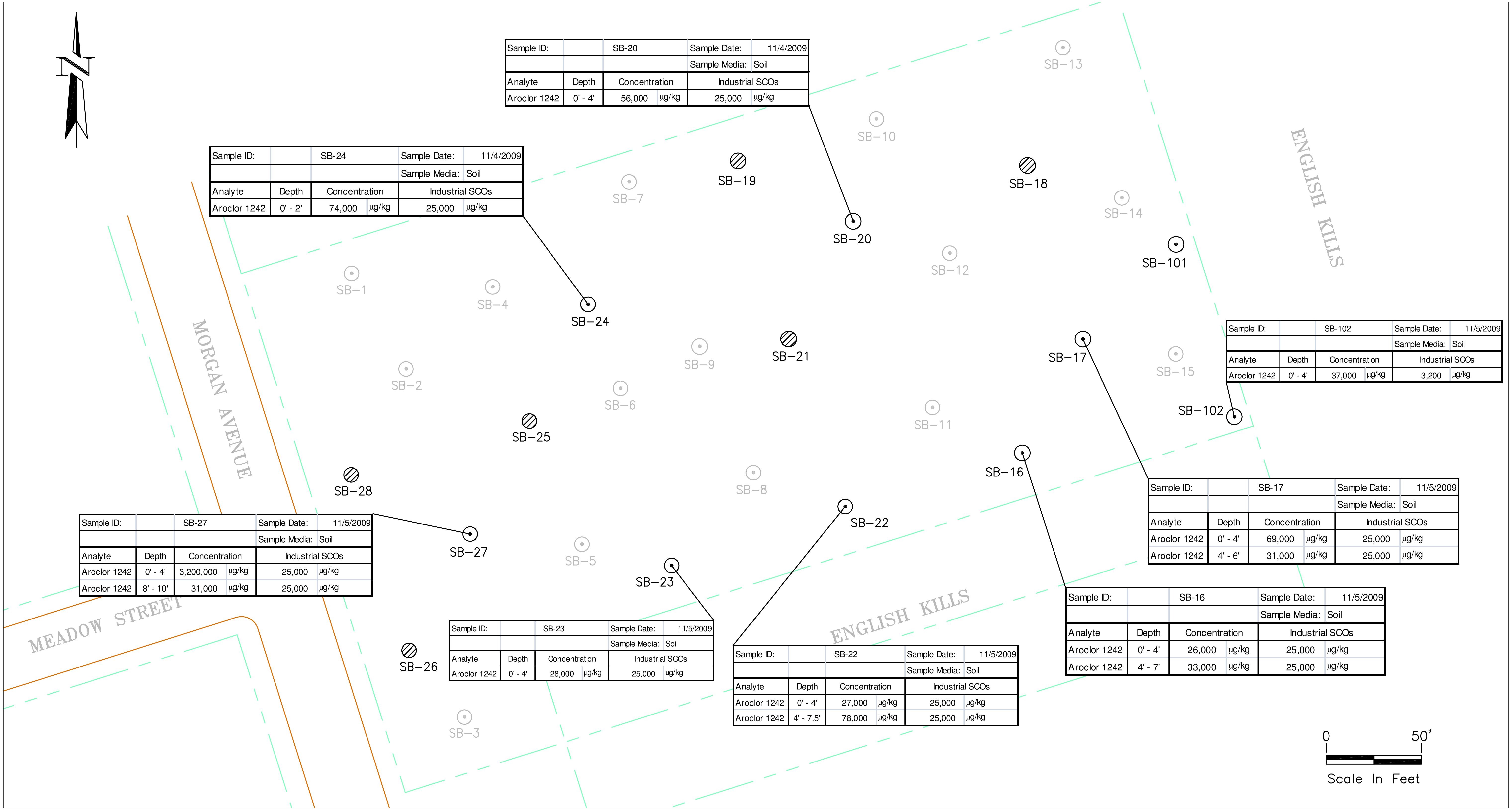
FIGURE 2–17



Sample ID:	SB-20	Sample Date:	11/4/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	56,000 µg/kg	25,000 µg/kg

Sample ID:	SB-24	Sample Date:	11/4/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 2'	74,000 µg/kg	25,000 µg/kg

Sample ID:	SB-102	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	37,000 µg/kg	3,200 µg/kg

Sample ID:	SB-17	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	69,000 µg/kg	25,000 µg/kg
Aroclor 1242	4' - 6'	31,000 µg/kg	25,000 µg/kg

Sample ID:	SB-27	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	3,200,000 µg/kg	25,000 µg/kg
Aroclor 1242	8' - 10'	31,000 µg/kg	25,000 µg/kg

Sample ID:	SB-16	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	26,000 µg/kg	25,000 µg/kg
Aroclor 1242	4' - 7'	33,000 µg/kg	25,000 µg/kg

Sample ID:	SB-23	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	28,000 µg/kg	25,000 µg/kg

Sample ID:	SB-22	Sample Date:	11/5/2009
		Sample Media:	Soil
Analyte	Depth	Concentration	Industrial SCOs
Aroclor 1242	0' - 4'	27,000 µg/kg	25,000 µg/kg
Aroclor 1242	4' - 7.5'	78,000 µg/kg	25,000 µg/kg

LEGEND

- SOIL BORING
- SAMPLE DID NOT EXCEED BROWNFIELDS RESTRICTED USE SOIL CLEANUP OBJECTIVES PROTECTION OF PUBLIC HEALTH, INDUSTRIAL
- BORING WAS NOT SAMPLED IN 2009

2009 PCB SOIL RESULTS – INDUSTRIAL SCOs

FRITO LAY, INC.

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S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\SOIL\PCB Results\FIGURE 2.4 2009 PCB RESULTS VS INDUSTRIAL.DWG, 12/15/2010 12:40:22 PM

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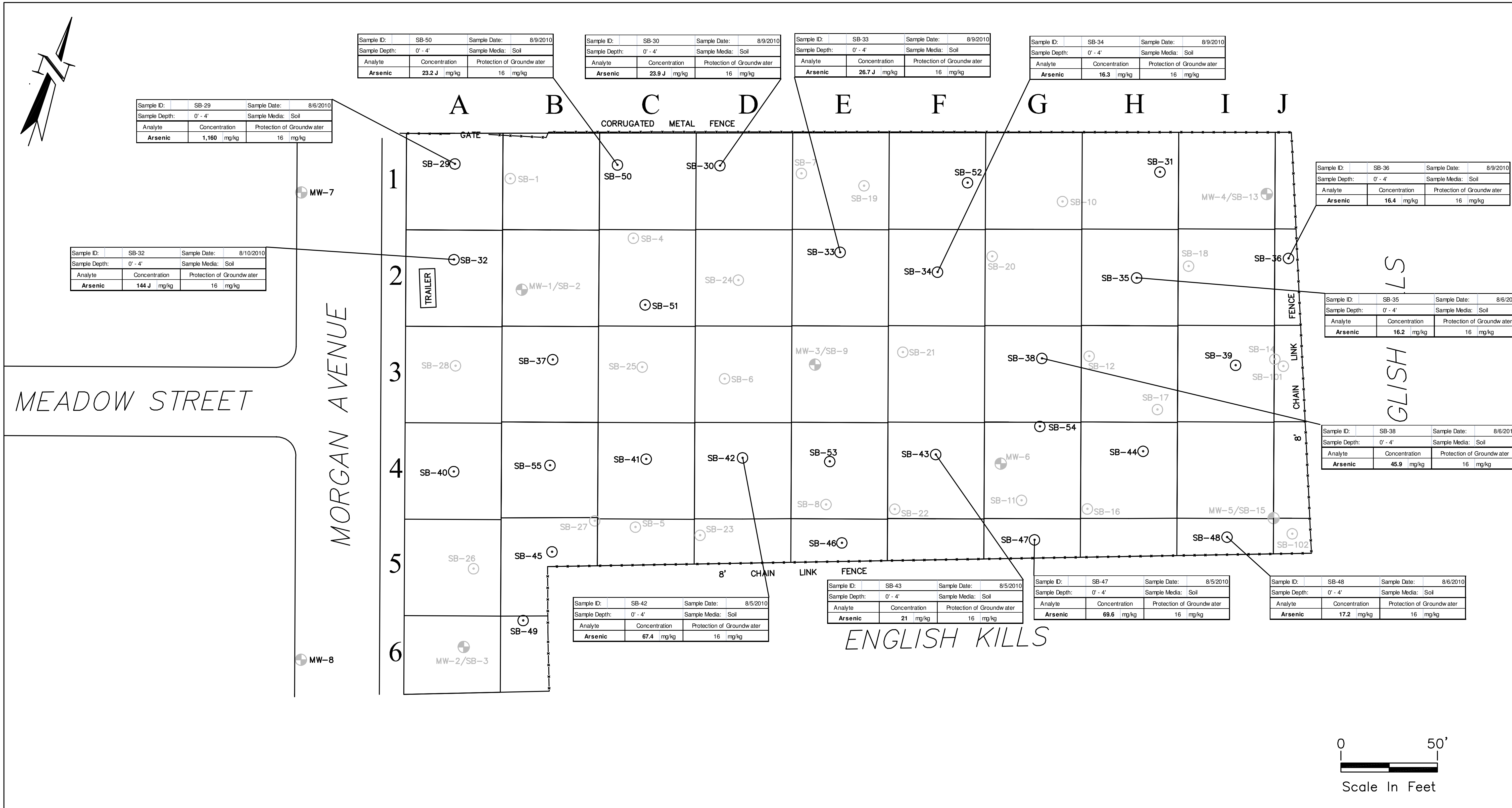
FIGURE 2–18



LEGEND
- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SUPPLEMENTAL RI SOIL BORING LOCATIONS

ARSENIC SOIL RESULTS (0'–4') – PROTECTION OF GROUNDWATER SCOs

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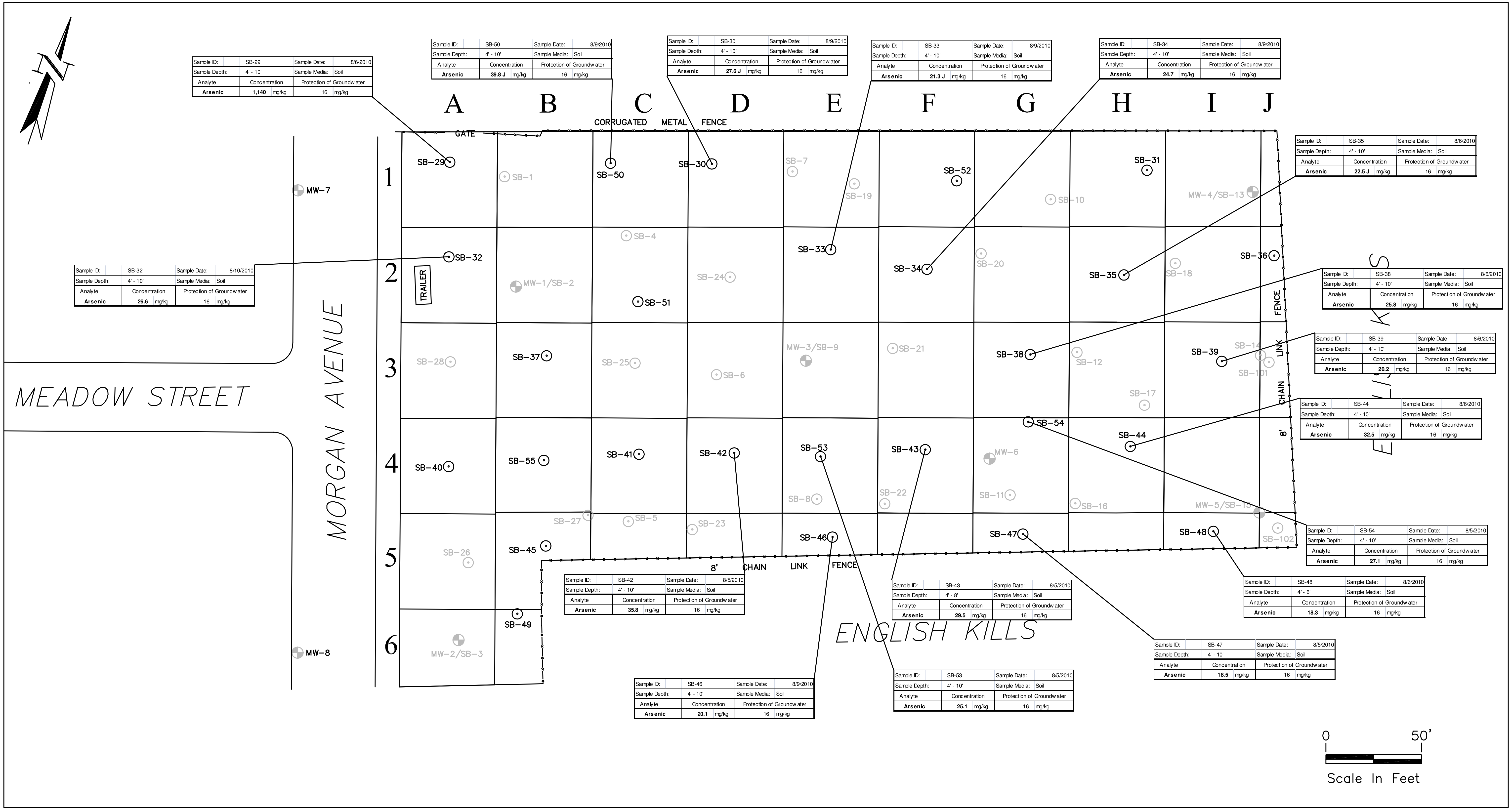
FIGURE 2–19



LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SUPPLEMENTAL RI SOIL BORING LOCATIONS

ARSENIC SOIL RESULTS (4'–11') – PROTECTION OF GROUNDWATER SCOs

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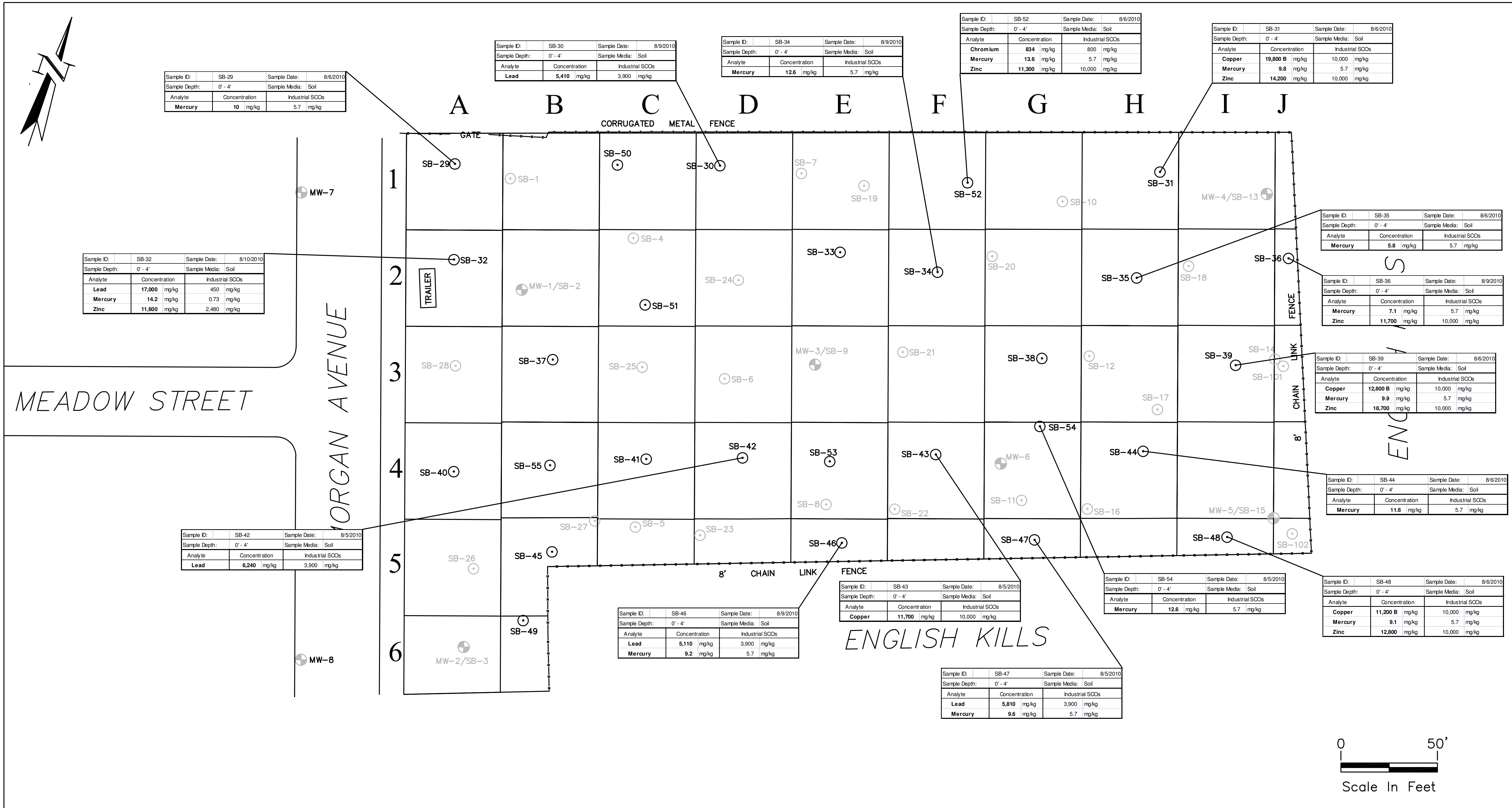
FIGURE 2-20



LEGEND
- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SUPPLEMENTAL RI SOIL BORING LOCATIONS

TAL METALS SOIL RESULTS (0'-4') - INDUSTRIAL SCOs

FRITO LAY, INC.

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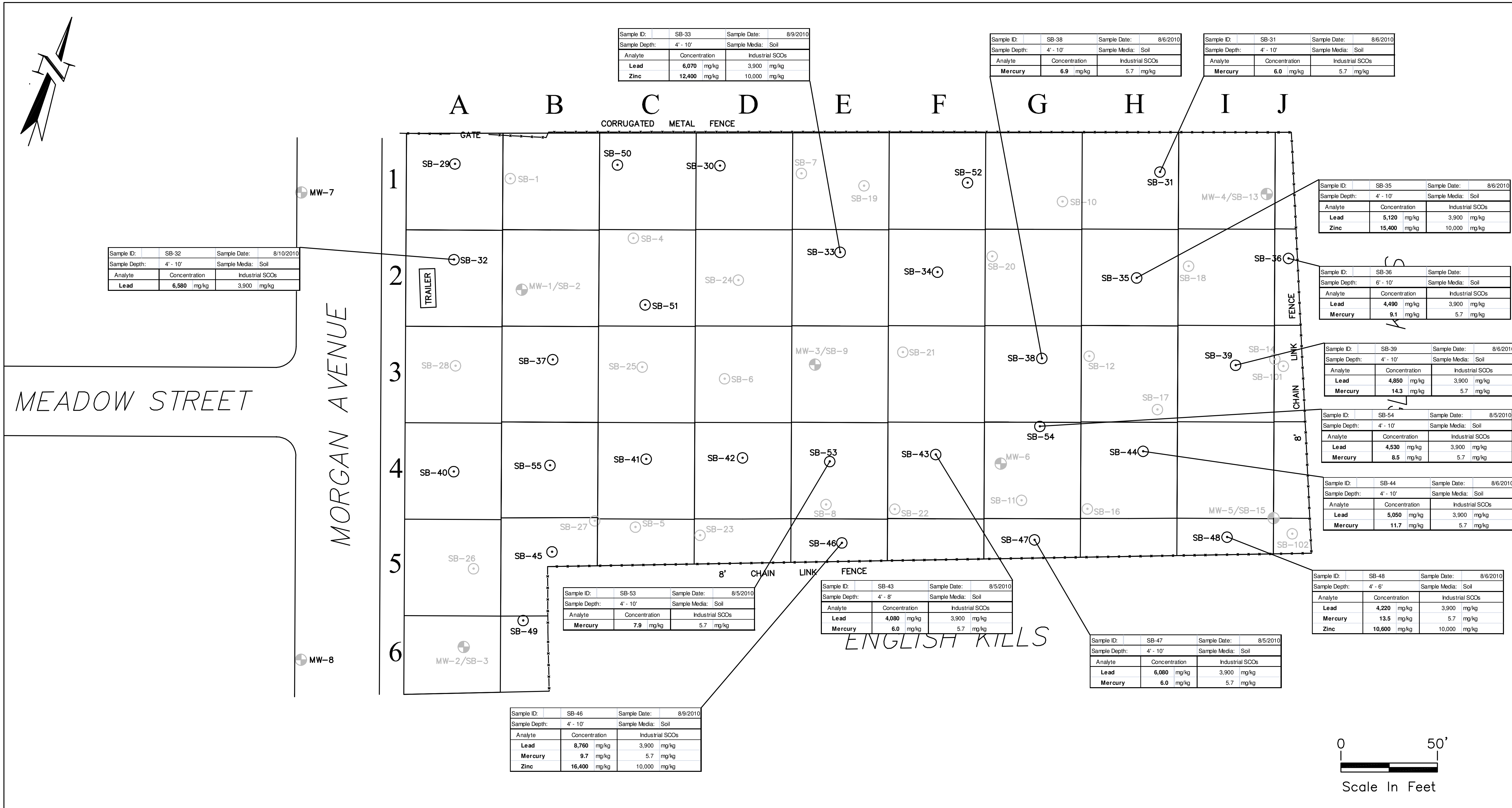
Gannett Fleming

FIGURE 2-21



LEGEND
- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SUPPLEMENTAL RI SOIL BORING LOCATIONS

TAL METALS SOIL RESULTS (4'-11') - INDUSTRIAL SCOs

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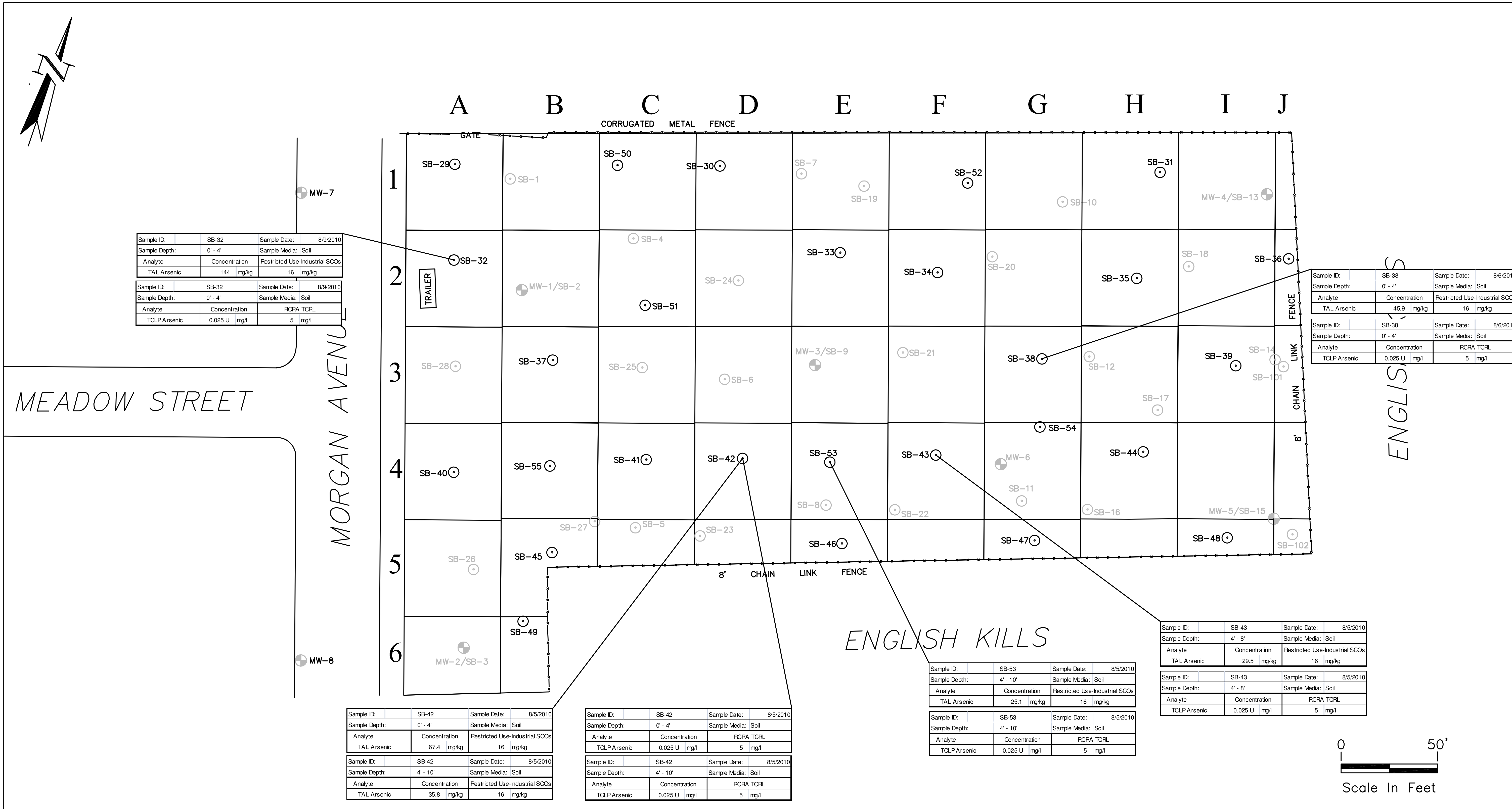
FIGURE 2–22



LEGEND
- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SUPPLEMENTAL RI SOIL BORING LOCATIONS

NOTE: –RCRA TCRL IS THE RCRA TOXICITY CHARACTERISTIC REGULATORY LEVEL IN MILLIGRAMS PER LITER (MG/L)

SUPPLEMENTAL RI TOTAL ARSENIC AND TCLP RESULTS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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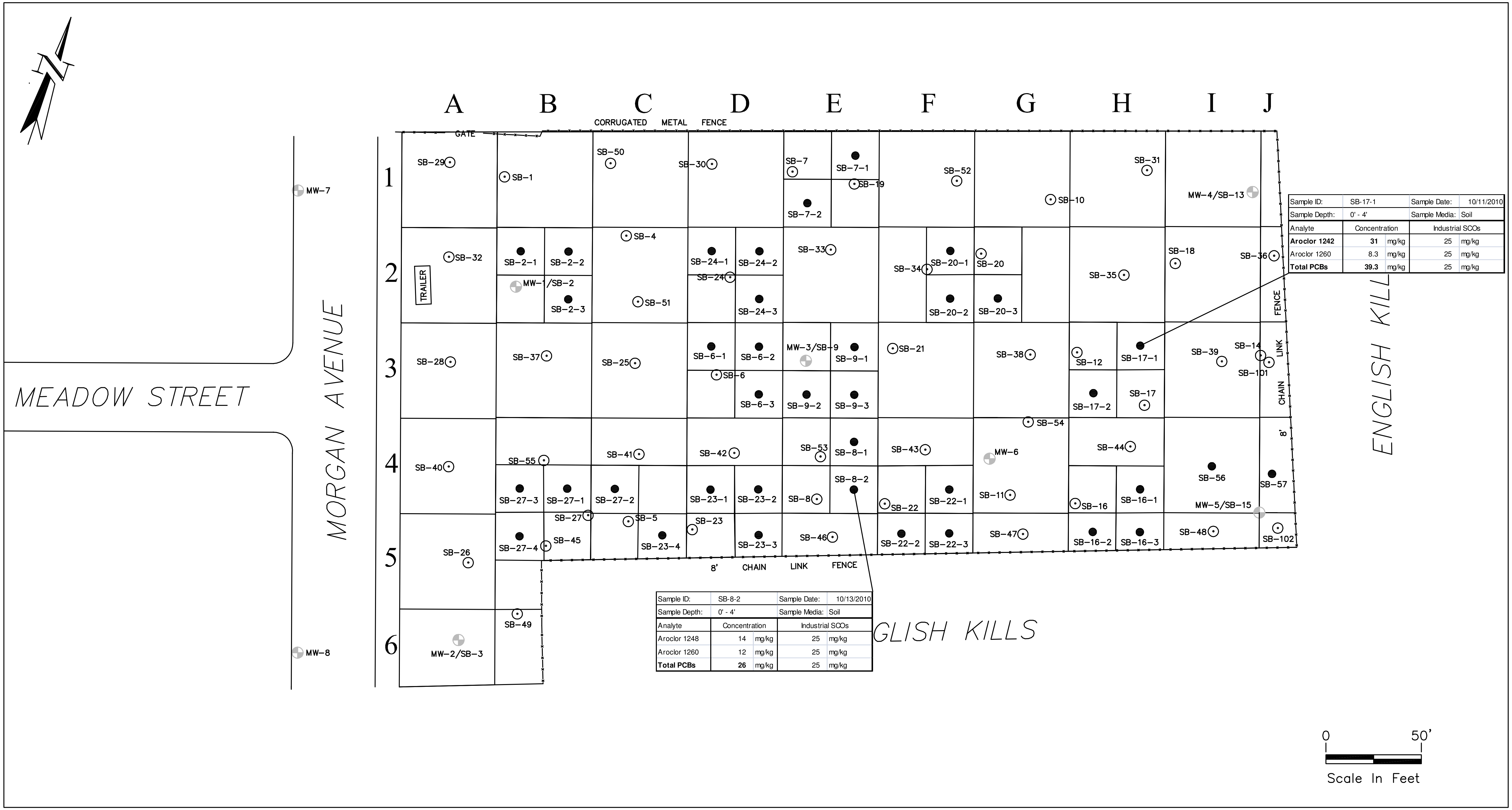
FIGURE 2-23



Sample ID:	SB-17-1		Sample Date:	10/11/2010
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Industrial SCOs	
Aroclor 1242	**31**	mg/kg	25	mg/kg
Aroclor 1260	8.3	mg/kg	25	mg/kg
Total PCBs	**39.3**	mg/kg	25	mg/kg

Sample ID:	SB-8-2		Sample Date:	10/13/2010
Sample Depth:	0' - 4'		Sample Media:	Soil
Analyte	Concentration		Industrial SCOs	
Aroclor 1248	14	mg/kg	25	mg/kg
Aroclor 1260	12	mg/kg	25	mg/kg
Total PCBs	**26**	mg/kg	25	mg/kg

LEGEND
- MONITORING WELL
- ⊙ 2007 AND 2009 SOIL BORING LOCATIONS
- • 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH-INDUSTRIAL SOIL CLEANUP OBJECTIVES

PCB SOIL RESULTS (0'-4') - INDUSTRIAL SCOs

FRITO LAY, INC.

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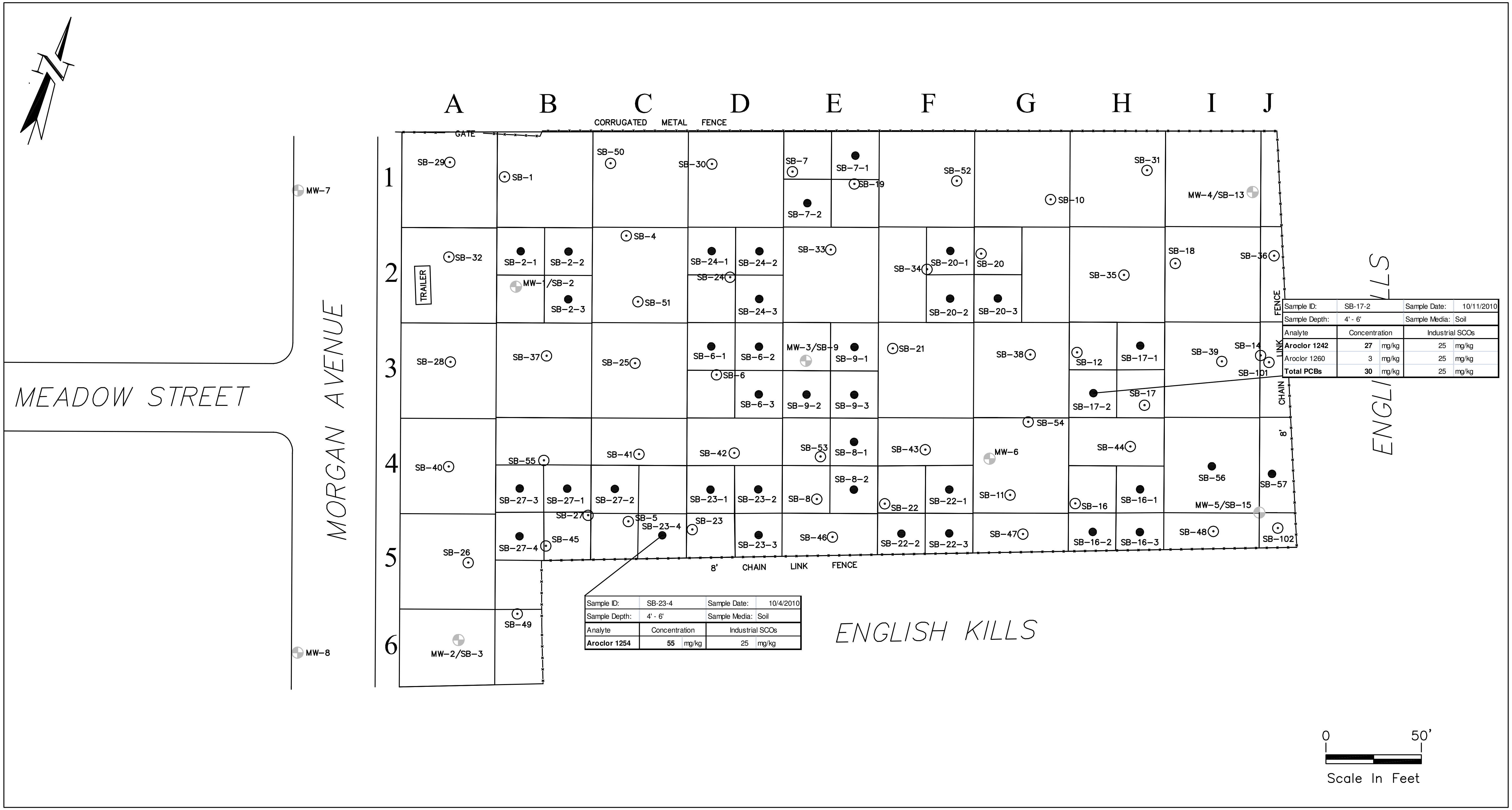
FIGURE 2–24



Sample ID:	SB-23-4	Sample Date:	10/4/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Aroclor 1254	**55 mg/kg**	25 mg/kg	

Sample ID:	SB-17-2	Sample Date:	10/11/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
Aroclor 1242	**27 mg/kg**	25 mg/kg	
Aroclor 1260	3 mg/kg	25 mg/kg	
Total PCBs	**30 mg/kg**	25 mg/kg	

LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH–INDUSTRIAL SOIL CLEANUP OBJECTIVES

PCB SOIL RESULTS (4'–11') – INDUSTRIAL SCOs

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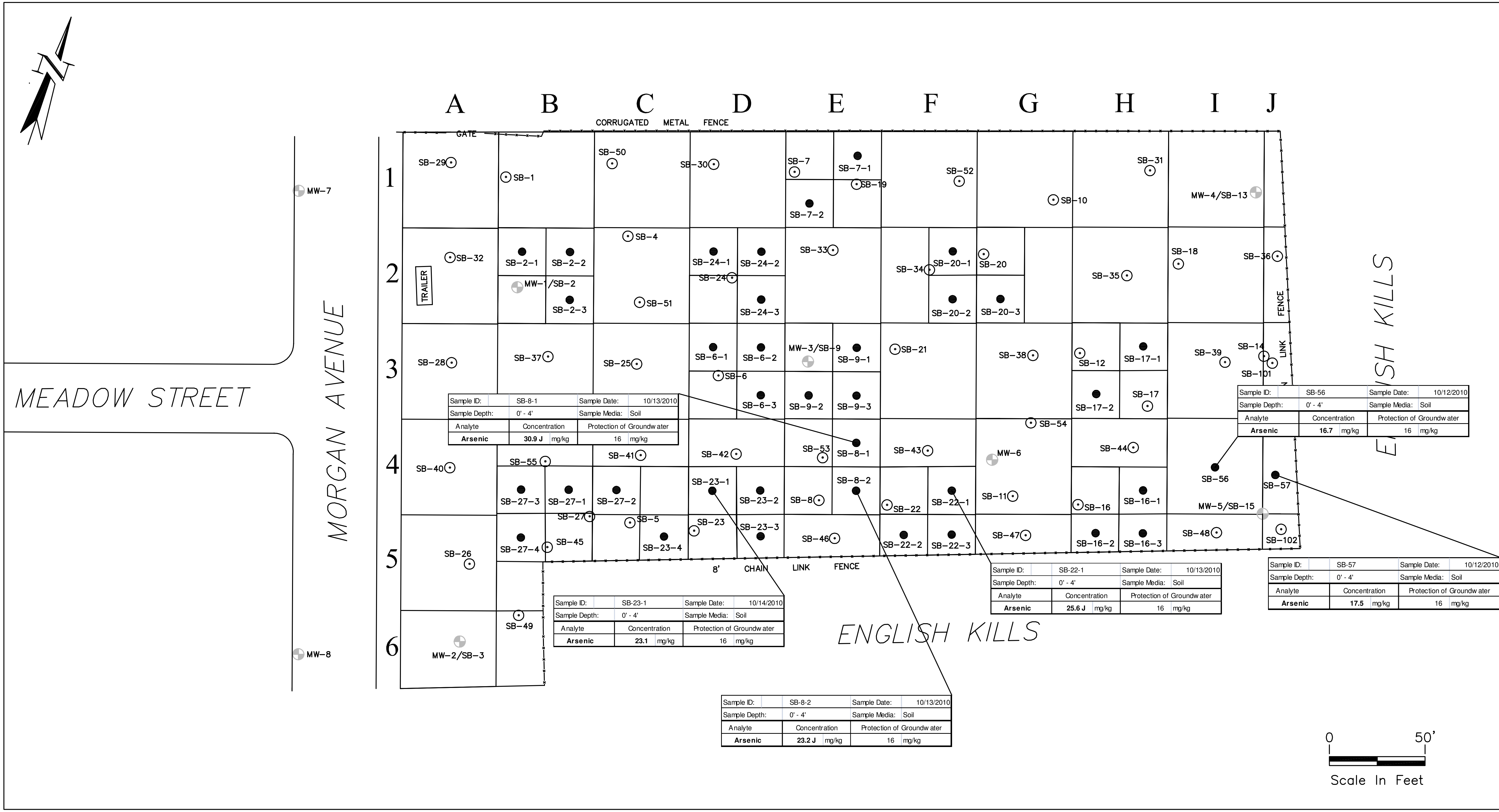
FIGURE 2–25



Sample ID:	SB-8-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**30.9 J** mg/kg	16 mg/kg	

Sample ID:	SB-56	Sample Date:	10/12/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**16.7** mg/kg	16 mg/kg	

Sample ID:	SB-22-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**25.6 J** mg/kg	16 mg/kg	

Sample ID:	SB-57	Sample Date:	10/12/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**17.5** mg/kg	16 mg/kg	

Sample ID:	SB-23-1	Sample Date:	10/14/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**23.1** mg/kg	16 mg/kg	

Sample ID:	SB-8-2	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Protection of Groundwater	
Arsenic	**23.2 J** mg/kg	16 mg/kg	

LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF GROUNDWATER SOIL CLEANUP OBJECTIVES

ARSENIC SOIL RESULTS (0'–4') – PROTECTION OF GROUNDWATER SCOs

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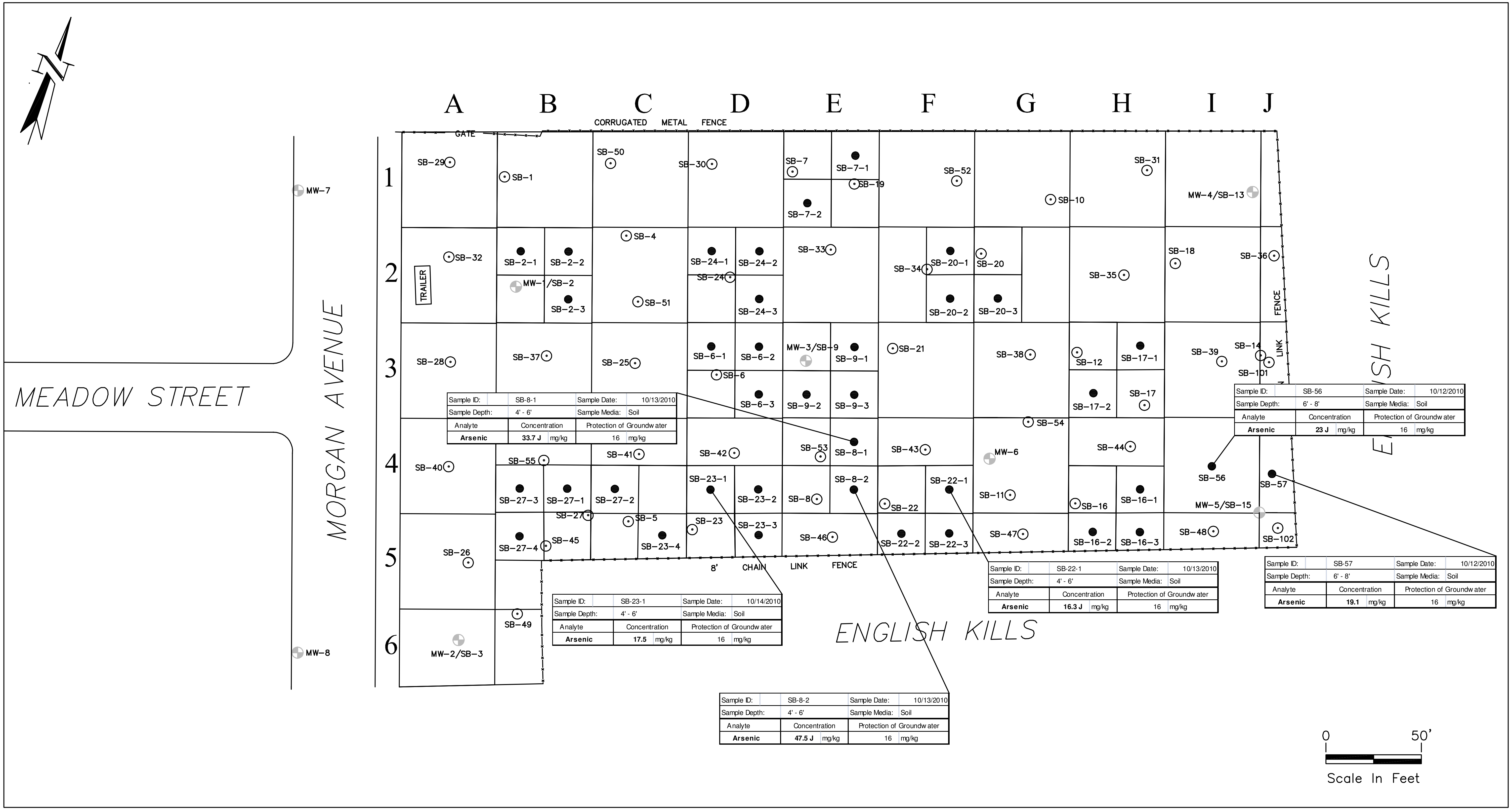
FIGURE 2–26



LEGEND
- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF GROUNDWATER SOIL CLEANUP OBJECTIVES

ARSENIC SOIL RESULTS (4'–11') – PROTECTION OF GROUNDWATER SCOs

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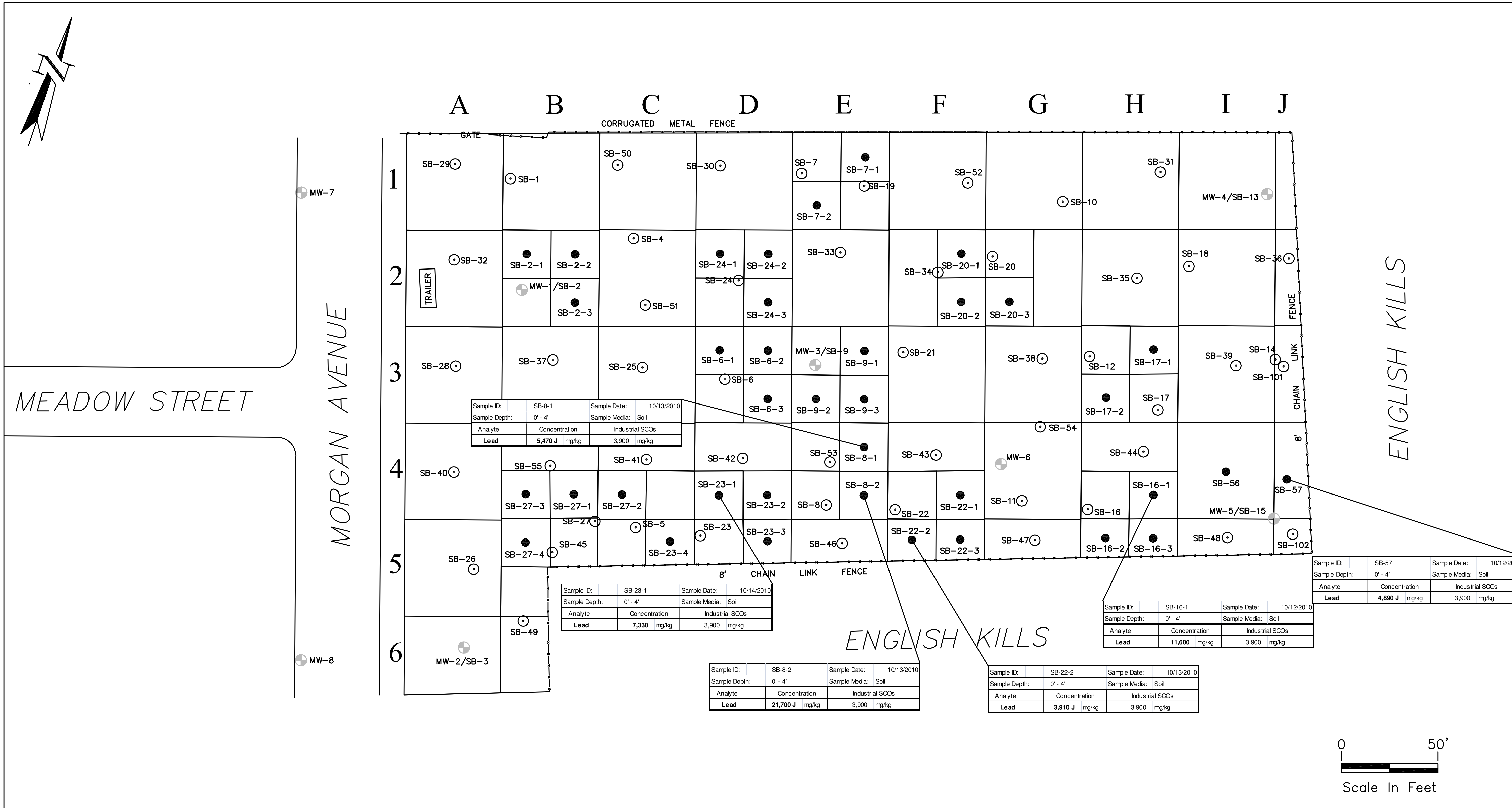
FIGURE 2–27



LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH–INDUSTRIAL SOIL CLEANUP OBJECTIVES

TAL METALS SOILS RESULTS (0'–4') – INDUSTRIAL SCOs

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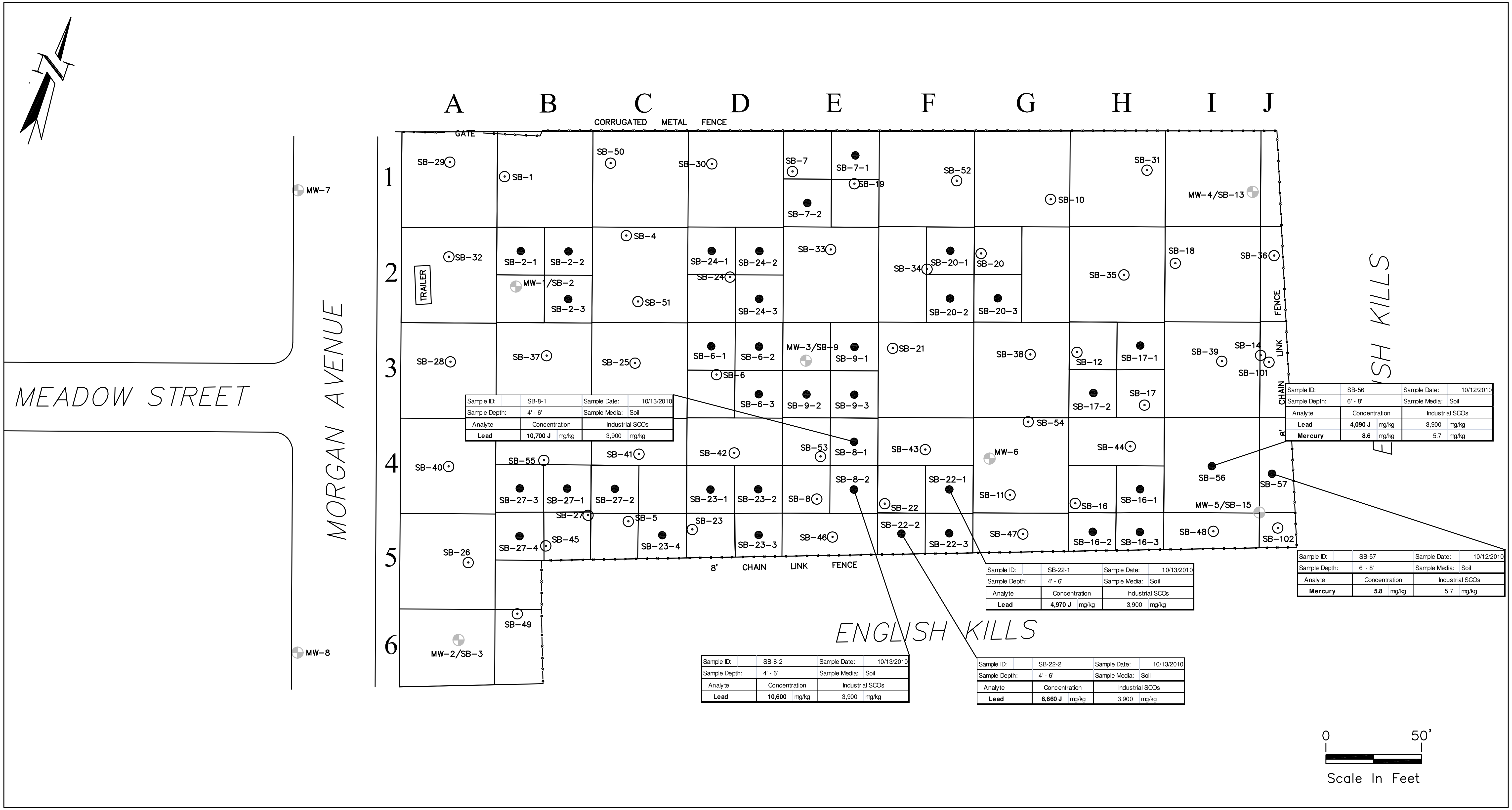
FIGURE 2–28



LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

NOTE: BOLD ANALYTES AND CONCENTRATIONS EXCEED THE BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH–INDUSTRIAL SOIL CLEANUP OBJECTIVES

TAL METALS SOILS RESULTS (4'–11') – INDUSTRIAL SCOs

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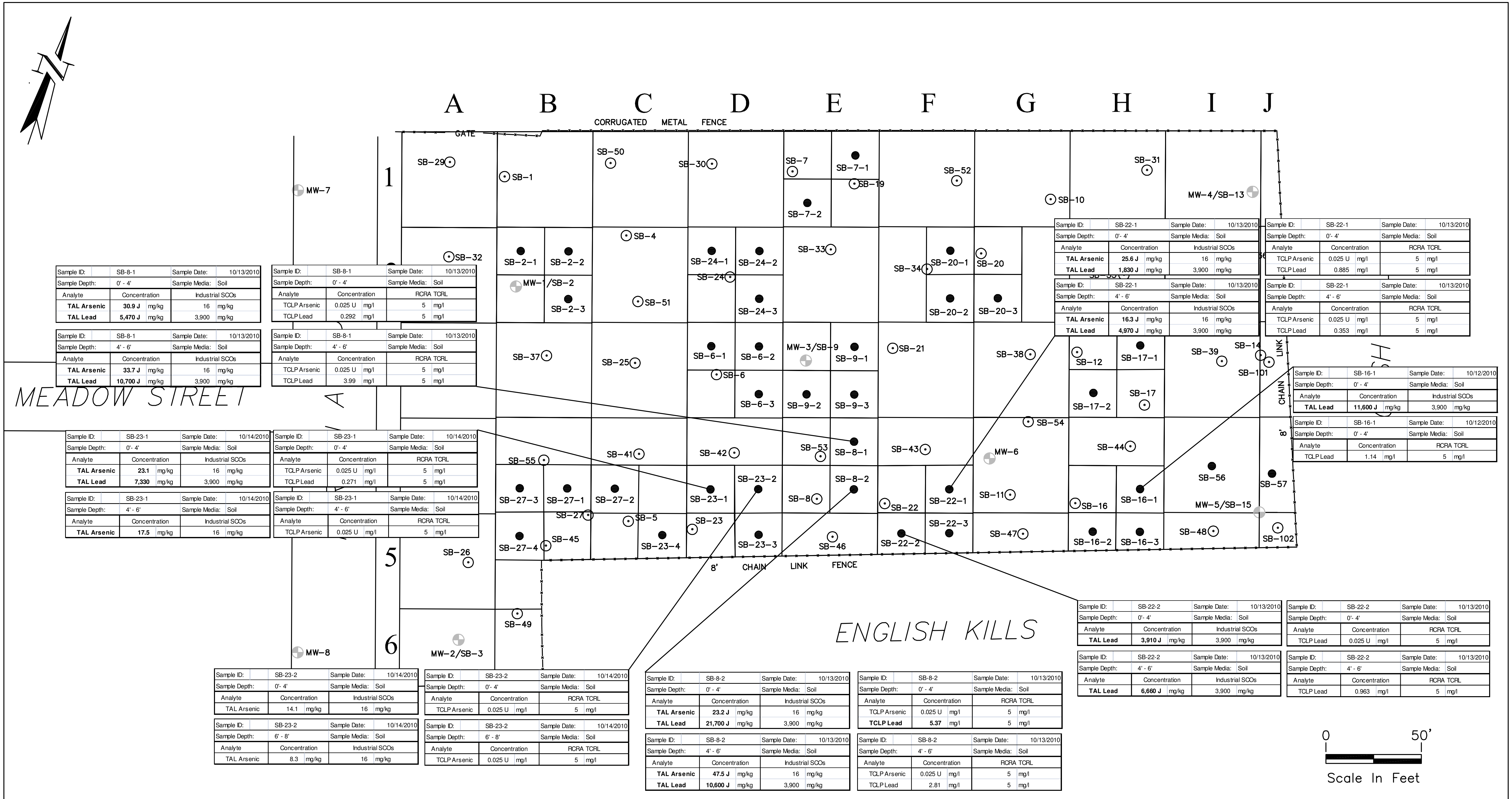
FIGURE 2–29



Sample ID:	SB-8-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	30.9 J mg/kg	16 mg/kg	
TAL Lead	5,470 J mg/kg	3,900 mg/kg	

Sample ID:	SB-8-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	0.292 mg/l	5 mg/l	

Sample ID:	SB-8-1	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	33.7 J mg/kg	16 mg/kg	
TAL Lead	10,700 J mg/kg	3,900 mg/kg	

Sample ID:	SB-8-1	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	3.99 mg/l	5 mg/l	

Sample ID:	SB-23-1	Sample Date:	10/14/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	23.1 mg/kg	16 mg/kg	
TAL Lead	7,330 mg/kg	3,900 mg/kg	

Sample ID:	SB-23-1	Sample Date:	10/14/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	0.271 mg/l	5 mg/l	

Sample ID:	SB-23-1	Sample Date:	10/14/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	17.5 mg/kg	16 mg/kg	

Sample ID:	SB-23-1	Sample Date:	10/14/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	

Sample ID:	SB-23-2	Sample Date:	10/14/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	14.1 mg/kg	16 mg/kg	

Sample ID:	SB-23-2	Sample Date:	10/14/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	

Sample ID:	SB-23-2	Sample Date:	10/14/2010
Sample Depth:	6' - 8'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	8.3 mg/kg	16 mg/kg	

Sample ID:	SB-23-2	Sample Date:	10/14/2010
Sample Depth:	6' - 8'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	

Sample ID:	SB-8-2	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	23.2 J mg/kg	16 mg/kg	
TAL Lead	21,700 J mg/kg	3,900 mg/kg	

Sample ID:	SB-8-2	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	5.37 mg/l	5 mg/l	

Sample ID:	SB-8-2	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	47.5 J mg/kg	16 mg/kg	
TAL Lead	10,600 J mg/kg	3,900 mg/kg	

Sample ID:	SB-8-2	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	2.81 mg/l	5 mg/l	

Sample ID:	SB-22-2	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Lead	3,910 J mg/kg	3,900 mg/kg	

Sample ID:	SB-22-2	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Lead	0.025 U mg/l	5 mg/l	

Sample ID:	SB-22-2	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Lead	6,660 J mg/kg	3,900 mg/kg	

Sample ID:	SB-22-2	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Lead	0.963 mg/l	5 mg/l	

Sample ID:	SB-22-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	25.6 J mg/kg	16 mg/kg	
TAL Lead	1,830 J mg/kg	3,900 mg/kg	

Sample ID:	SB-22-1	Sample Date:	10/13/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	0.885 mg/l	5 mg/l	

Sample ID:	SB-22-1	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Arsenic	16.3 J mg/kg	16 mg/kg	
TAL Lead	4,970 J mg/kg	3,900 mg/kg	

Sample ID:	SB-22-1	Sample Date:	10/13/2010
Sample Depth:	4' - 6'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Arsenic	0.025 U mg/l	5 mg/l	
TCLP Lead	0.353 mg/l	5 mg/l	

Sample ID:	SB-16-1	Sample Date:	10/12/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	Industrial SCOs	
TAL Lead	11,600 J mg/kg	3,900 mg/kg	

Sample ID:	SB-16-1	Sample Date:	10/12/2010
Sample Depth:	0' - 4'	Sample Media:	Soil
Analyte	Concentration	RCRA TCRL	
TCLP Lead	1.14 mg/l	5 mg/l	

LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SECOND SUPPLEMENTAL REMEDIAL DELINEATION SOIL BORING LOCATIONS

TOTAL ARSENIC, TOTAL LEAD, AND TCLP SOIL RESULTS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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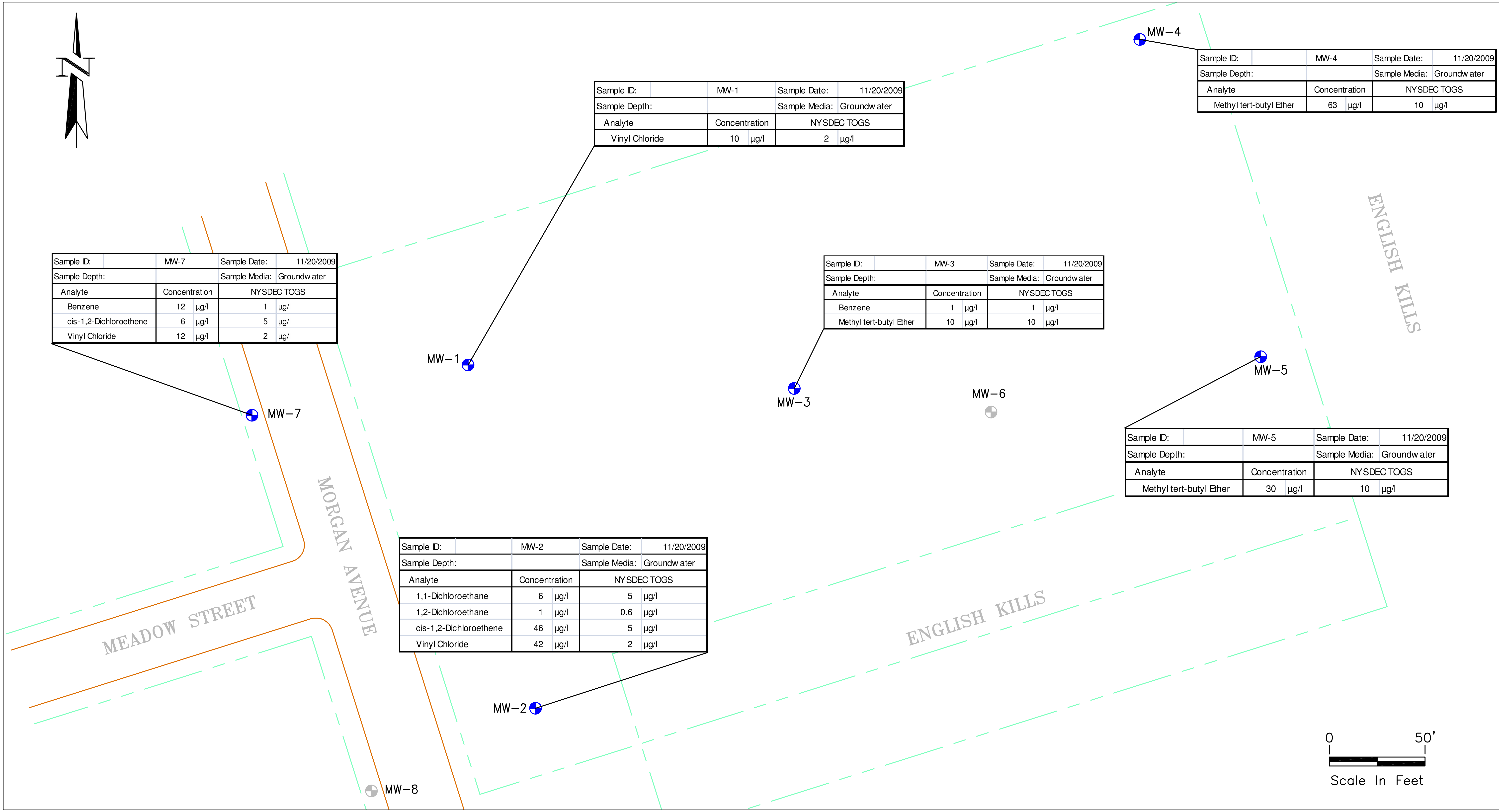
FIGURE 2-30



Sample ID:	MW-1	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
Vinyl Chloride	10 µg/l	2 µg/l	

Sample ID:	MW-4	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
Methyl tert-butyl Ether	63 µg/l	10 µg/l	

Sample ID:	MW-7	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
Benzene	12 µg/l	1 µg/l	
cis-1,2-Dichloroethene	6 µg/l	5 µg/l	
Vinyl Chloride	12 µg/l	2 µg/l	

Sample ID:	MW-3	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
Benzene	1 µg/l	1 µg/l	
Methyl tert-butyl Ether	10 µg/l	10 µg/l	

Sample ID:	MW-5	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
Methyl tert-butyl Ether	30 µg/l	10 µg/l	

Sample ID:	MW-2	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundwater
Analyte	Concentration	NYSDEC TOGS	
1,1-Dichloroethane	6 µg/l	5 µg/l	
1,2-Dichloroethane	1 µg/l	0.6 µg/l	
cis-1,2-Dichloroethene	46 µg/l	5 µg/l	
Vinyl Chloride	42 µg/l	2 µg/l	

LEGEND

MONITORING WELL

SAMPLE DID NOT EXCEED NYSDEC TOGS STANDARDS AND GUIDANCE VALUES

2009 VOC GROUNDWATER RESULTS

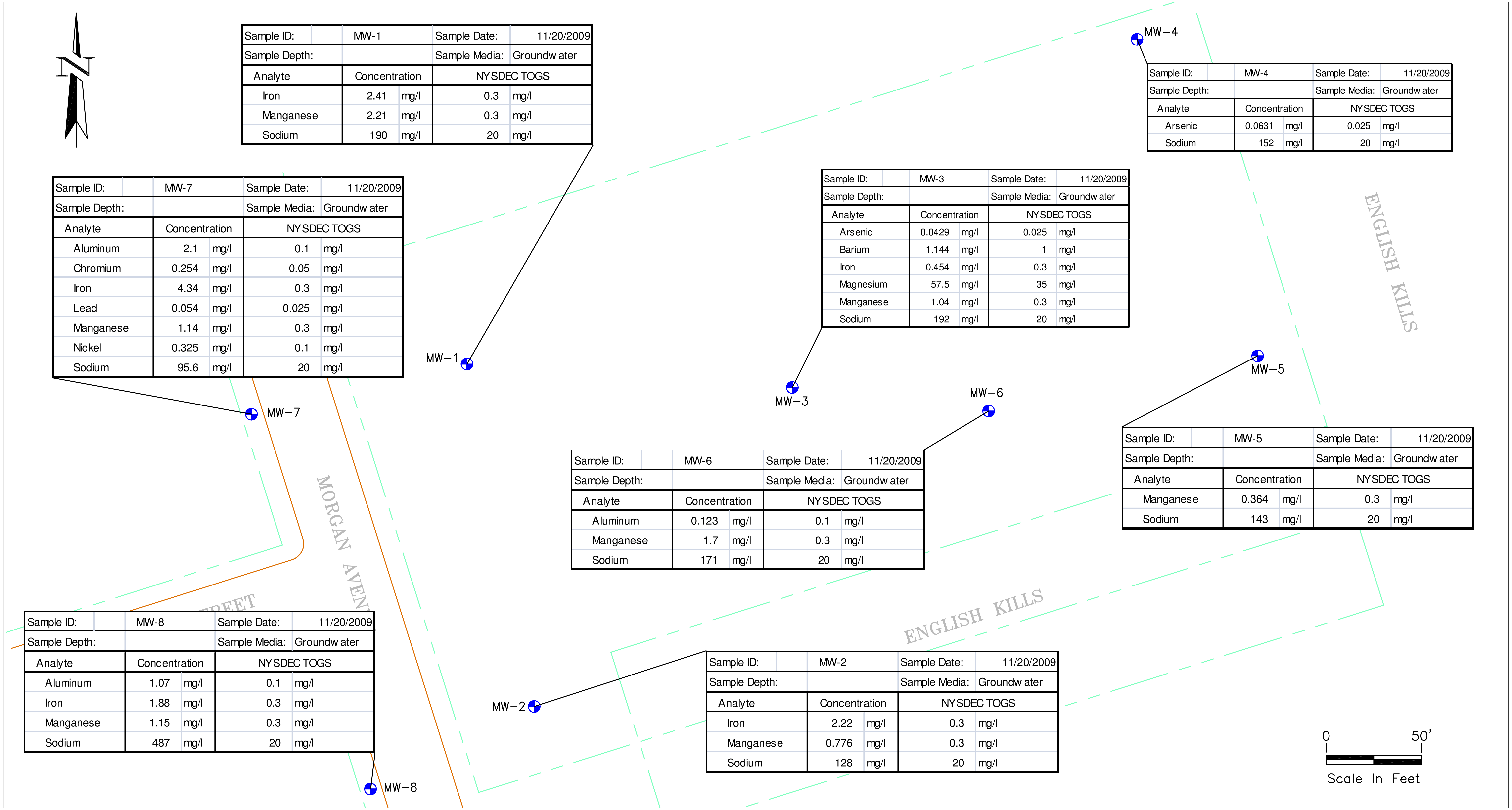
FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\GROUNDWATER\FIGURE 8.1 GROUNDWATER VOCs.DWG, 12/15/2010 2:37:30 PM

Gannett Fleming

FIGURE 2–31



Sample ID:	MW-1		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Iron	2.41	mg/l	0.3	mg/l
Manganese	2.21	mg/l	0.3	mg/l
Sodium	190	mg/l	20	mg/l

Sample ID:	MW-4		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Arsenic	0.0631	mg/l	0.025	mg/l
Sodium	152	mg/l	20	mg/l

Sample ID:	MW-7		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Aluminum	2.1	mg/l	0.1	mg/l
Chromium	0.254	mg/l	0.05	mg/l
Iron	4.34	mg/l	0.3	mg/l
Lead	0.054	mg/l	0.025	mg/l
Manganese	1.14	mg/l	0.3	mg/l
Nickel	0.325	mg/l	0.1	mg/l
Sodium	95.6	mg/l	20	mg/l

Sample ID:	MW-3		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Arsenic	0.0429	mg/l	0.025	mg/l
Barium	1.144	mg/l	1	mg/l
Iron	0.454	mg/l	0.3	mg/l
Magnesium	57.5	mg/l	35	mg/l
Manganese	1.04	mg/l	0.3	mg/l
Sodium	192	mg/l	20	mg/l

Sample ID:	MW-5		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Manganese	0.364	mg/l	0.3	mg/l
Sodium	143	mg/l	20	mg/l

Sample ID:	MW-6		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Aluminum	0.123	mg/l	0.1	mg/l
Manganese	1.7	mg/l	0.3	mg/l
Sodium	171	mg/l	20	mg/l

Sample ID:	MW-8		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Aluminum	1.07	mg/l	0.1	mg/l
Iron	1.88	mg/l	0.3	mg/l
Manganese	1.15	mg/l	0.3	mg/l
Sodium	487	mg/l	20	mg/l

Sample ID:	MW-2		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Groundw ater
Analyte	Concentration		NYSDEC TOGS	
Iron	2.22	mg/l	0.3	mg/l
Manganese	0.776	mg/l	0.3	mg/l
Sodium	128	mg/l	20	mg/l

LEGEND

MONITORING WELL

SAMPLE DID NOT EXCEED NYSDEC TOGS STANDARDS AND GUIDANCE VALUES

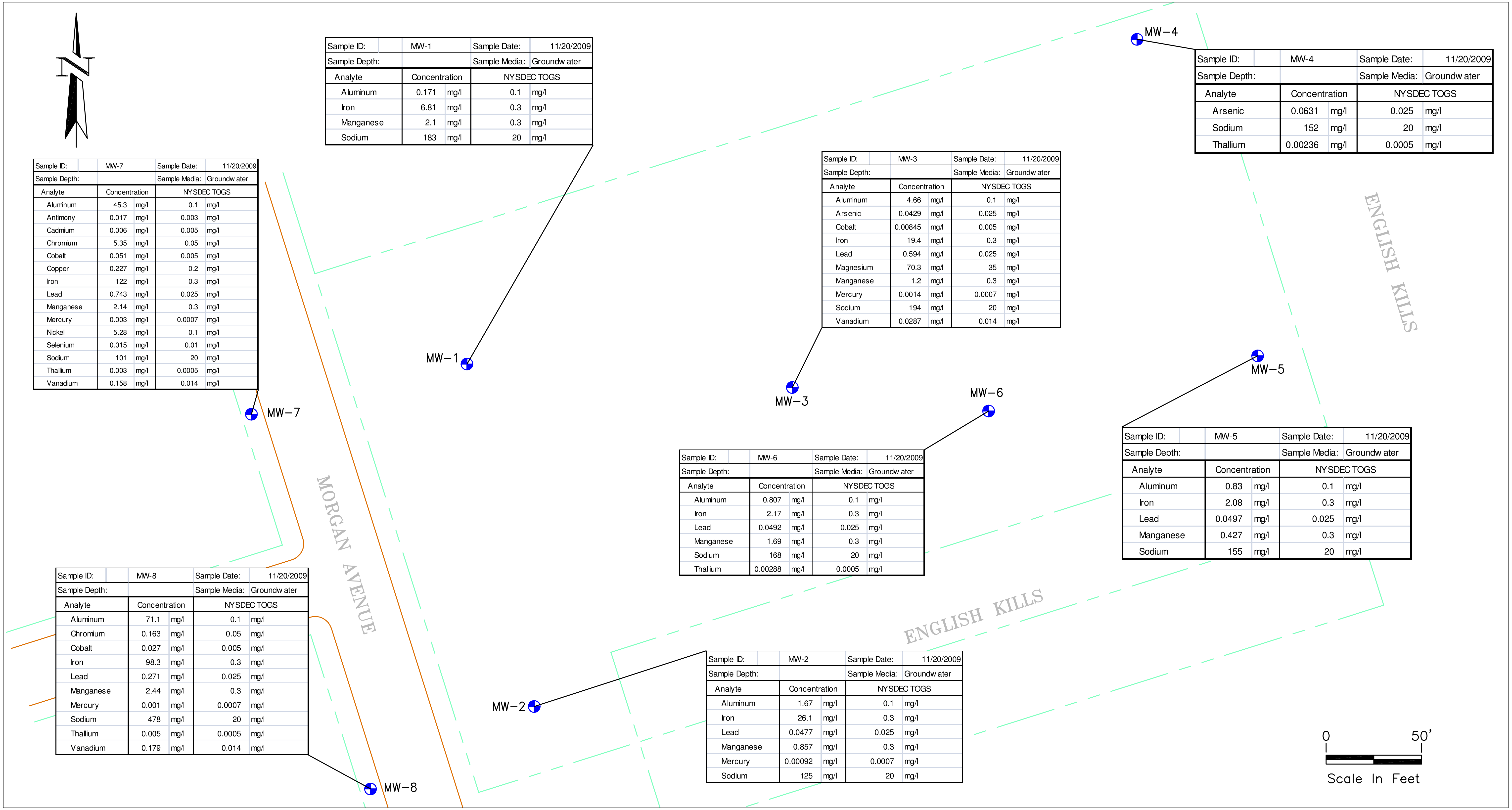
2009 DISSOLVED METALS GROUNDWATER RESULTS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–32



Sample ID:	MW-1	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	0.171 mg/l	0.1 mg/l	
Iron	6.81 mg/l	0.3 mg/l	
Manganese	2.1 mg/l	0.3 mg/l	
Sodium	183 mg/l	20 mg/l	

Sample ID:	MW-7	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	45.3 mg/l	0.1 mg/l	
Antimony	0.017 mg/l	0.003 mg/l	
Cadmium	0.006 mg/l	0.005 mg/l	
Chromium	5.35 mg/l	0.05 mg/l	
Cobalt	0.051 mg/l	0.005 mg/l	
Copper	0.227 mg/l	0.2 mg/l	
Iron	122 mg/l	0.3 mg/l	
Lead	0.743 mg/l	0.025 mg/l	
Manganese	2.14 mg/l	0.3 mg/l	
Mercury	0.003 mg/l	0.0007 mg/l	
Nickel	5.28 mg/l	0.1 mg/l	
Selenium	0.015 mg/l	0.01 mg/l	
Sodium	101 mg/l	20 mg/l	
Thallium	0.003 mg/l	0.0005 mg/l	
Vanadium	0.158 mg/l	0.014 mg/l	

Sample ID:	MW-3	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	4.66 mg/l	0.1 mg/l	
Arsenic	0.0429 mg/l	0.025 mg/l	
Cobalt	0.00845 mg/l	0.005 mg/l	
Iron	19.4 mg/l	0.3 mg/l	
Lead	0.594 mg/l	0.025 mg/l	
Magnesium	70.3 mg/l	35 mg/l	
Manganese	1.2 mg/l	0.3 mg/l	
Mercury	0.0014 mg/l	0.0007 mg/l	
Sodium	194 mg/l	20 mg/l	
Vanadium	0.0287 mg/l	0.014 mg/l	

Sample ID:	MW-4	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Arsenic	0.0631 mg/l	0.025 mg/l	
Sodium	152 mg/l	20 mg/l	
Thallium	0.00236 mg/l	0.0005 mg/l	

Sample ID:	MW-6	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	0.807 mg/l	0.1 mg/l	
Iron	2.17 mg/l	0.3 mg/l	
Lead	0.0492 mg/l	0.025 mg/l	
Manganese	1.69 mg/l	0.3 mg/l	
Sodium	168 mg/l	20 mg/l	
Thallium	0.00288 mg/l	0.0005 mg/l	

Sample ID:	MW-5	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	0.83 mg/l	0.1 mg/l	
Iron	2.08 mg/l	0.3 mg/l	
Lead	0.0497 mg/l	0.025 mg/l	
Manganese	0.427 mg/l	0.3 mg/l	
Sodium	155 mg/l	20 mg/l	

Sample ID:	MW-8	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	71.1 mg/l	0.1 mg/l	
Chromium	0.163 mg/l	0.05 mg/l	
Cobalt	0.027 mg/l	0.005 mg/l	
Iron	98.3 mg/l	0.3 mg/l	
Lead	0.271 mg/l	0.025 mg/l	
Manganese	2.44 mg/l	0.3 mg/l	
Mercury	0.001 mg/l	0.0007 mg/l	
Sodium	478 mg/l	20 mg/l	
Thallium	0.005 mg/l	0.0005 mg/l	
Vanadium	0.179 mg/l	0.014 mg/l	

Sample ID:	MW-2	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Groundw ater
Analyte	Concentration	NYSDEC TOGS	
Aluminum	1.67 mg/l	0.1 mg/l	
Iron	26.1 mg/l	0.3 mg/l	
Lead	0.0477 mg/l	0.025 mg/l	
Manganese	0.857 mg/l	0.3 mg/l	
Mercury	0.00092 mg/l	0.0007 mg/l	
Sodium	125 mg/l	20 mg/l	

LEGEND

MONITORING WELL

SAMPLE DID NOT EXCEED NYSDEC TOGS STANDARDS AND GUIDANCE VALUES

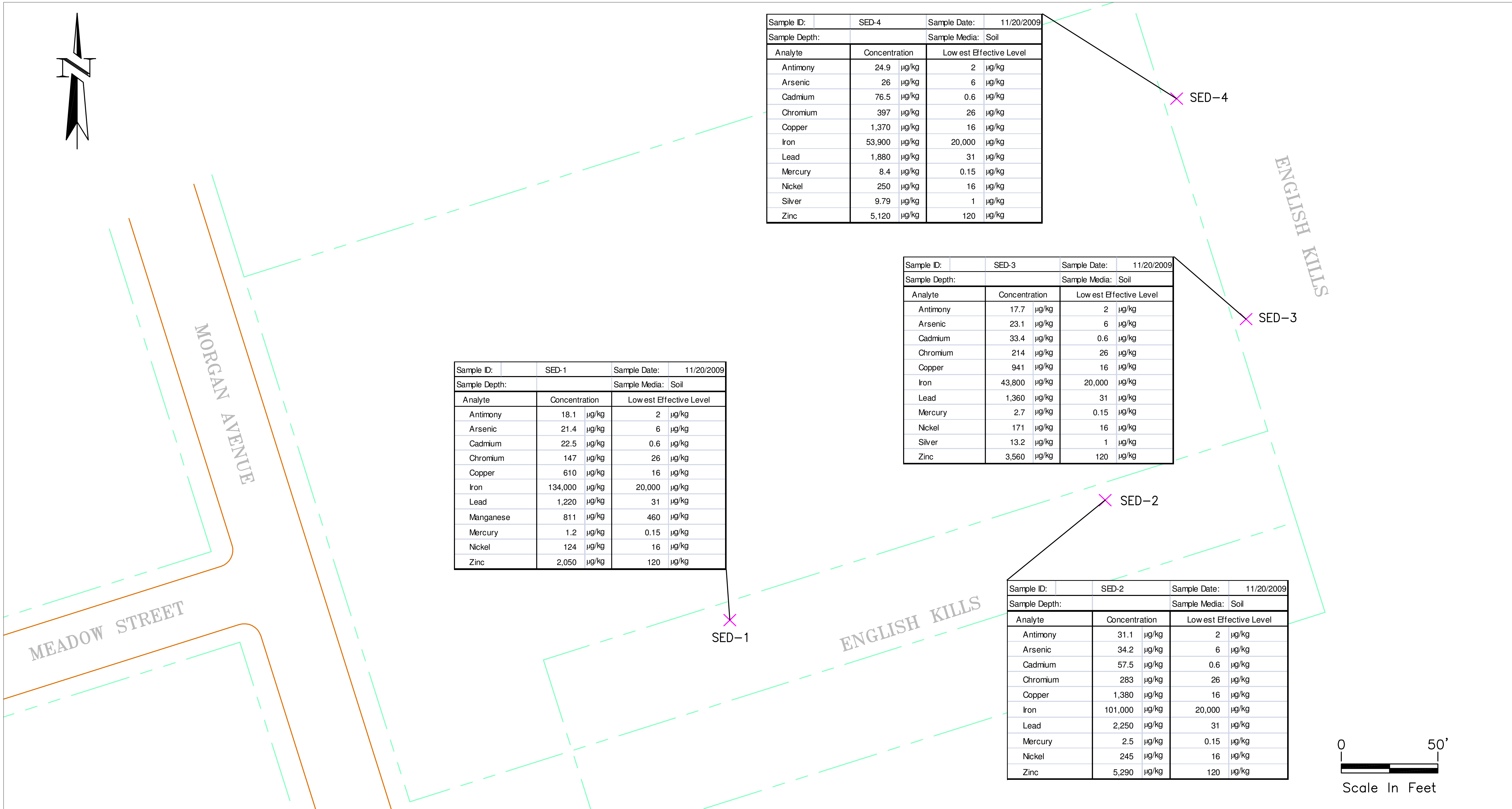
2009 TOTAL METALS GROUNDWATER RESULTS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–33



Sample ID:	SED-4		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Lowest Effective Level	
Antimony	24.9	µg/kg	2	µg/kg
Arsenic	26	µg/kg	6	µg/kg
Cadmium	76.5	µg/kg	0.6	µg/kg
Chromium	397	µg/kg	26	µg/kg
Copper	1,370	µg/kg	16	µg/kg
Iron	53,900	µg/kg	20,000	µg/kg
Lead	1,880	µg/kg	31	µg/kg
Mercury	8.4	µg/kg	0.15	µg/kg
Nickel	250	µg/kg	16	µg/kg
Silver	9.79	µg/kg	1	µg/kg
Zinc	5,120	µg/kg	120	µg/kg

Sample ID:	SED-3		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Lowest Effective Level	
Antimony	17.7	µg/kg	2	µg/kg
Arsenic	23.1	µg/kg	6	µg/kg
Cadmium	33.4	µg/kg	0.6	µg/kg
Chromium	214	µg/kg	26	µg/kg
Copper	941	µg/kg	16	µg/kg
Iron	43,800	µg/kg	20,000	µg/kg
Lead	1,360	µg/kg	31	µg/kg
Mercury	2.7	µg/kg	0.15	µg/kg
Nickel	171	µg/kg	16	µg/kg
Silver	13.2	µg/kg	1	µg/kg
Zinc	3,560	µg/kg	120	µg/kg

Sample ID:	SED-1		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Lowest Effective Level	
Antimony	18.1	µg/kg	2	µg/kg
Arsenic	21.4	µg/kg	6	µg/kg
Cadmium	22.5	µg/kg	0.6	µg/kg
Chromium	147	µg/kg	26	µg/kg
Copper	610	µg/kg	16	µg/kg
Iron	134,000	µg/kg	20,000	µg/kg
Lead	1,220	µg/kg	31	µg/kg
Manganese	811	µg/kg	460	µg/kg
Mercury	1.2	µg/kg	0.15	µg/kg
Nickel	124	µg/kg	16	µg/kg
Zinc	2,050	µg/kg	120	µg/kg

Sample ID:	SED-2		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Lowest Effective Level	
Antimony	31.1	µg/kg	2	µg/kg
Arsenic	34.2	µg/kg	6	µg/kg
Cadmium	57.5	µg/kg	0.6	µg/kg
Chromium	283	µg/kg	26	µg/kg
Copper	1,380	µg/kg	16	µg/kg
Iron	101,000	µg/kg	20,000	µg/kg
Lead	2,250	µg/kg	31	µg/kg
Mercury	2.5	µg/kg	0.15	µg/kg
Nickel	245	µg/kg	16	µg/kg
Zinc	5,290	µg/kg	120	µg/kg

LEGEND

× SEDIMENT SAMPLE LOCATION

× SAMPLE DID NOT EXCEED HUMAN HEALTH BIOACCUMULATION STANDARDS

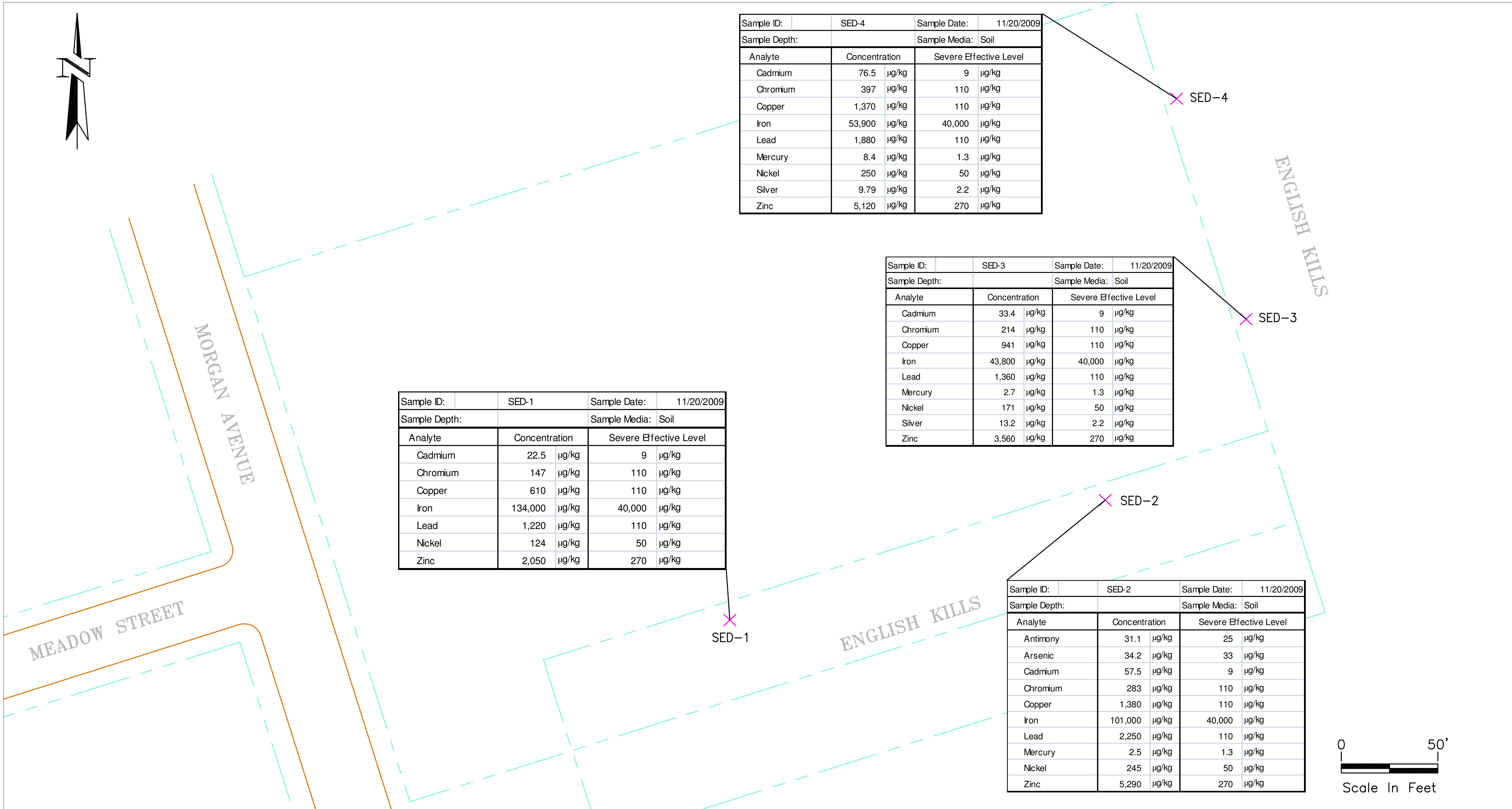
2009 TAL METAL SEDIMENT RESULTS – LOWEST EFFECT LEVEL

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–34



Sample ID:	SED-4		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Severe Effective Level	
Cadmium	76.5	µg/kg	9	µg/kg
Chromium	397	µg/kg	110	µg/kg
Copper	1,370	µg/kg	110	µg/kg
Iron	53,900	µg/kg	40,000	µg/kg
Lead	1,880	µg/kg	110	µg/kg
Mercury	8.4	µg/kg	1.3	µg/kg
Nickel	250	µg/kg	50	µg/kg
Silver	9.79	µg/kg	2.2	µg/kg
Zinc	5,120	µg/kg	270	µg/kg

Sample ID:	SED-3		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Severe Effective Level	
Cadmium	33.4	µg/kg	9	µg/kg
Chromium	214	µg/kg	110	µg/kg
Copper	941	µg/kg	110	µg/kg
Iron	43,800	µg/kg	40,000	µg/kg
Lead	1,360	µg/kg	110	µg/kg
Mercury	2.7	µg/kg	1.3	µg/kg
Nickel	171	µg/kg	50	µg/kg
Silver	13.2	µg/kg	2.2	µg/kg
Zinc	3,560	µg/kg	270	µg/kg

Sample ID:	SED-1		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Severe Effective Level	
Cadmium	22.5	µg/kg	9	µg/kg
Chromium	147	µg/kg	110	µg/kg
Copper	610	µg/kg	110	µg/kg
Iron	134,000	µg/kg	40,000	µg/kg
Lead	1,220	µg/kg	110	µg/kg
Nickel	124	µg/kg	50	µg/kg
Zinc	2,050	µg/kg	270	µg/kg

Sample ID:	SED-2		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Severe Effective Level	
Antimony	31.1	µg/kg	25	µg/kg
Arsenic	34.2	µg/kg	33	µg/kg
Cadmium	57.5	µg/kg	9	µg/kg
Chromium	283	µg/kg	110	µg/kg
Copper	1,380	µg/kg	110	µg/kg
Iron	101,000	µg/kg	40,000	µg/kg
Lead	2,250	µg/kg	110	µg/kg
Mercury	2.5	µg/kg	1.3	µg/kg
Nickel	245	µg/kg	50	µg/kg
Zinc	5,290	µg/kg	270	µg/kg

LEGEND

× SEDIMENT SAMPLE LOCATION

× SAMPLE DID NOT EXCEED HUMAN HEALTH BIOACCUMULATION STANDARDS

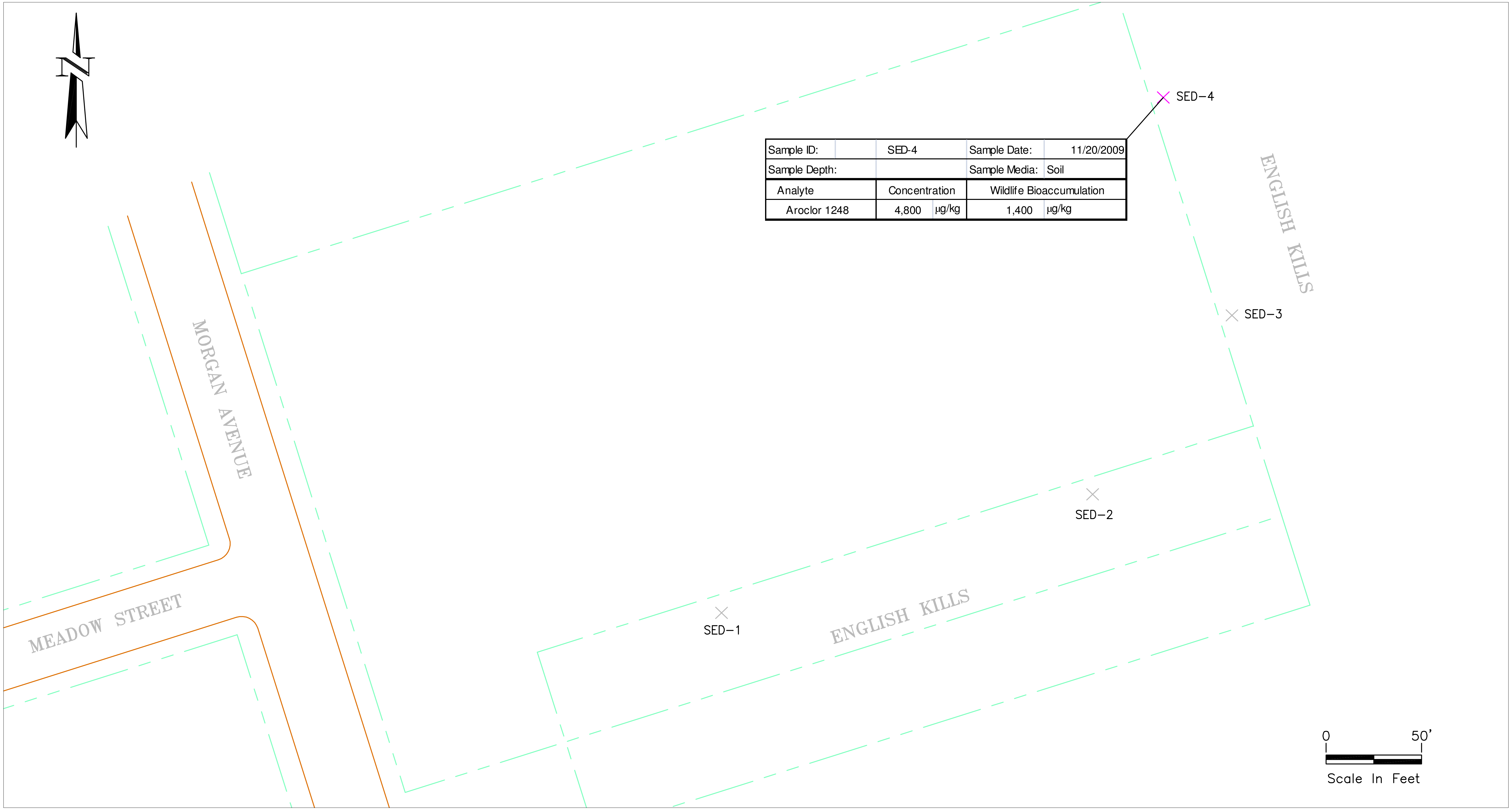
2009 TAL METAL SEDIMENT RESULTS – SEVERE EFFECT LEVEL

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2-35



Sample ID:	SED-4		Sample Date:	11/20/2009
Sample Depth:			Sample Media:	Soil
Analyte	Concentration		Wildlife Bioaccumulation	
Aroclor 1248	4,800	µg/kg	1,400	µg/kg

LEGEND

SEDIMENT SAMPLE LOCATION

SAMPLE DID NOT EXCEED WILDLIFE BIOACCUMULATION STANDARDS

2009 PCB SEDIMENT RESULTS – WILDLIFE BIOACCUMULATION

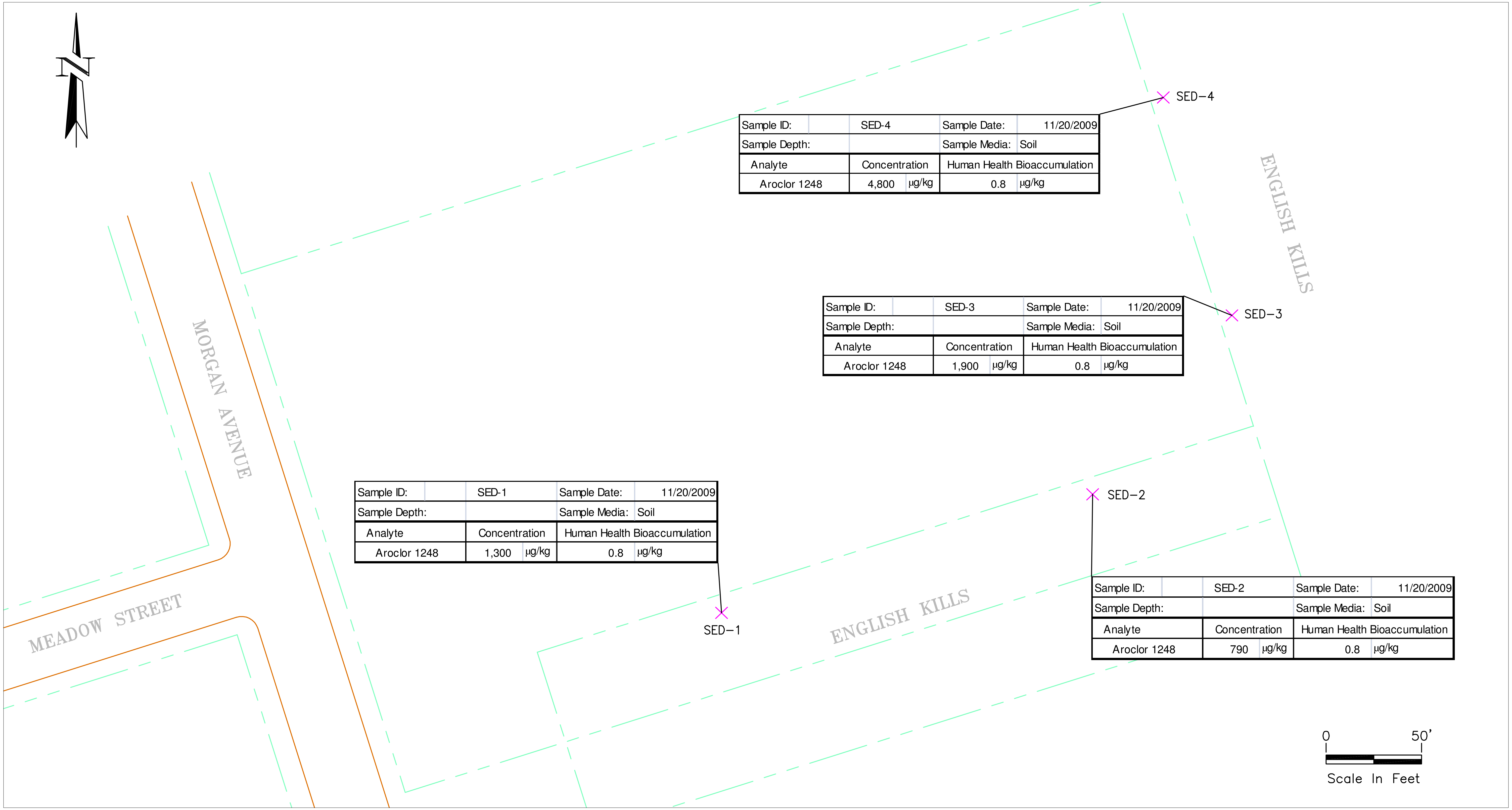
FRITO LAY, INC.

202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\SEDIMENT\FIGURE 7.1 2009 SEDIMENT VS WILDLIFE.DWG, 12/15/2010 2:45:15 PM

Gannett Fleming

FIGURE 2–36



Sample ID:	SED-4	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Soil
Analyte	Concentration	Human Health Bioaccumulation	
Aroclor 1248	4,800 µg/kg	0.8 µg/kg	

Sample ID:	SED-3	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Soil
Analyte	Concentration	Human Health Bioaccumulation	
Aroclor 1248	1,900 µg/kg	0.8 µg/kg	

Sample ID:	SED-1	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Soil
Analyte	Concentration	Human Health Bioaccumulation	
Aroclor 1248	1,300 µg/kg	0.8 µg/kg	

Sample ID:	SED-2	Sample Date:	11/20/2009
Sample Depth:		Sample Media:	Soil
Analyte	Concentration	Human Health Bioaccumulation	
Aroclor 1248	790 µg/kg	0.8 µg/kg	

LEGEND

- SEDIMENT SAMPLE LOCATION
- SAMPLE DID NOT EXCEED HUMAN HEALTH BIOACCUMULATION STANDARDS

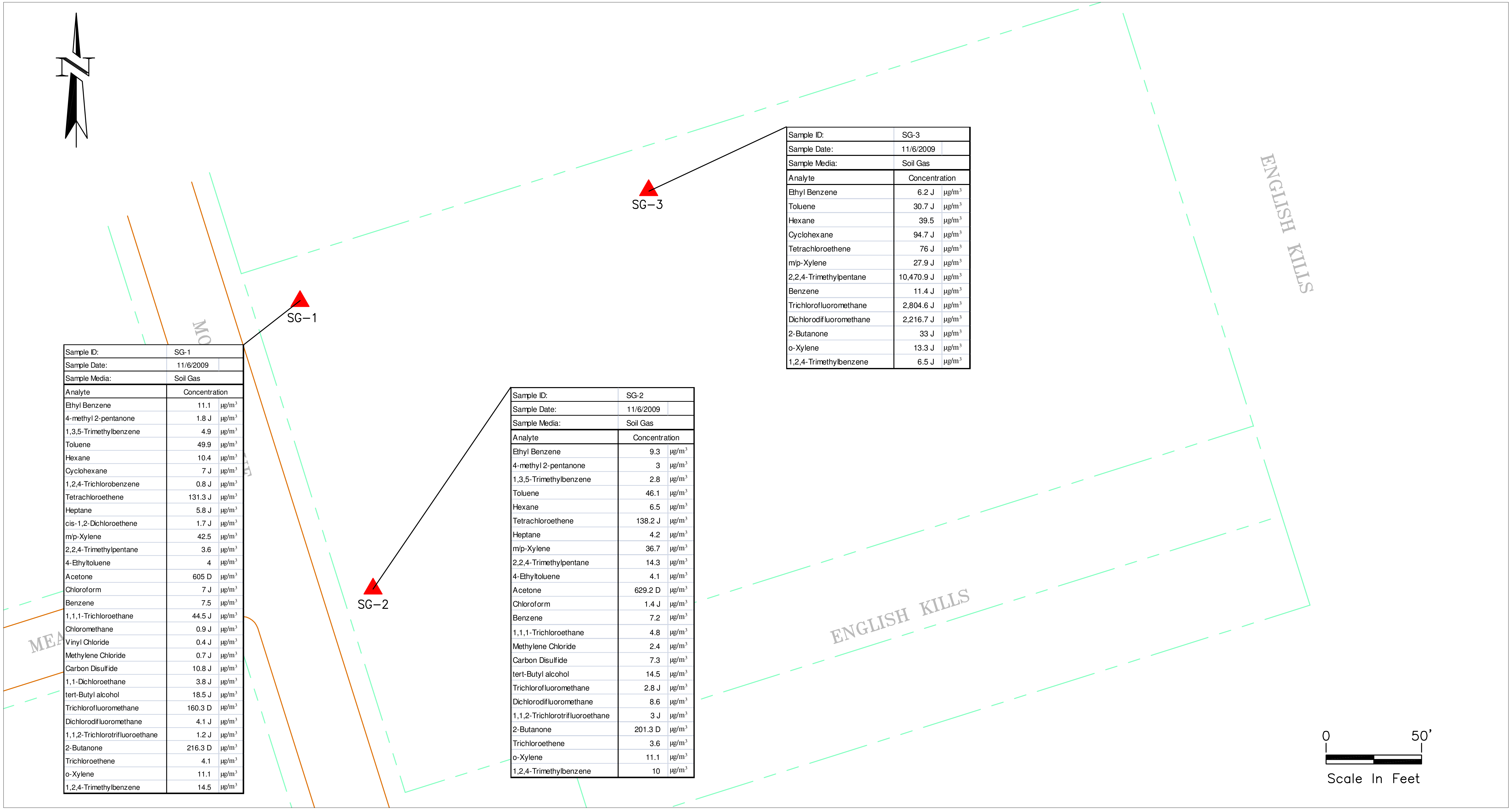
20009 PCB SEDIMENT RESULTS – HUMAN HEALTH BIOACCUMULATION

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2-37



Sample ID:	SG-1	
Sample Date:	11/6/2009	
Sample Media:	Soil Gas	
Analyte	Concentration	
Ethyl Benzene	11.1	µg/m^3
4-methyl 2-pentanone	1.8 J	µg/m^3
1,3,5-Trimethylbenzene	4.9	µg/m^3
Toluene	49.9	µg/m^3
Hexane	10.4	µg/m^3
Cyclohexane	7 J	µg/m^3
1,2,4-Trichlorobenzene	0.8 J	µg/m^3
Tetrachloroethene	131.3 J	µg/m^3
Heptane	5.8 J	µg/m^3
cis-1,2-Dichloroethene	1.7 J	µg/m^3
m/p-Xylene	42.5	µg/m^3
2,2,4-Trimethylpentane	3.6	µg/m^3
4-Ethyltoluene	4	µg/m^3
Acetone	605 D	µg/m^3
Chloroform	7 J	µg/m^3
Benzene	7.5	µg/m^3
1,1,1-Trichloroethane	44.5 J	µg/m^3
Chloromethane	0.9 J	µg/m^3
Vinyl Chloride	0.4 J	µg/m^3
Methylene Chloride	0.7 J	µg/m^3
Carbon Disulfide	10.8 J	µg/m^3
1,1-Dichloroethane	3.8 J	µg/m^3
tert-Butyl alcohol	18.5 J	µg/m^3
Trichlorofluoromethane	160.3 D	µg/m^3
Dichlorodifluoromethane	4.1 J	µg/m^3
1,1,2-Trichlorotrifluoroethane	1.2 J	µg/m^3
2-Butanone	216.3 D	µg/m^3
Trichloroethene	4.1	µg/m^3
o-Xylene	11.1	µg/m^3
1,2,4-Trimethylbenzene	14.5	µg/m^3

Sample ID:	SG-2	
Sample Date:	11/6/2009	
Sample Media:	Soil Gas	
Analyte	Concentration	
Ethyl Benzene	9.3	µg/m^3
4-methyl 2-pentanone	3	µg/m^3
1,3,5-Trimethylbenzene	2.8	µg/m^3
Toluene	46.1	µg/m^3
Hexane	6.5	µg/m^3
Tetrachloroethene	138.2 J	µg/m^3
Heptane	4.2	µg/m^3
m/p-Xylene	36.7	µg/m^3
2,2,4-Trimethylpentane	14.3	µg/m^3
4-Ethyltoluene	4.1	µg/m^3
Acetone	629.2 D	µg/m^3
Chloroform	1.4 J	µg/m^3
Benzene	7.2	µg/m^3
1,1,1-Trichloroethane	4.8	µg/m^3
Methylene Chloride	2.4	µg/m^3
Carbon Disulfide	7.3	µg/m^3
tert-Butyl alcohol	14.5	µg/m^3
Trichlorofluoromethane	2.8 J	µg/m^3
Dichlorodifluoromethane	8.6	µg/m^3
1,1,2-Trichlorotrifluoroethane	3 J	µg/m^3
2-Butanone	201.3 D	µg/m^3
Trichloroethene	3.6	µg/m^3
o-Xylene	11.1	µg/m^3
1,2,4-Trimethylbenzene	10	µg/m^3

Sample ID:	SG-3	
Sample Date:	11/6/2009	
Sample Media:	Soil Gas	
Analyte	Concentration	
Ethyl Benzene	6.2 J	µg/m^3
Toluene	30.7 J	µg/m^3
Hexane	39.5	µg/m^3
Cyclohexane	94.7 J	µg/m^3
Tetrachloroethene	76 J	µg/m^3
m/p-Xylene	27.9 J	µg/m^3
2,2,4-Trimethylpentane	10,470.9 J	µg/m^3
Benzene	11.4 J	µg/m^3
Trichlorofluoromethane	2,804.6 J	µg/m^3
Dichlorodifluoromethane	2,216.7 J	µg/m^3
2-Butanone	33 J	µg/m^3
o-Xylene	13.3 J	µg/m^3
1,2,4-Trimethylbenzene	6.5 J	µg/m^3

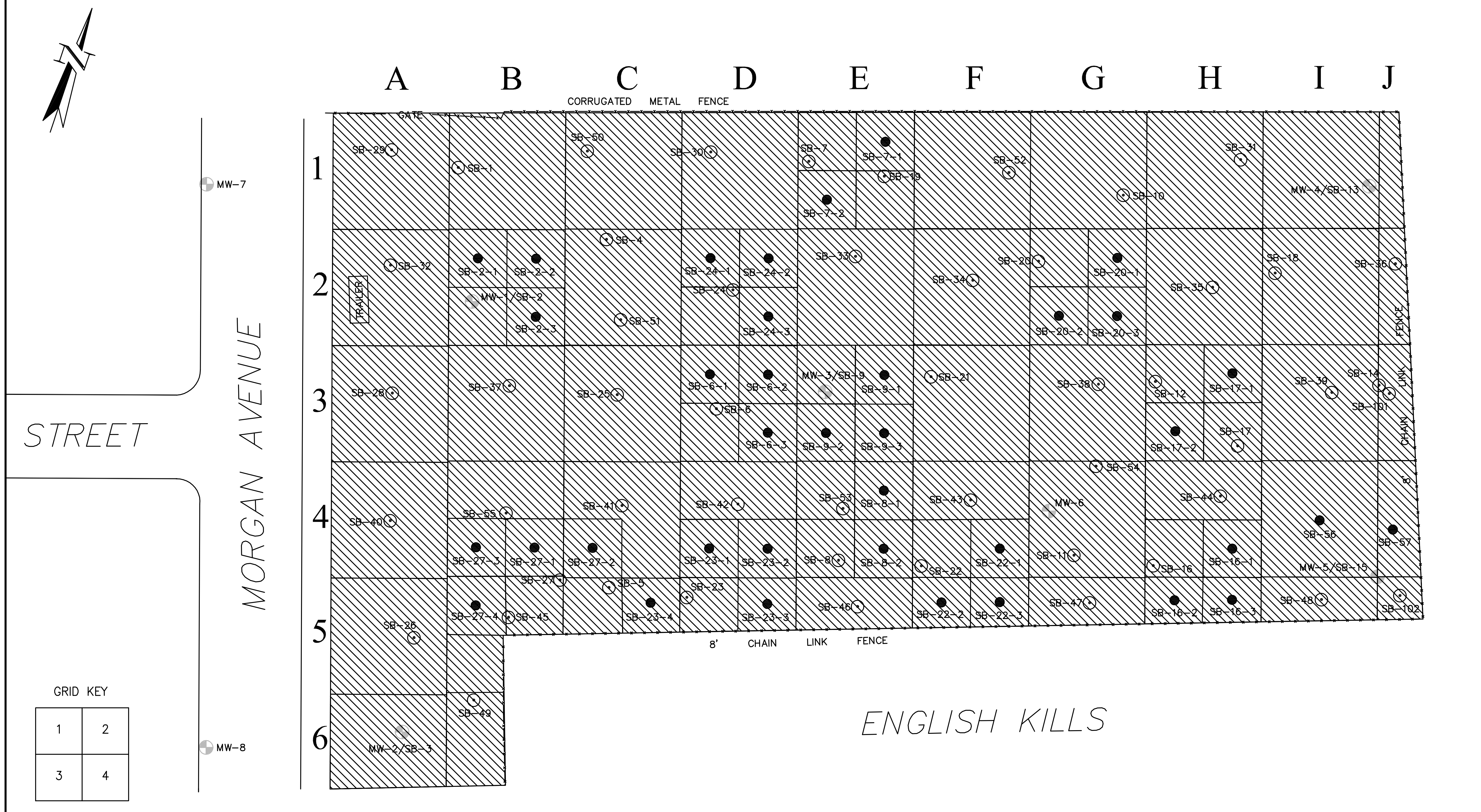
LEGEND

▲ SOIL GAS SAMPLE LOCATION

2009 SOIL GAS SAMPLE RESULTS

FRITO LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- AREA EXCEEDS BROWNFIELDS UNRESTRICTED USE PROTECTION OF PUBLIC HEALTH SOIL CLEANUP OBJECTIVES

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming

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WOODBURY, NEW YORK 11797
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DATE DRAWN:	MAR 2011
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DATE REVISED:	

AREAS TO BE EXCAVATED - UNRESTRICTED USE SCOs

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-1

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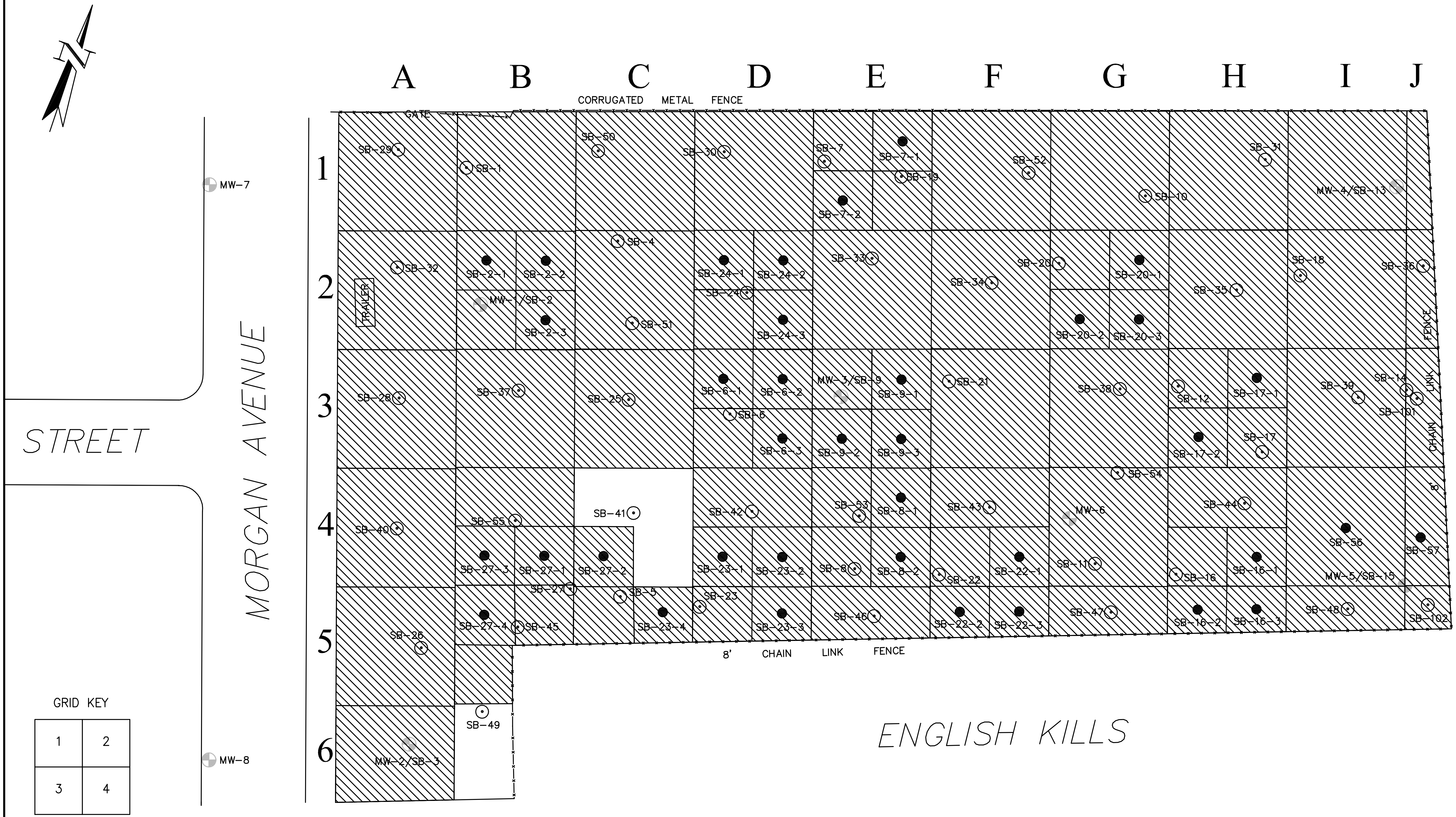

LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- AREA EXCEEDS BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH – COMMERCIAL SOIL CLEANUP OBJECTIVES

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

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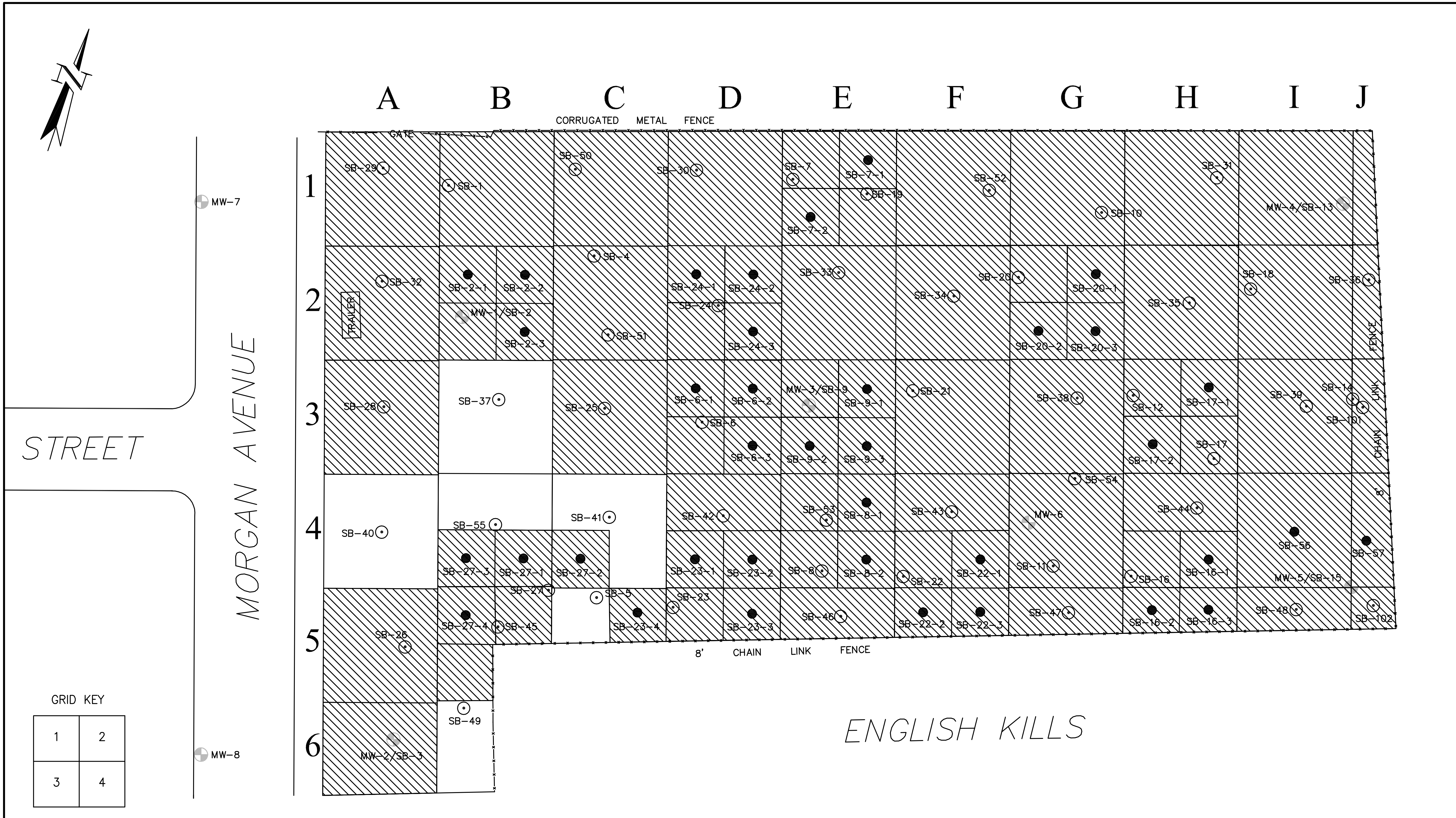
AREAS TO BE EXCAVATED - COMMERCIAL SCOs

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE

4-2

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Commercial Excavations.DWG, 3/18/2011 11:41:26 AM



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- AREA EXCEEDS BROWNFIELDS RESTRICTED USE PROTECTION OF PUBLIC HEALTH – INDUSTRIAL SOIL CLEANUP OBJECTIVES

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

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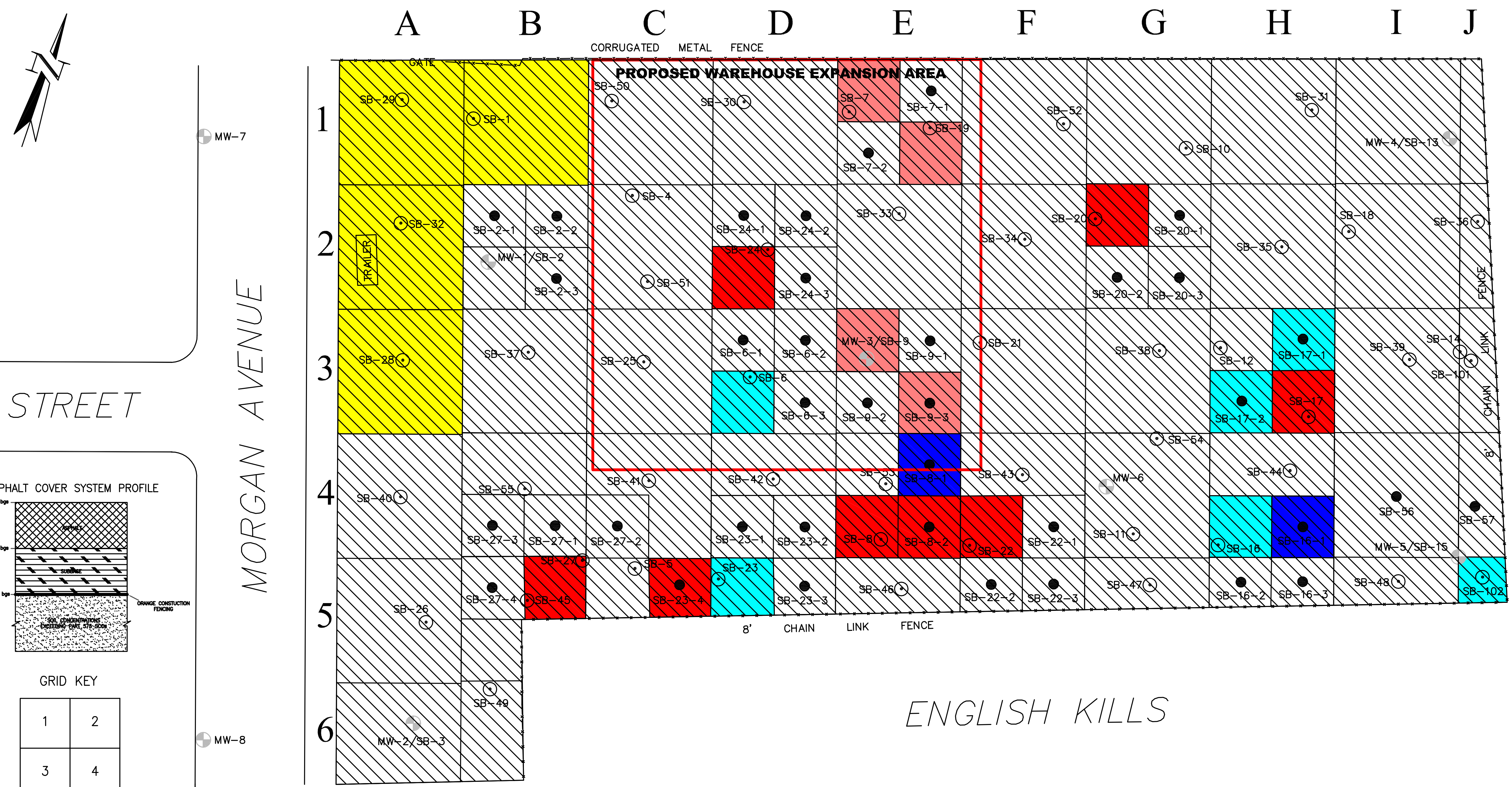
DATE REVISED:	

AREAS TO BE EXCAVATED - INDUSTRIAL SCOs

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-3

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Industrial Excavations.DWG, 3/18/2011 12:21:34 PM



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- ARSENIC EXCEEDANCE
- PCB EXCEEDANCE (>10 MG/KG)
- PCB EXCEEDANCE (>50 MG/KG)
- LEAD EXCEEDANCE (>10,000 MG/KG)
- PCB EXCEEDANCE (>25 MG/KG)
- AREA TO BE COVERED BY AN ASPHALT COVER SYSTEM

NOTE: PCB CONCENTRATIONS EXCEEDING THE TSCA CRITERIA OF 50 MG/KG AND LEAD CONCENTRATIONS EXCEEDING THE RCRA CRITERIA OF 5 MG/L WILL BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

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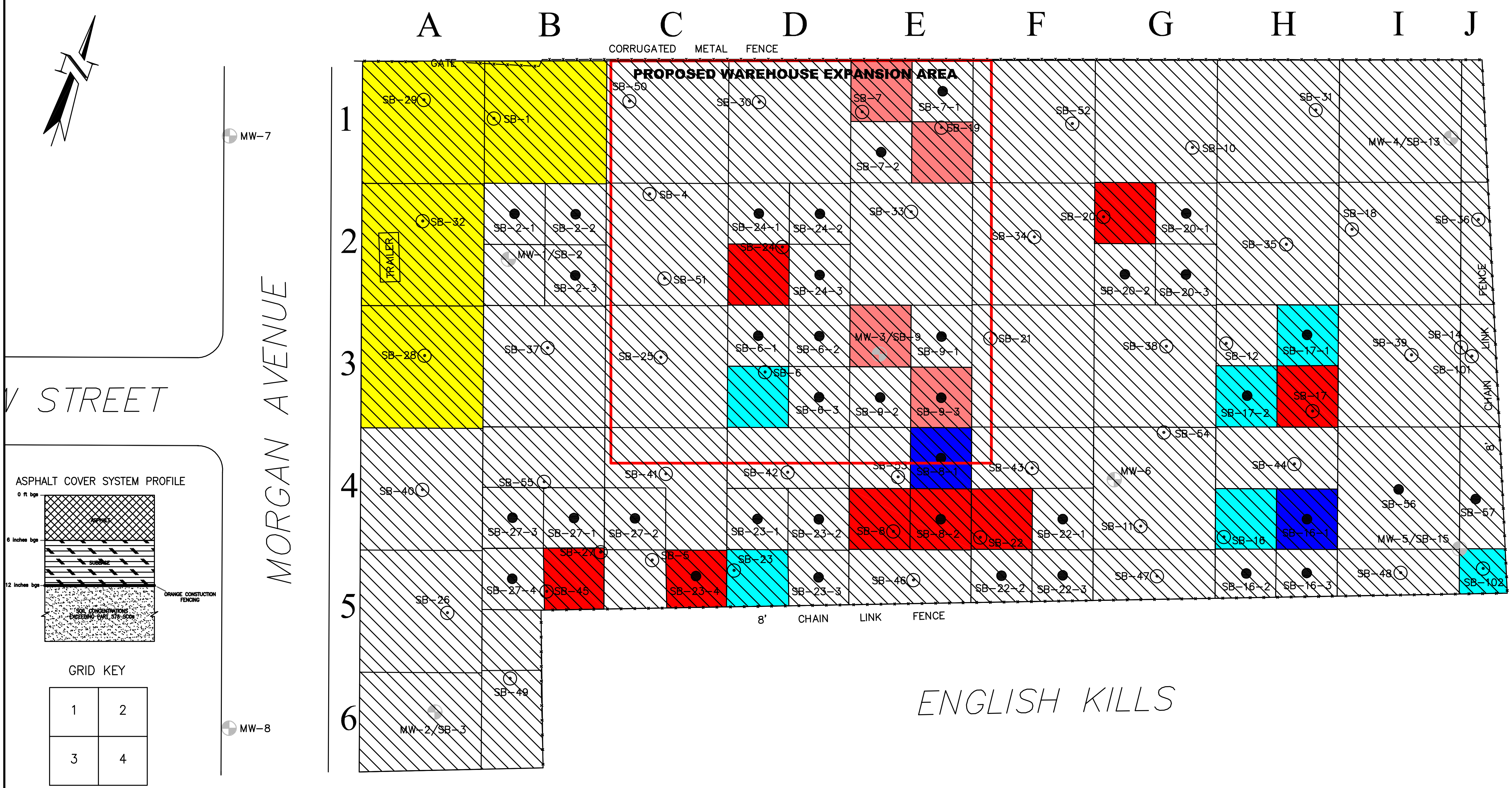
DATE REVISED:	

PROPOSED ALTERNATIVE #5

AREAS TO BE EXCAVATED - SITE SPECIFIC RAOs FOR ARSENIC, LEAD, AND MERCURY AND INDUSTRIAL SCOs FOR PCBS

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-4



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- ARSENIC EXCEEDANCE
- PCB EXCEEDANCE (>10 MG/KG)
- PCB EXCEEDANCE (>50 MG/KG)
- LEAD EXCEEDANCE (>10,000 MG/KG)
- PCB EXCEEDANCE (>25 MG/KG)
- AREA TO BE COVERED BY AN ASPHALT COVER SYSTEM

NOTE: PCB CONCENTRATIONS EXCEEDING THE TSCA CRITERIA OF 50 MG/KG AND LEAD CONCENTRATIONS EXCEEDING THE RCRA CRITERIA OF 5 MG/L WILL BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS

PROPOSED ALTERNATIVE #6

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
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DRAWN BY:	DAB
DATE DRAWN:	MAR 2011
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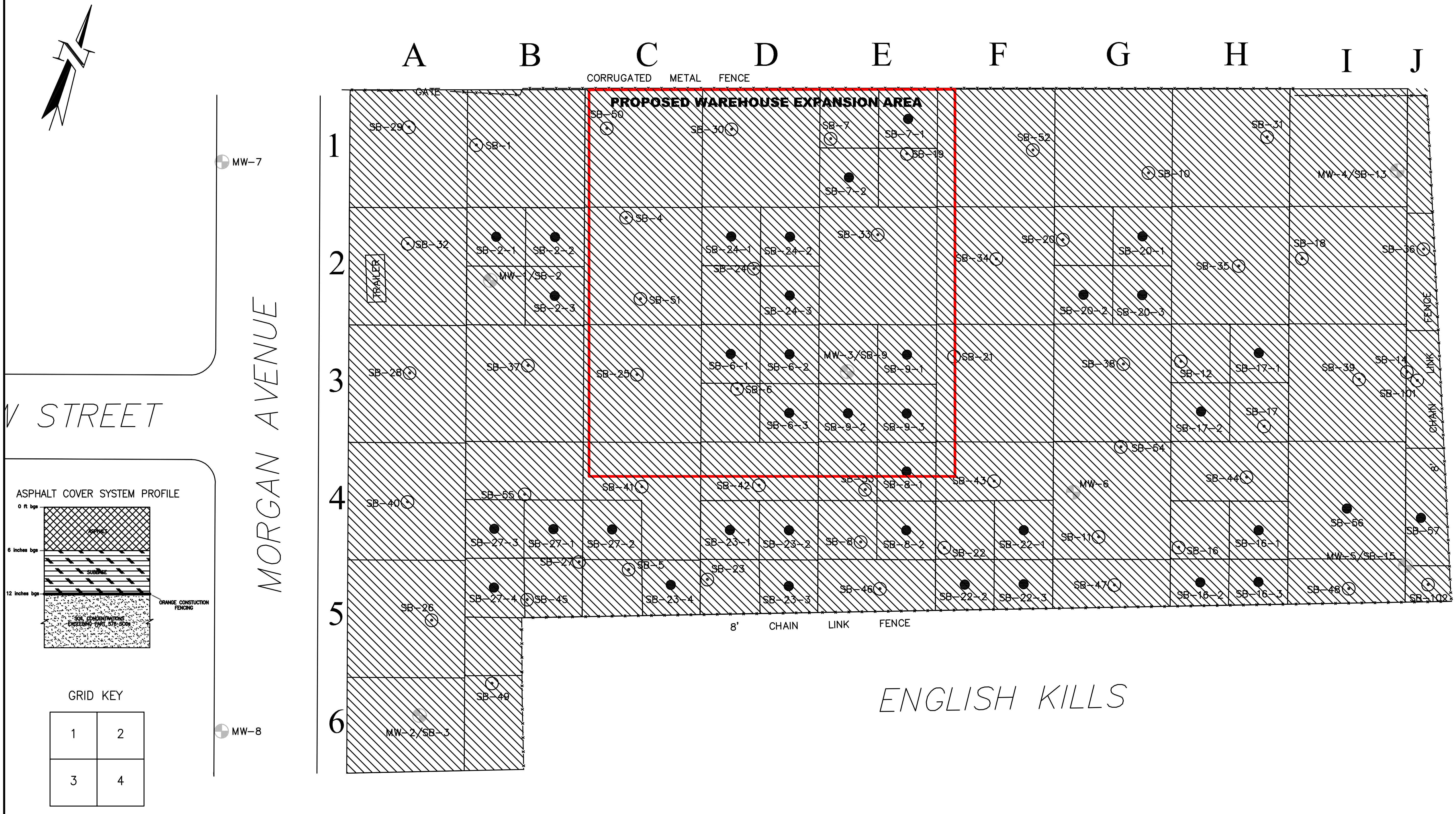
DATE REVISED:	

EX-SITU TREATMENT
AREAS TO BE EXCAVATED AND TREATED

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-5

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Ex-Situ.DWG, 3/29/2011 10:44:21 AM



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- AREA TO BE COVERED BY AN ASPHALT COVER SYSTEM

NOTE: PCB CONCENTRATIONS EXCEEDING THE TSCA CRITERIA OF 50 MG/KG AND LEAD CONCENTRATIONS EXCEEDING THE RCRA CRITERIA OF 5 MG/L WILL BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
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PROJECT #	47743
DRAWN BY:	DAB
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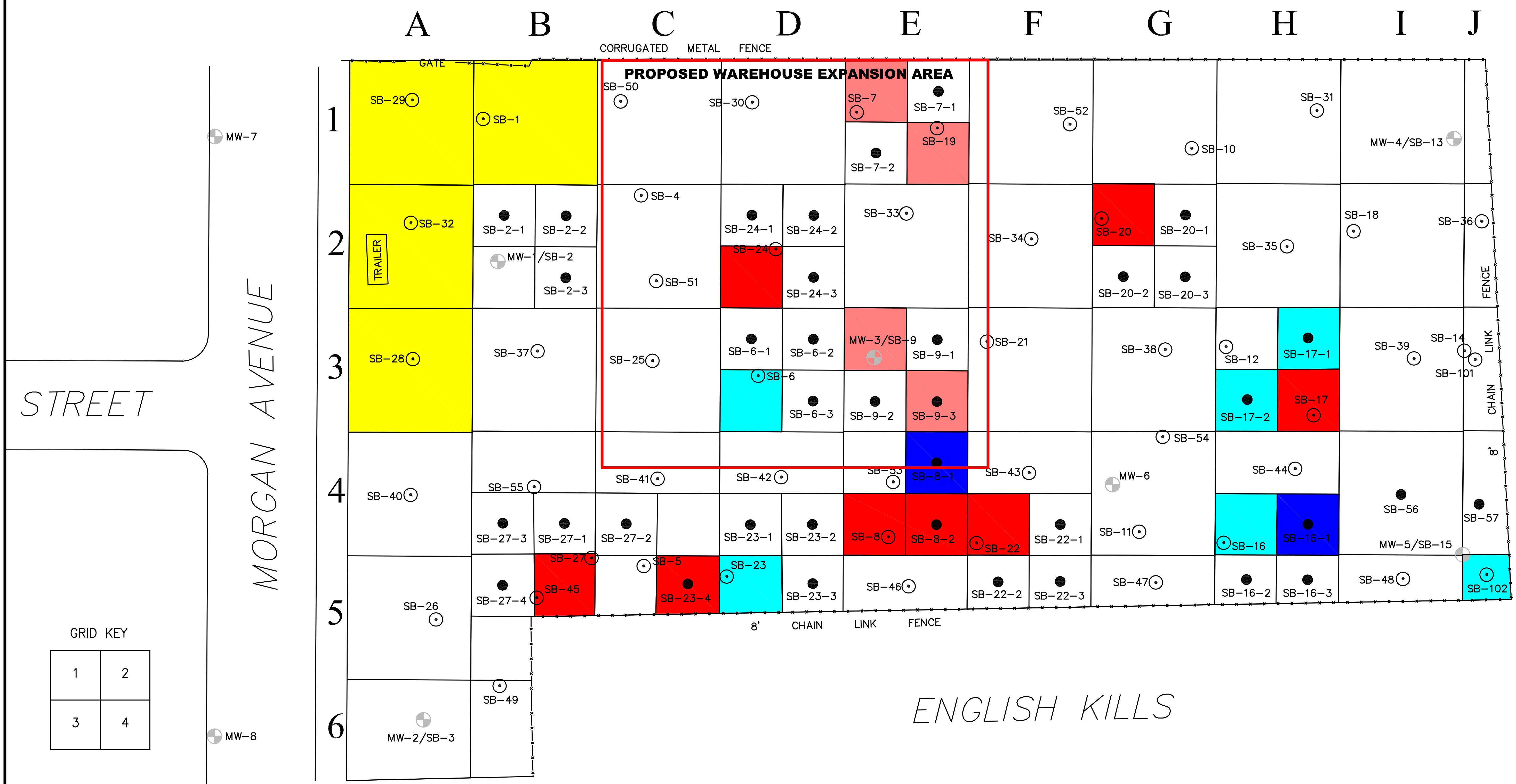
DATE REVISED:	

ASPHALT COVER SYSTEM

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-6

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Asphalt Cap.DWG, 3/21/2011 10:48:13 AM



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- ARSENIC EXCEEDANCE
- PCB EXCEEDANCE (>10 MG/KG)
- PCB EXCEEDANCE (>50 MG/KG)
- LEAD EXCEEDANCE (>10,000 MG/KG)
- PCB EXCEEDANCE (>25 MG/KG)

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

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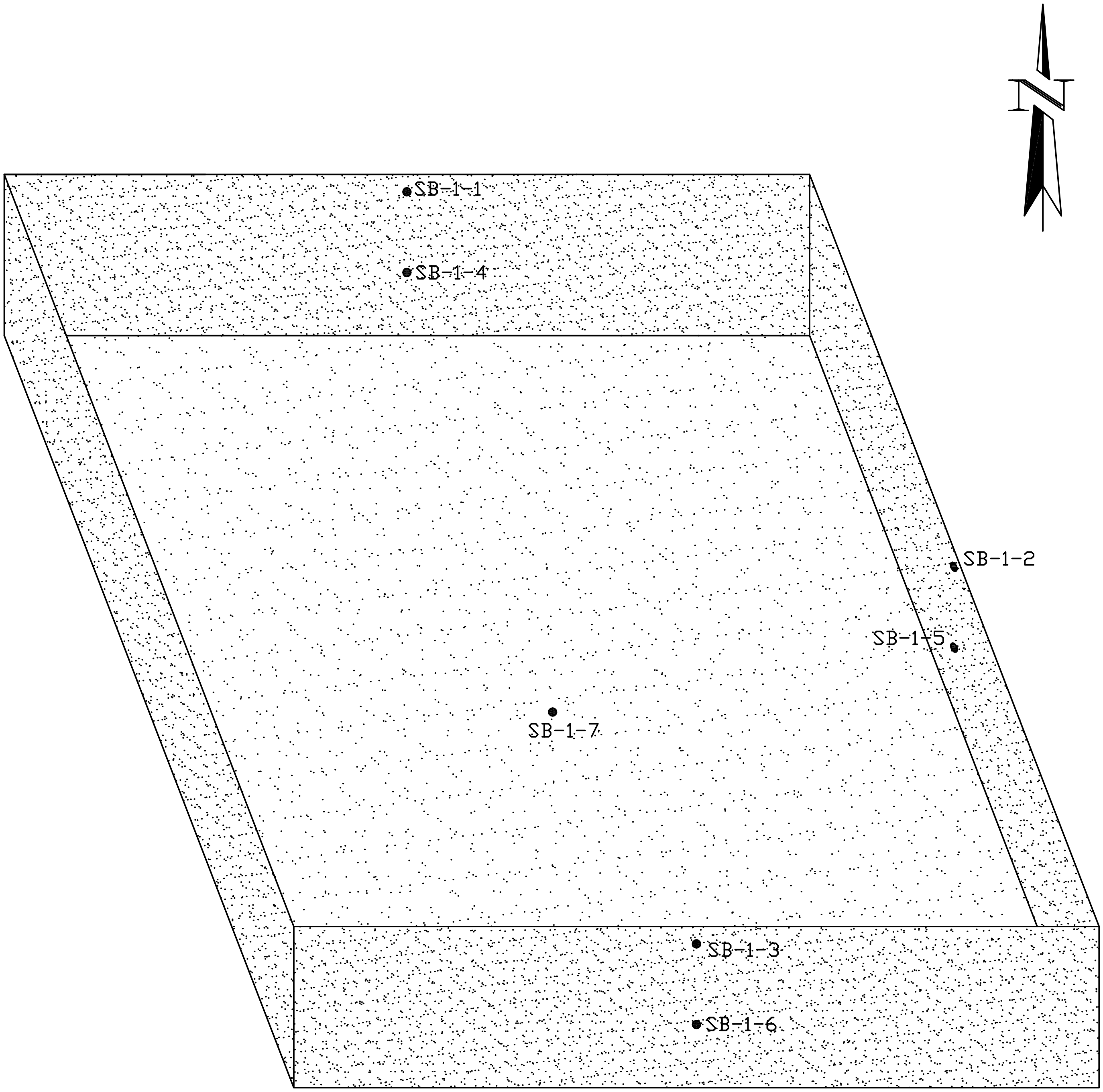
PROPOSED "HOT SPOT" SOIL EXCAVATION

FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-7

S:\PROJECTS\47743 - Frito Lay\November Figure Revisions\New Brady figures\Figure 4-7.DWG, 3/29/2011 10:29:50 AM



0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 72 - 74 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 120 - 126 INCHES BELOW SURFACE.

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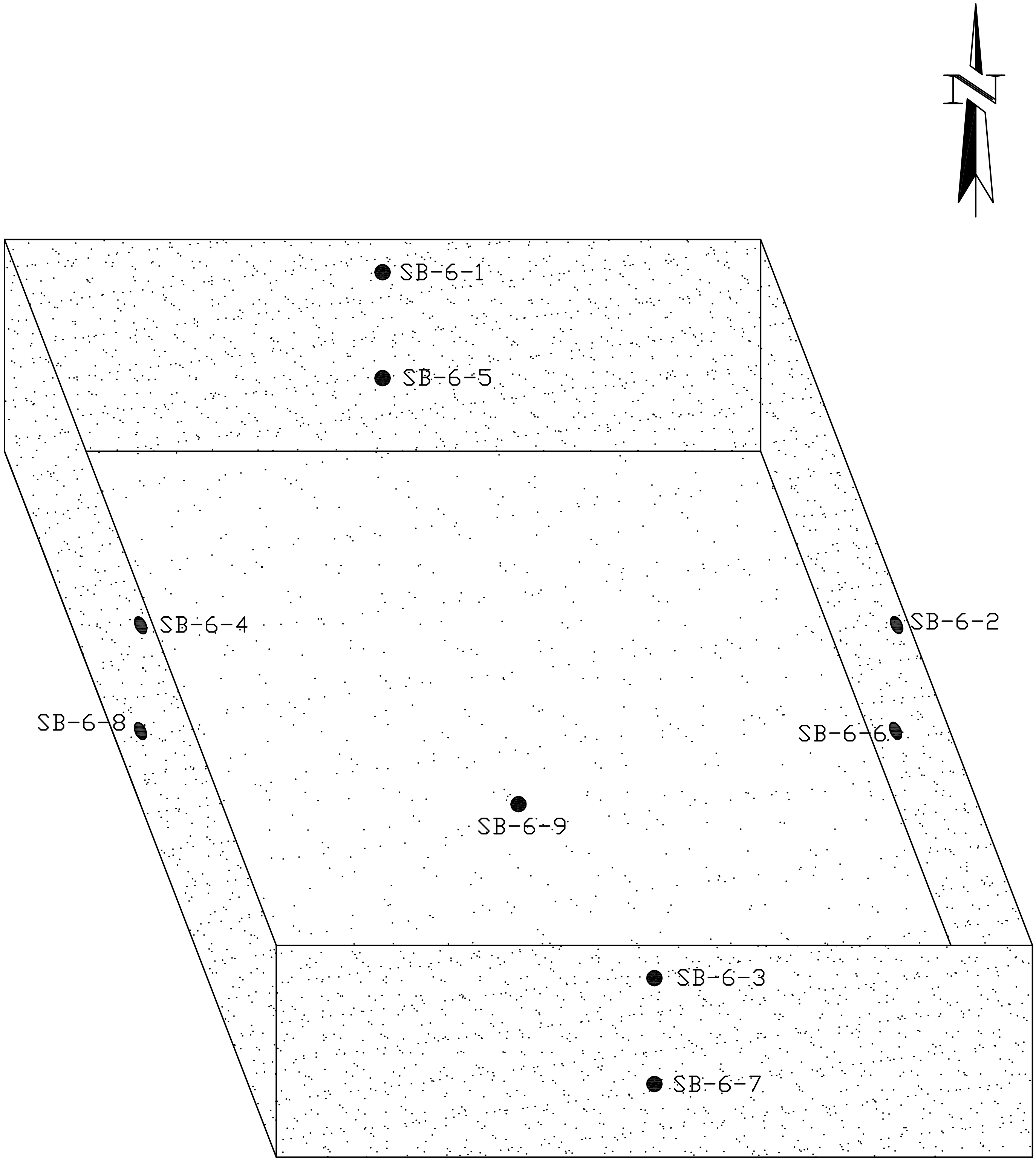
EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-1

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 4-8



0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 54 - 56 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 84 - 90 INCHES BELOW SURFACE.

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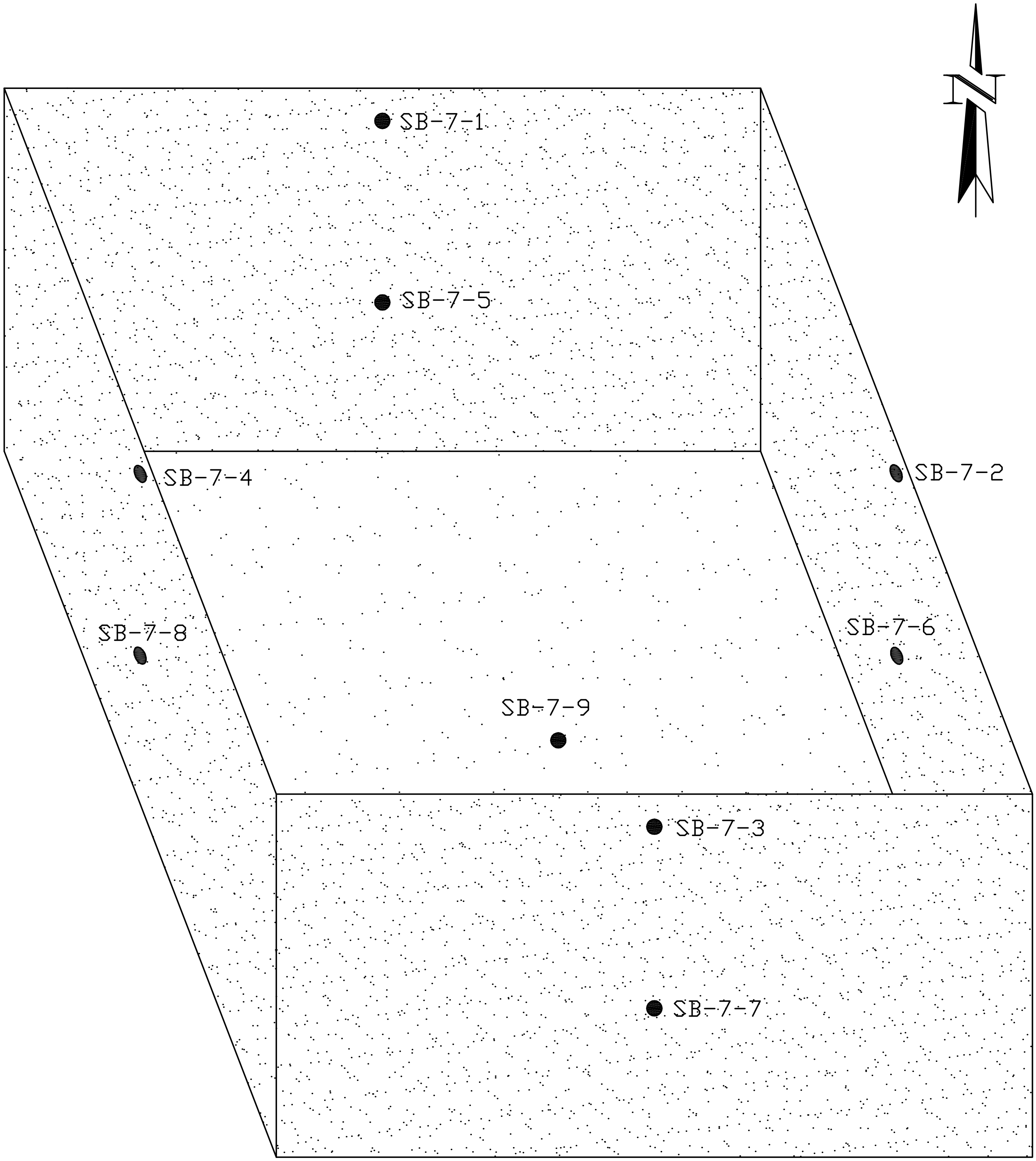
EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-6

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 4-9



0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 84 - 86 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 144 - 150 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-7

FRITO LAY
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FIGURE **4-10**

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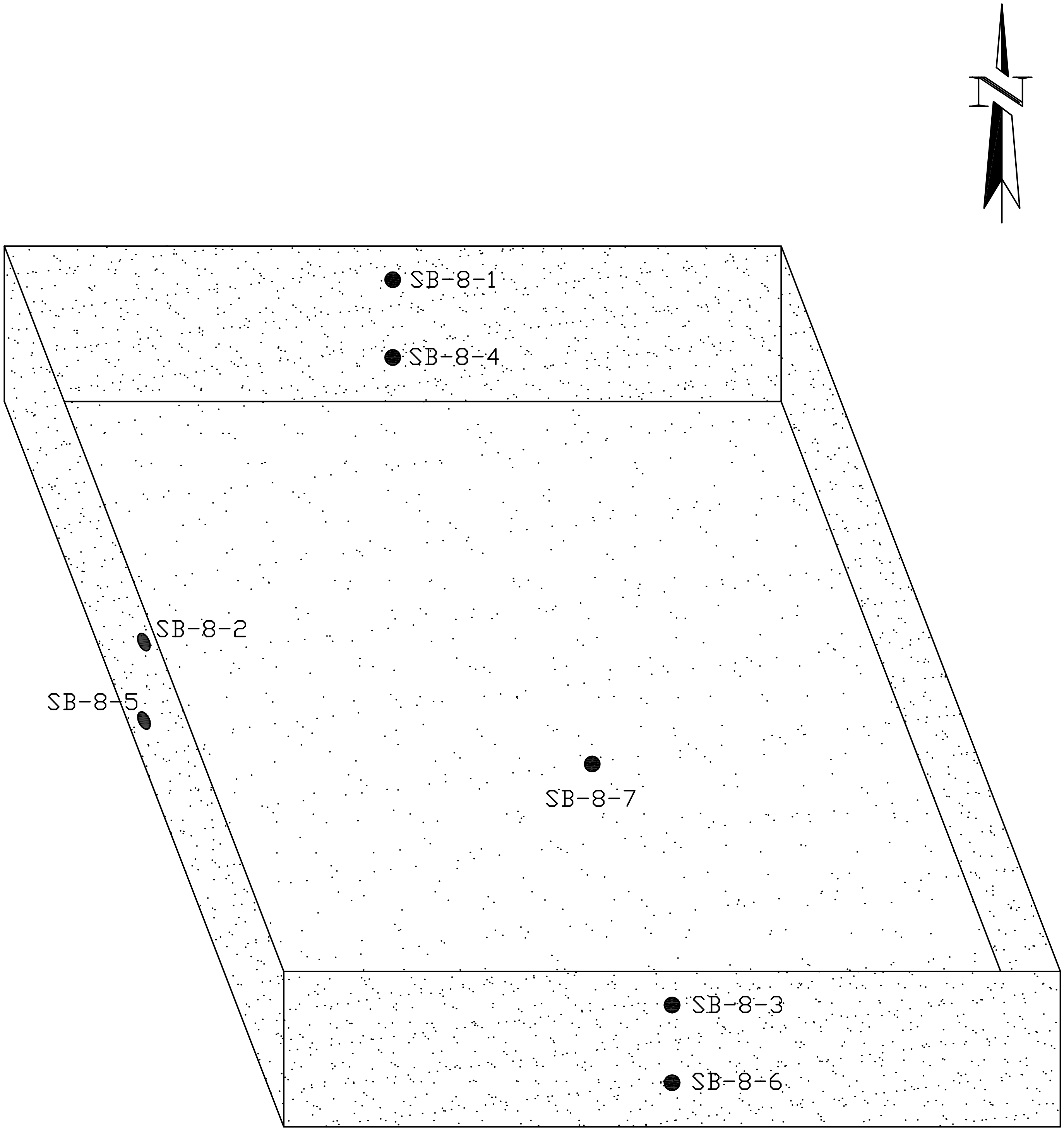

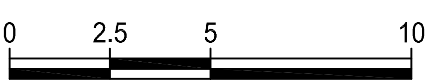

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 42 - 44 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 60 - 66 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-8

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FIGURE 4-11

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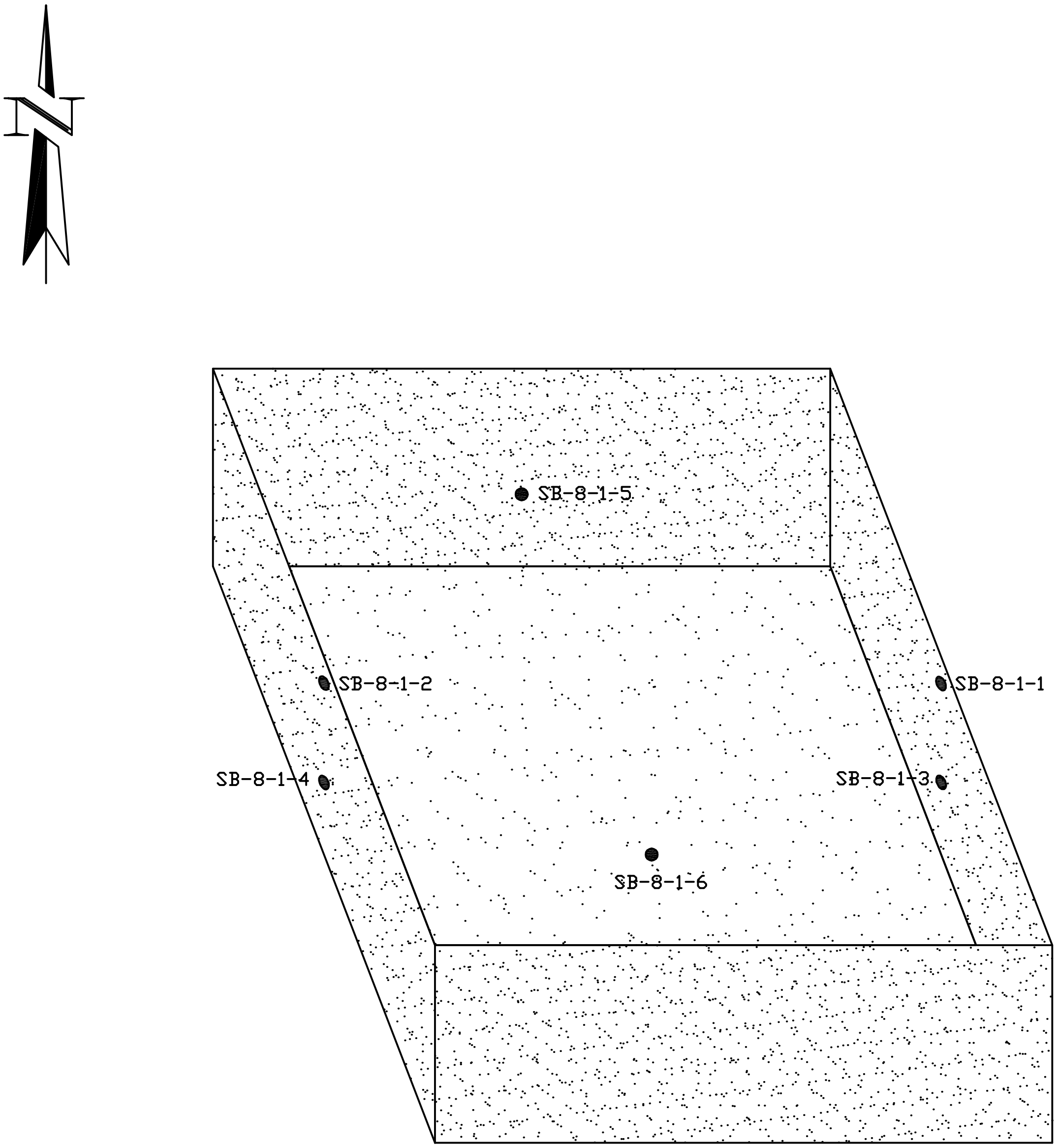

0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-8-1

FRITO LAY
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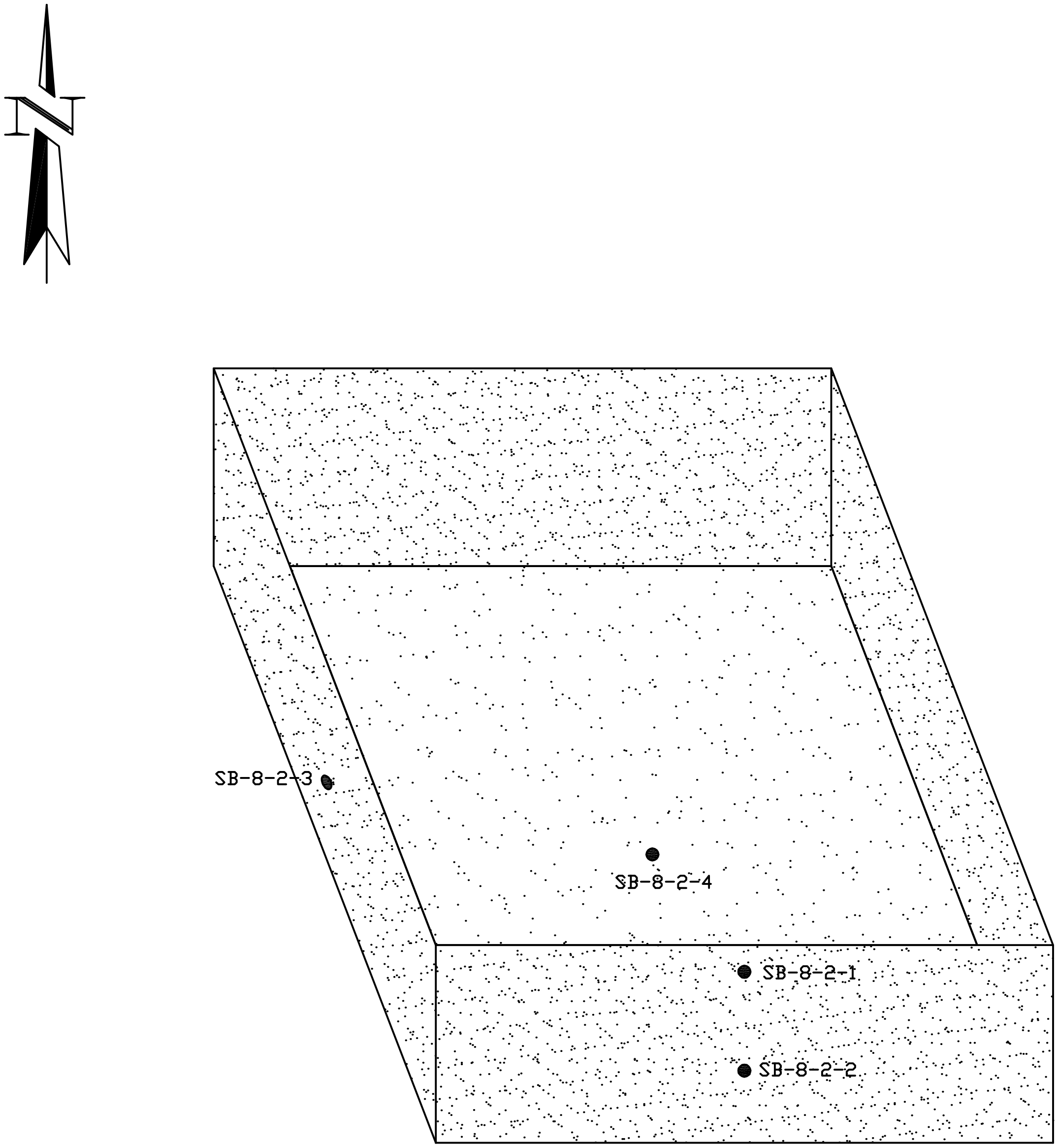
BROOKLYN, NEW YORK

FIGURE 4-12



0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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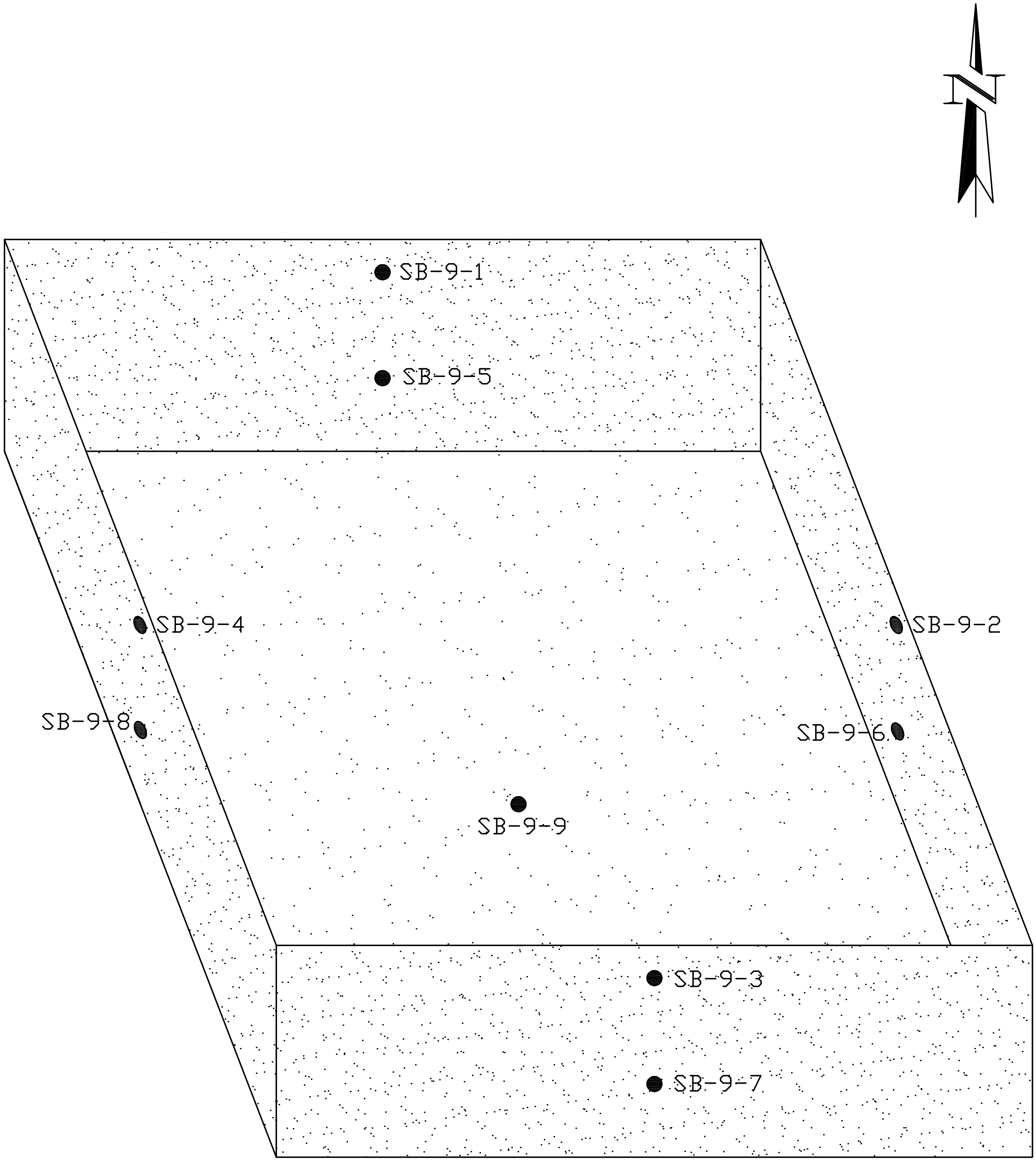
EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-8-2

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 4-13



0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 54 - 56 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 84 - 90 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-9

FRITO LAY
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FIGURE **4-14**

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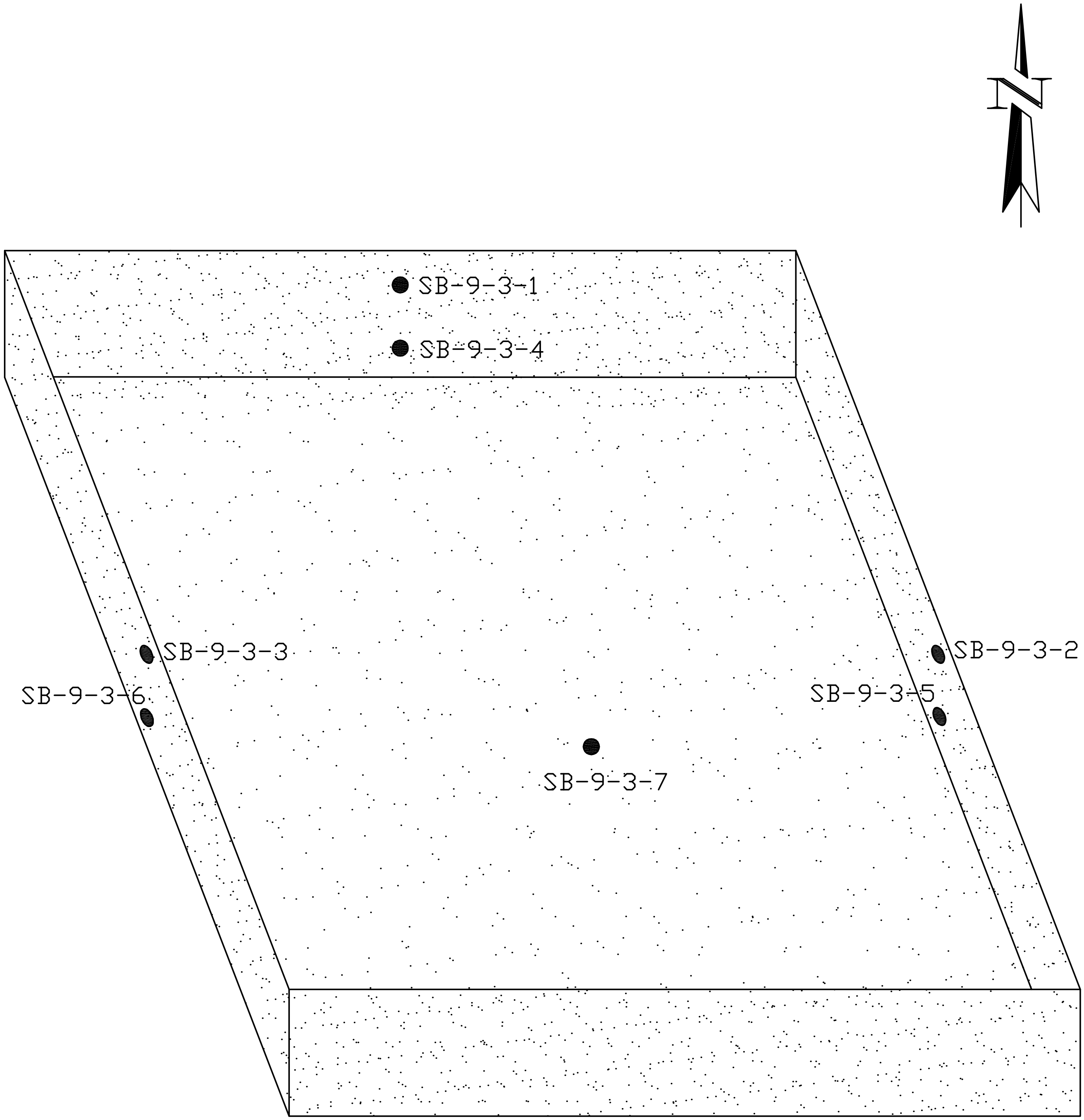

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 36 - 38 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 48 - 54 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-9-3

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FIGURE 4-15

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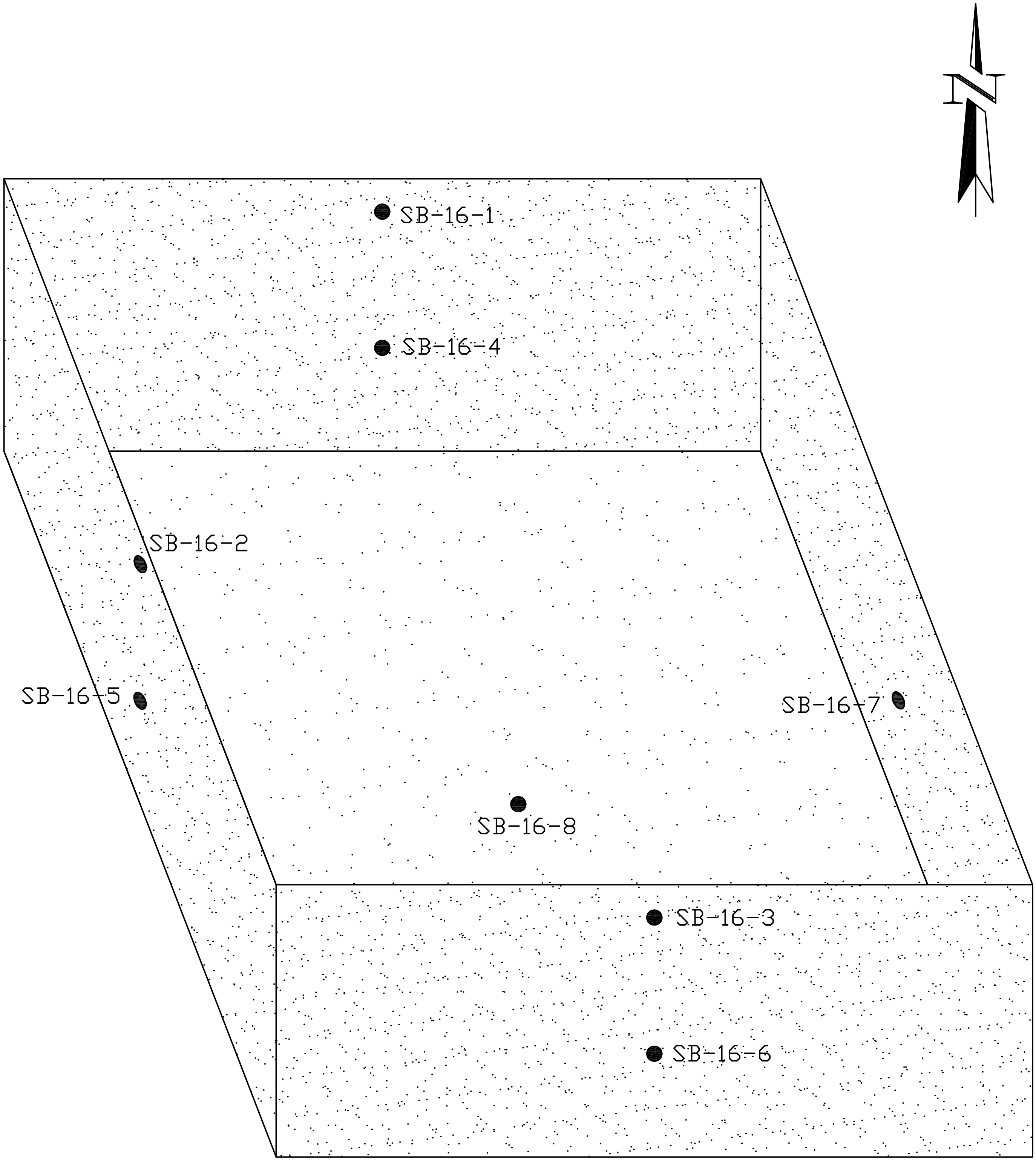

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 66 - 68 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 108 - 114 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-16

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FIGURE 4-16

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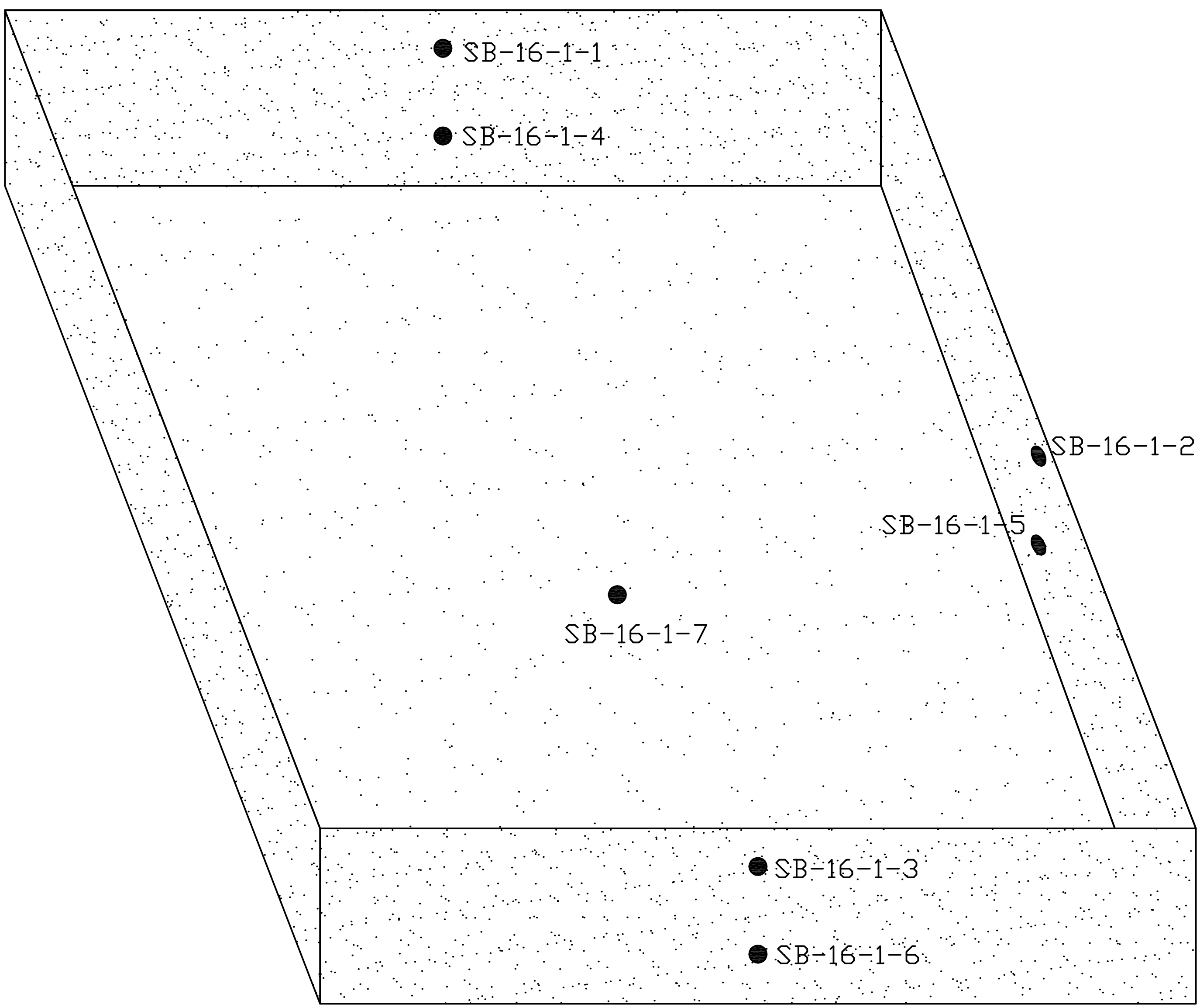

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES FEET BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 42 - 44 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 60 - 66 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-16-1

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FIGURE 4-17

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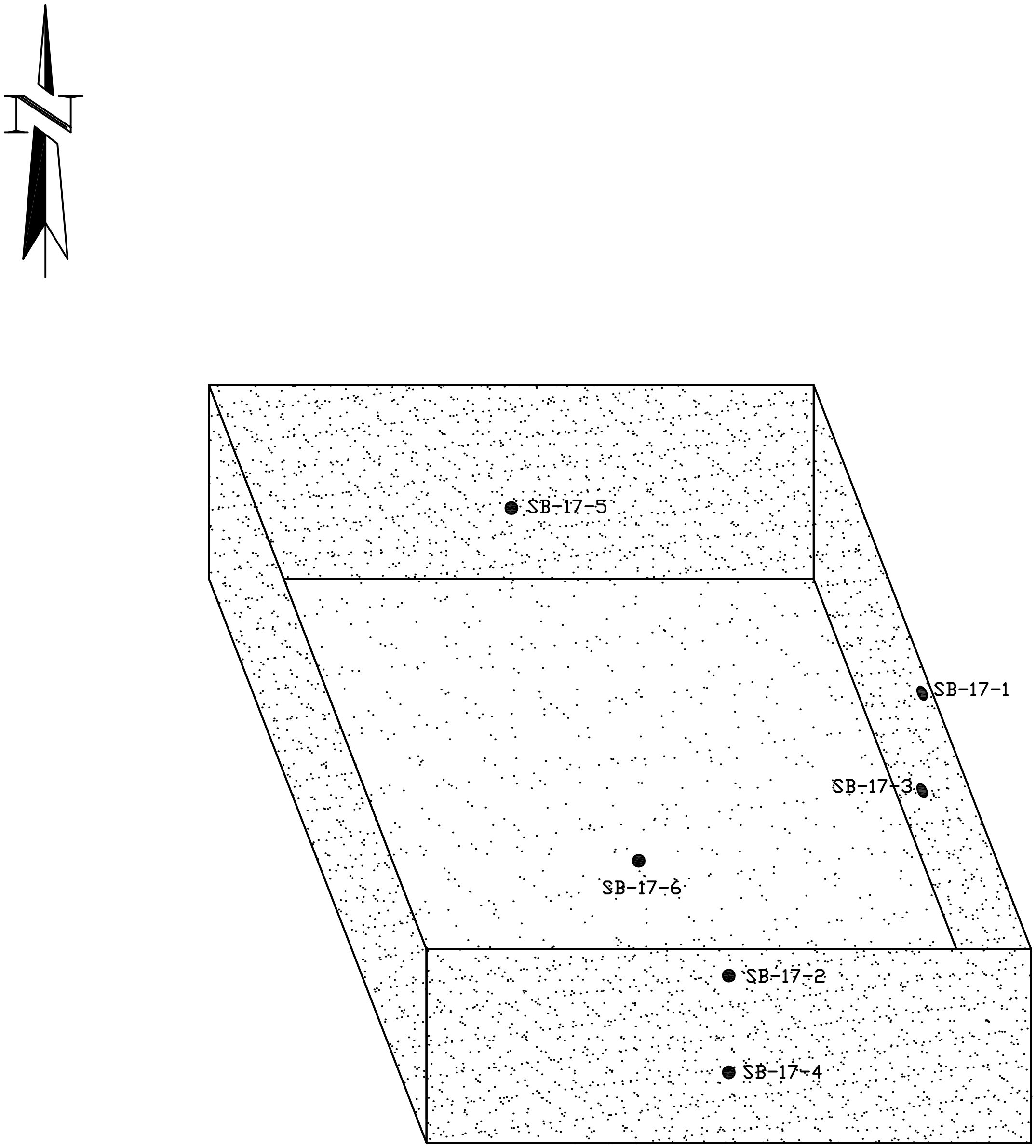

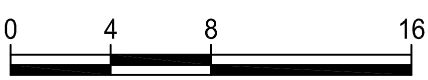

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-17

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FIGURE
4-18

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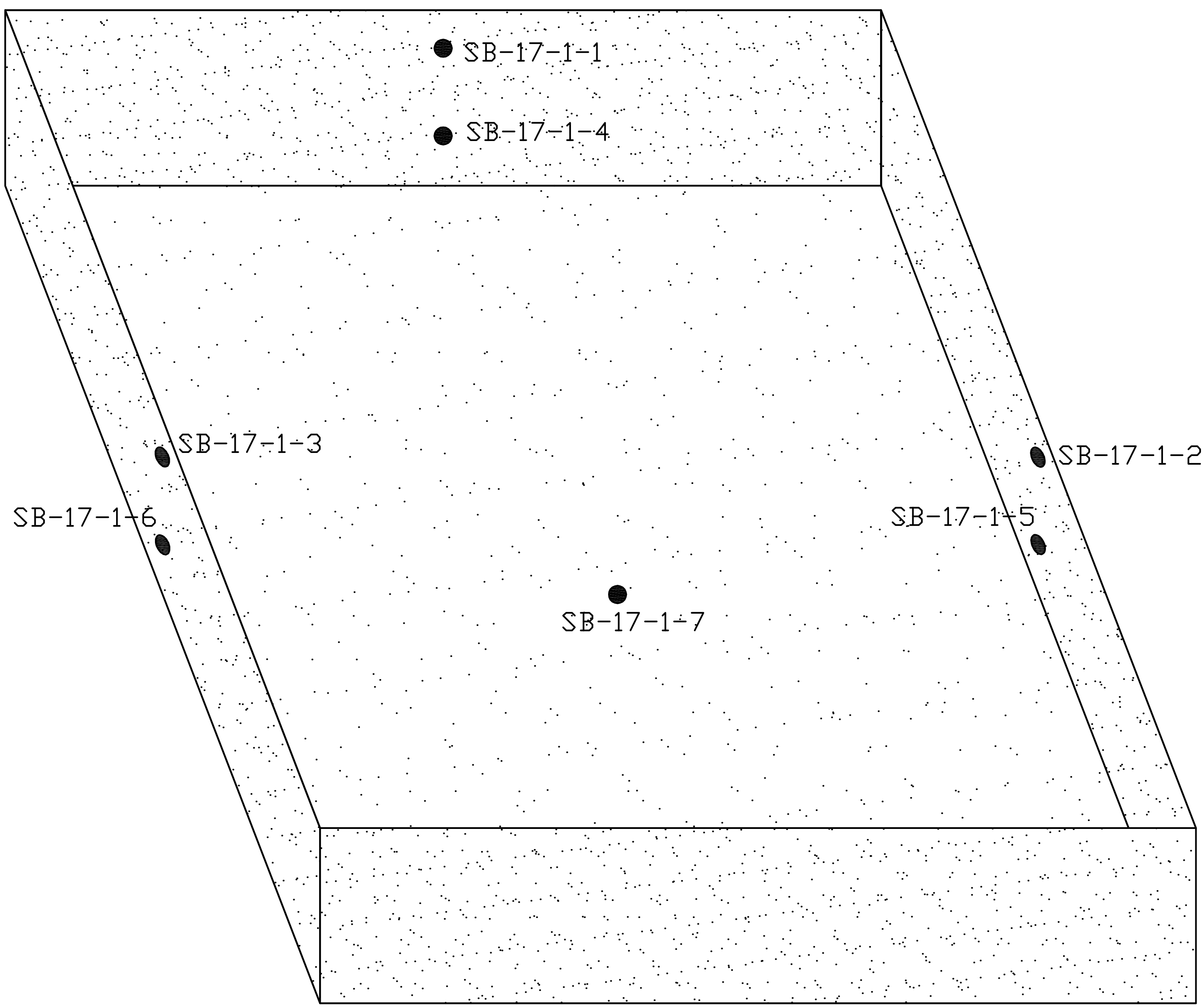

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 42 - 44 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 60 - 66 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-17-1

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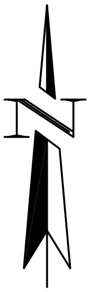
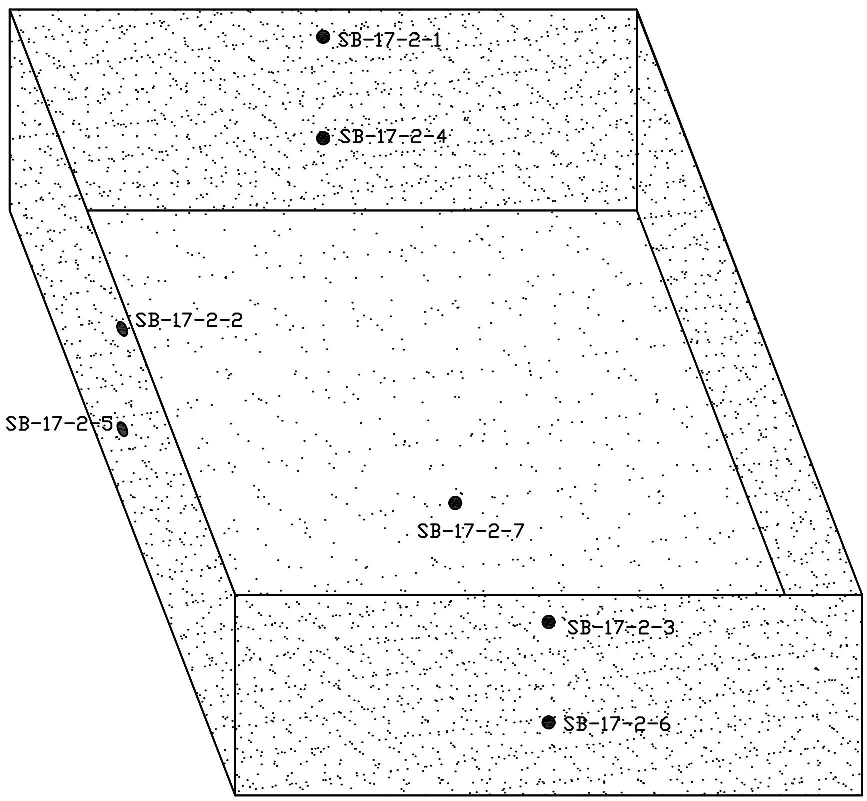
FIGURE 4-19





0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-17-2

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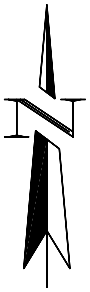
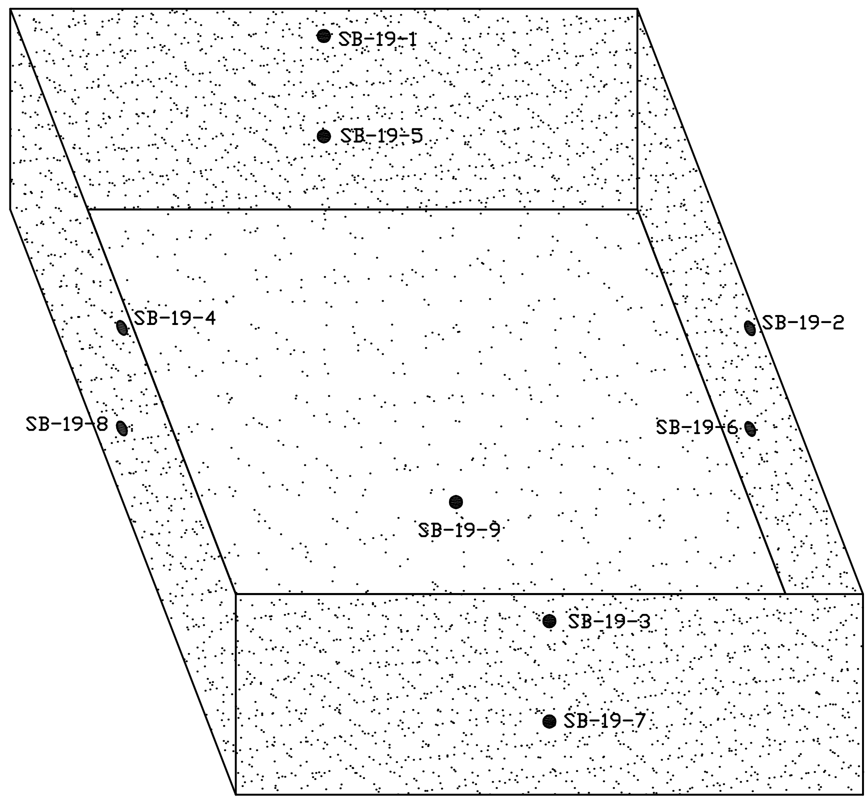
BROOKLYN, NEW YORK

FIGURE **4-20**





0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-19

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FIGURE **4-21**

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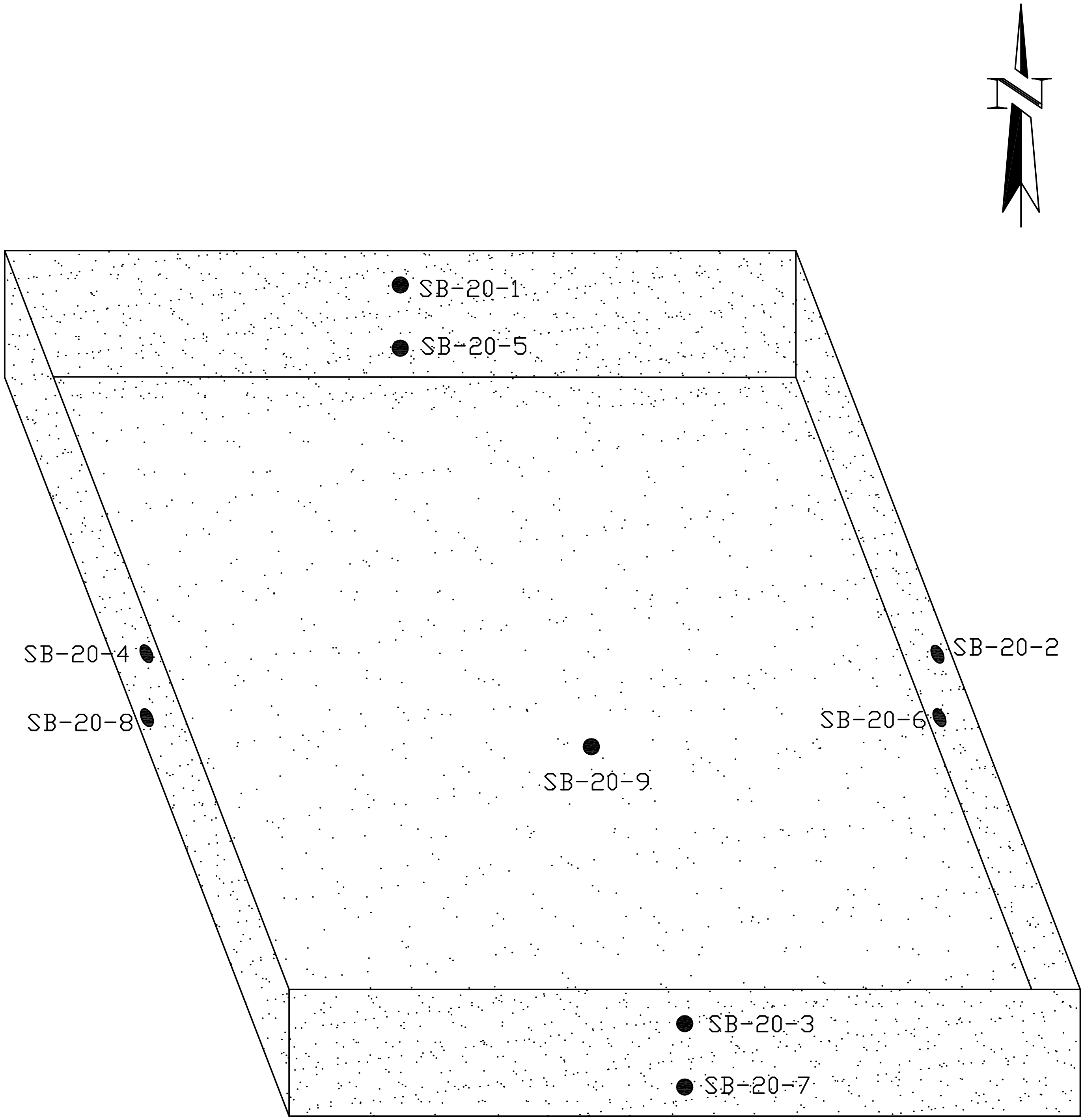

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 36 - 38 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 48 - 54 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-20

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FIGURE
4-22

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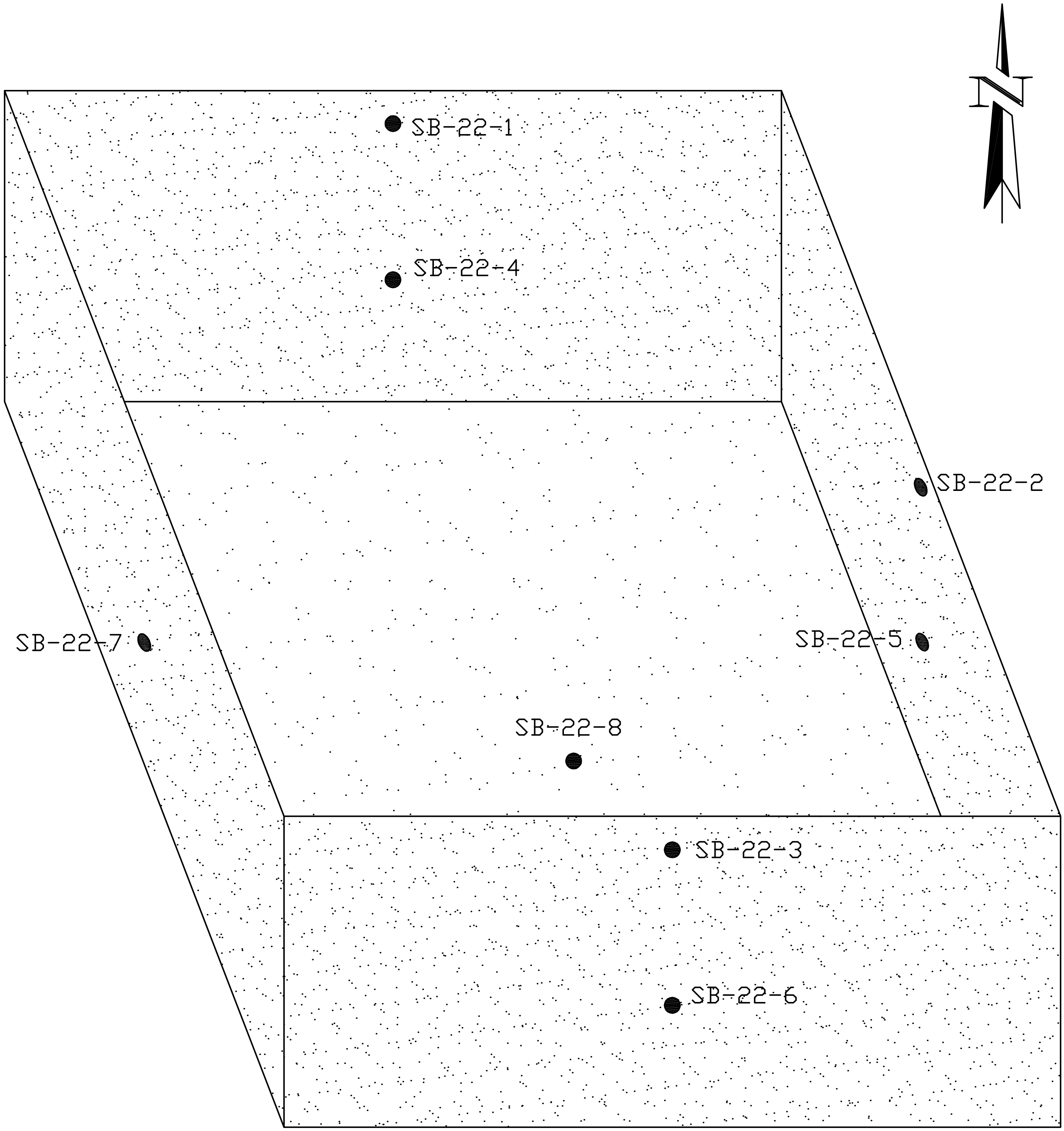

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 72 - 74 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 120 - 126 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-22

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FIGURE **4-23**

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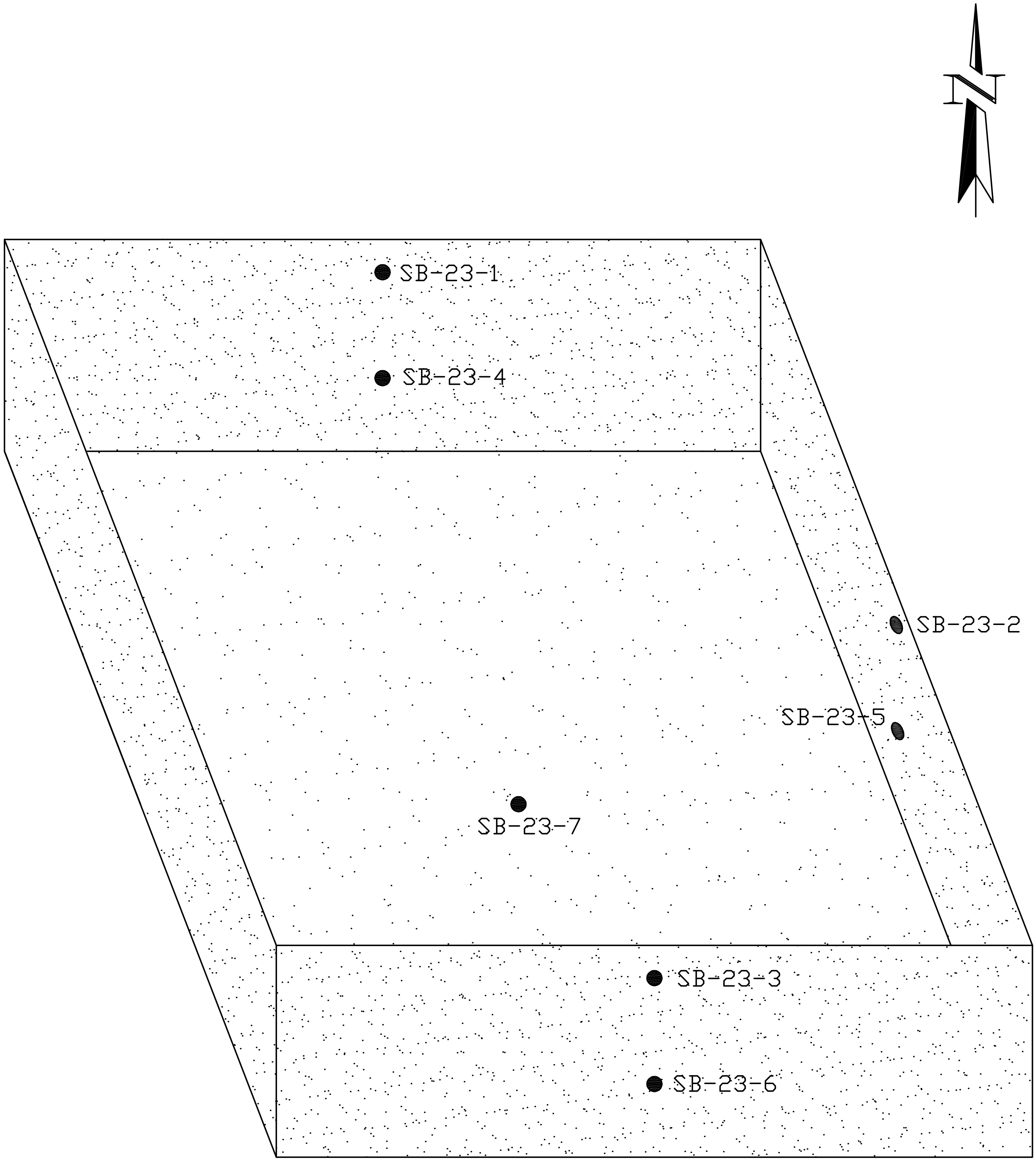

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 54 - 56 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLES WILL BE COLLECTED 84 - 90 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-23

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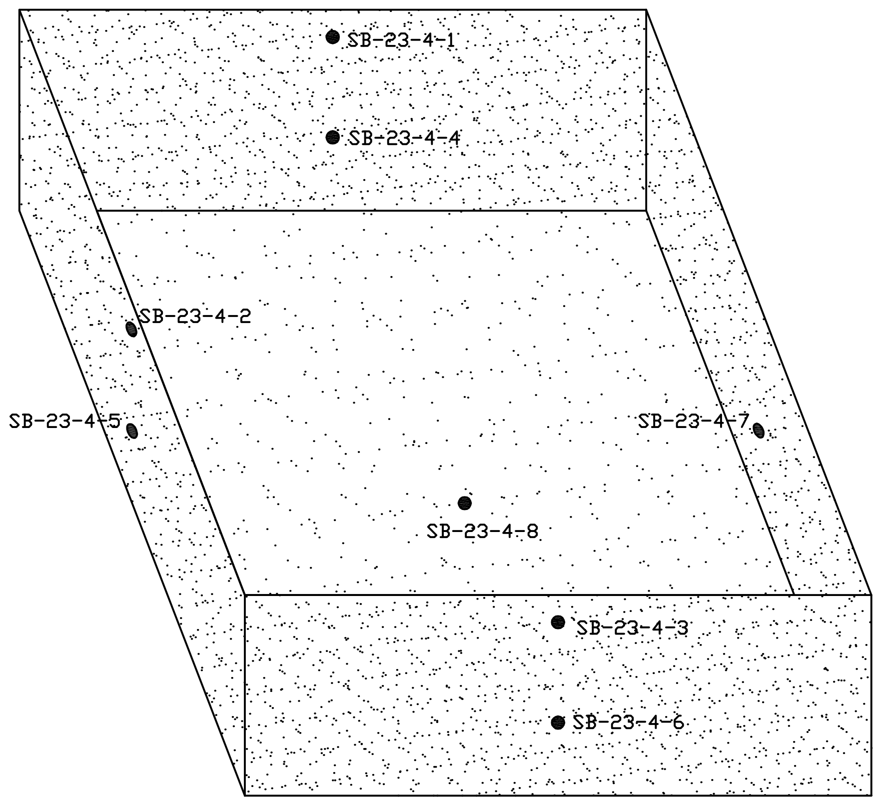
FIGURE 4-24



0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-23-4

FRITO LAY
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FIGURE
4-25

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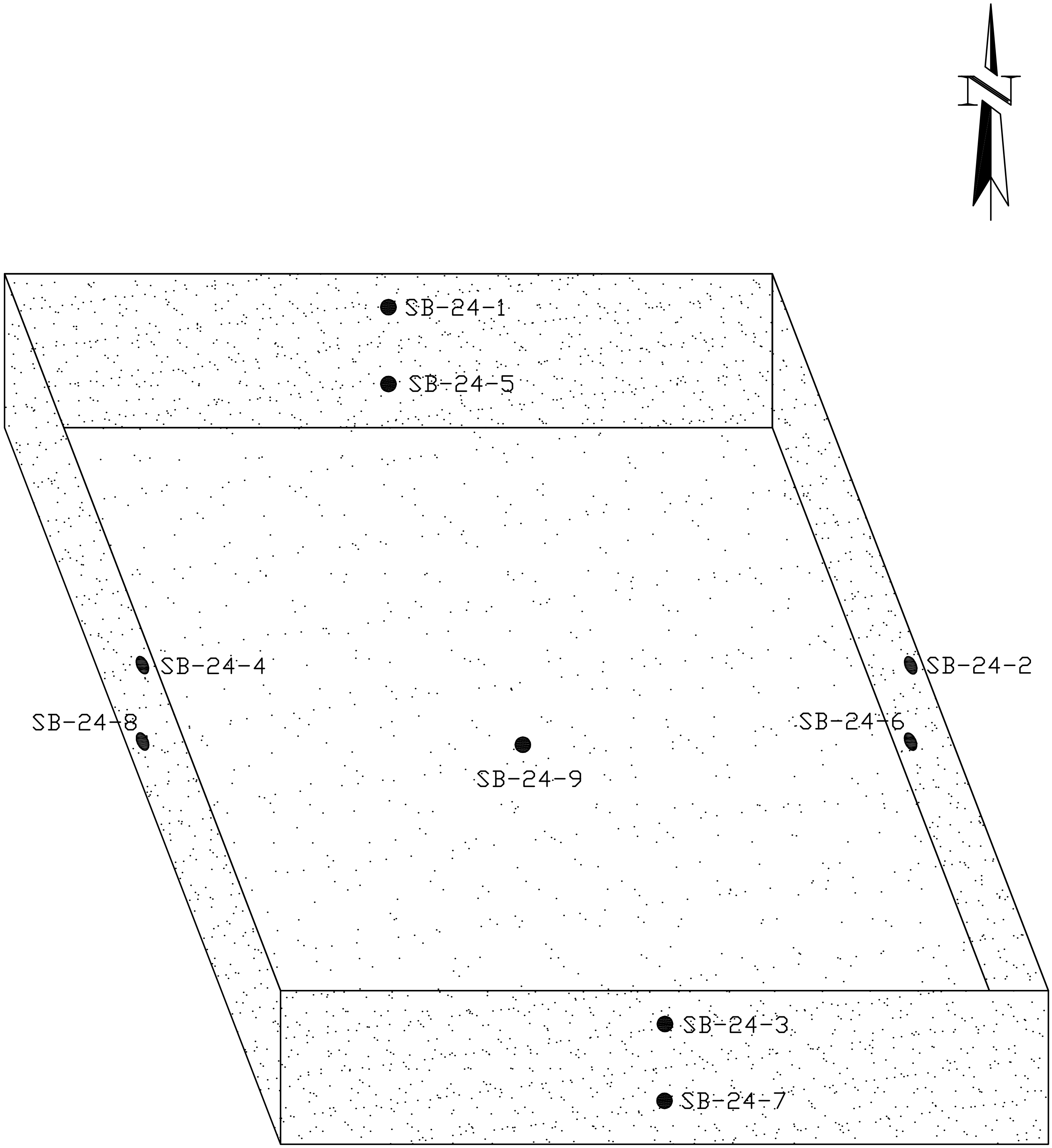

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 42 - 44 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 60 - 66 INCHES BELOW SURFACE.

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EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-24

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FIGURE 4-26

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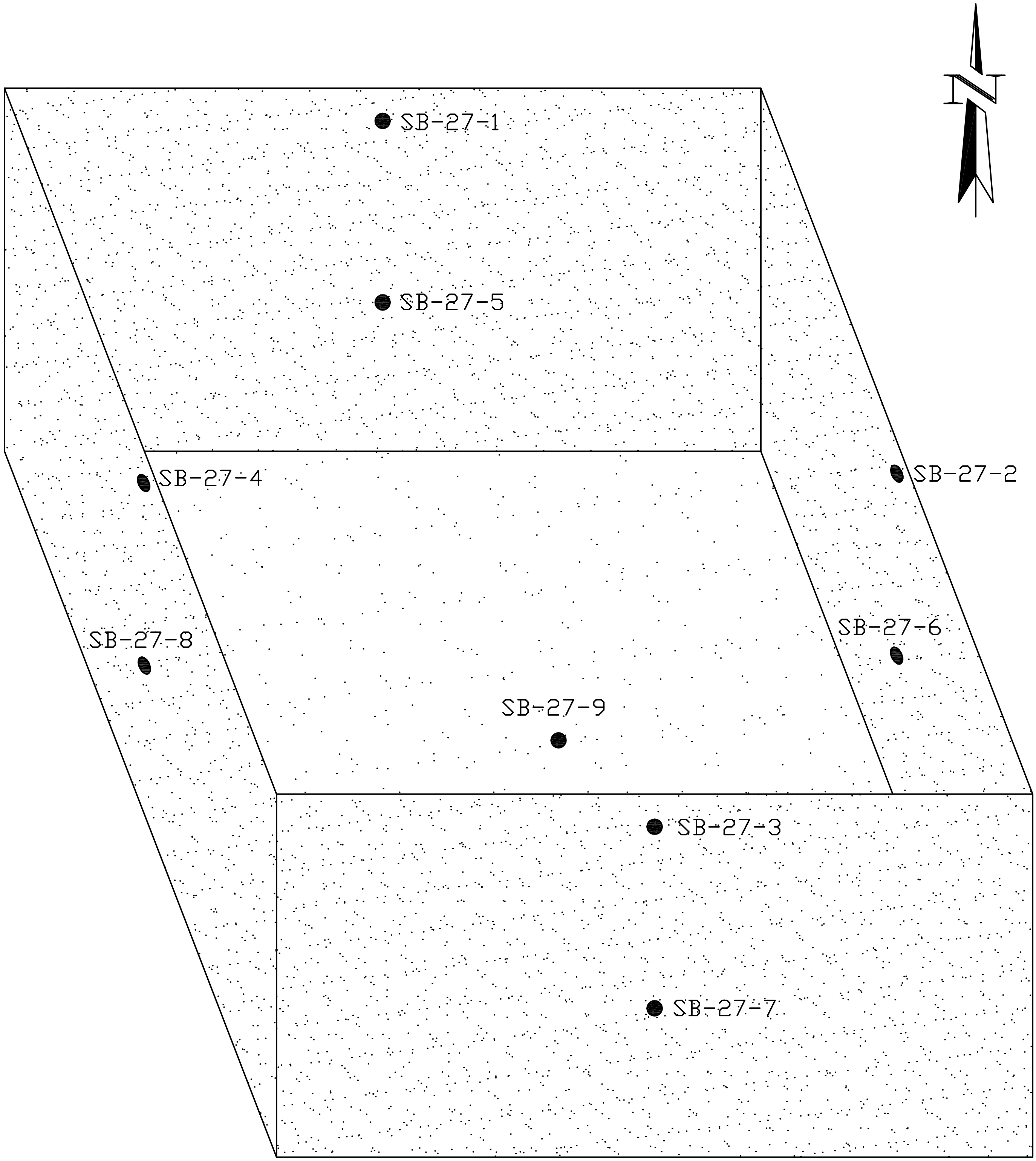

0 2.5 5 10

SCALE: 1 INCH EQUALS 5 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 84 - 86 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 144 - 150 INCHES BELOW SURFACE.

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
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WWW.GFNET.COM

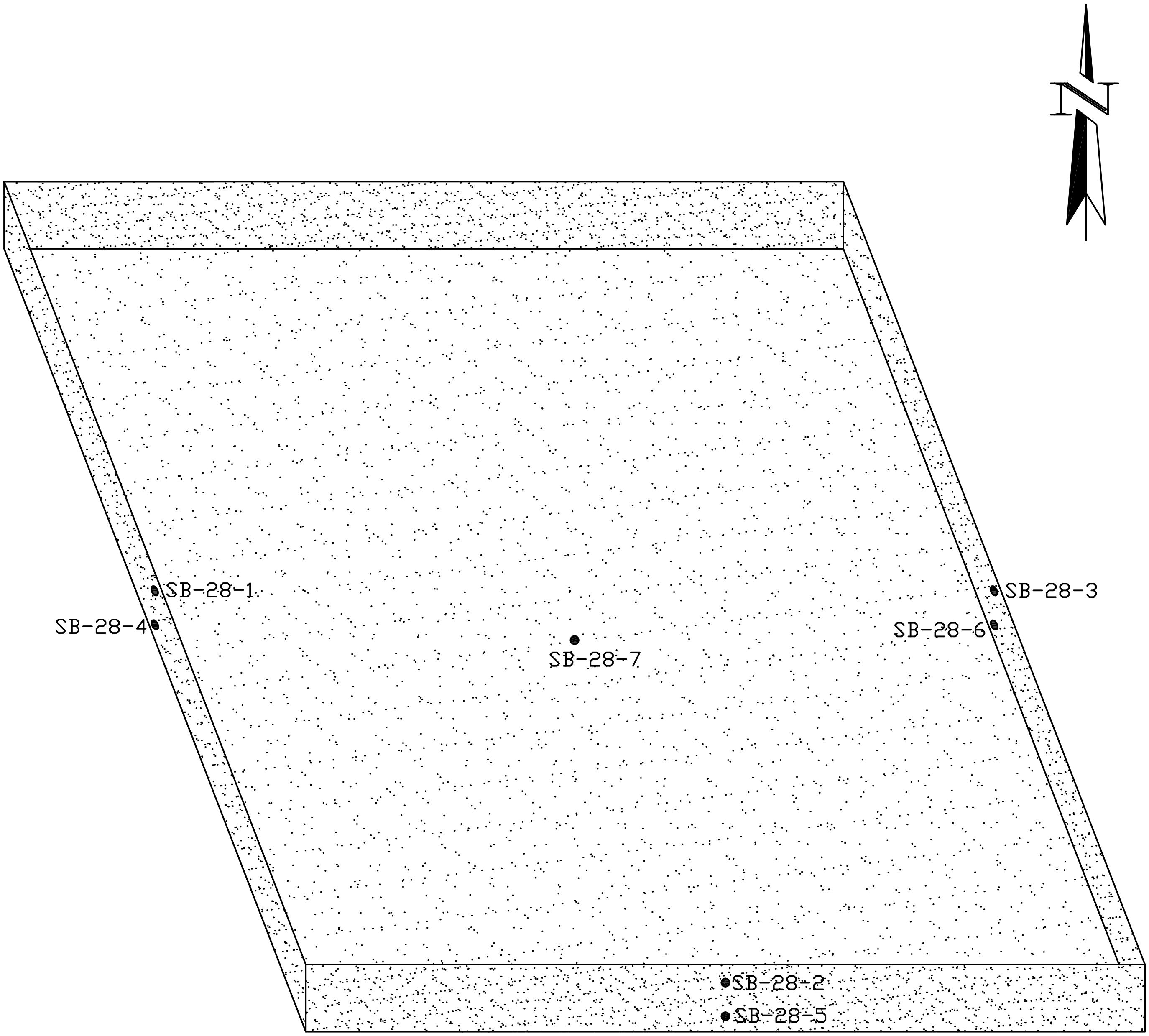
PROJECT #	47743
DRAWN BY:	DAB
DATE DRAWN:	MAR 2011
REVISED BY:	
DATE REVISED:	

EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-27

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE **4-27**

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Excavations\SB-27.dwg, 3/29/2011 12:07:14 PM



0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
-SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
-MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 36 - 38 INCHES BELOW SURFACE.
-BASE ENDPOINT SAMPLE WILL BE COLLECTED 48 - 54 INCHES BELOW SURFACE.

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PROJECT #	47743
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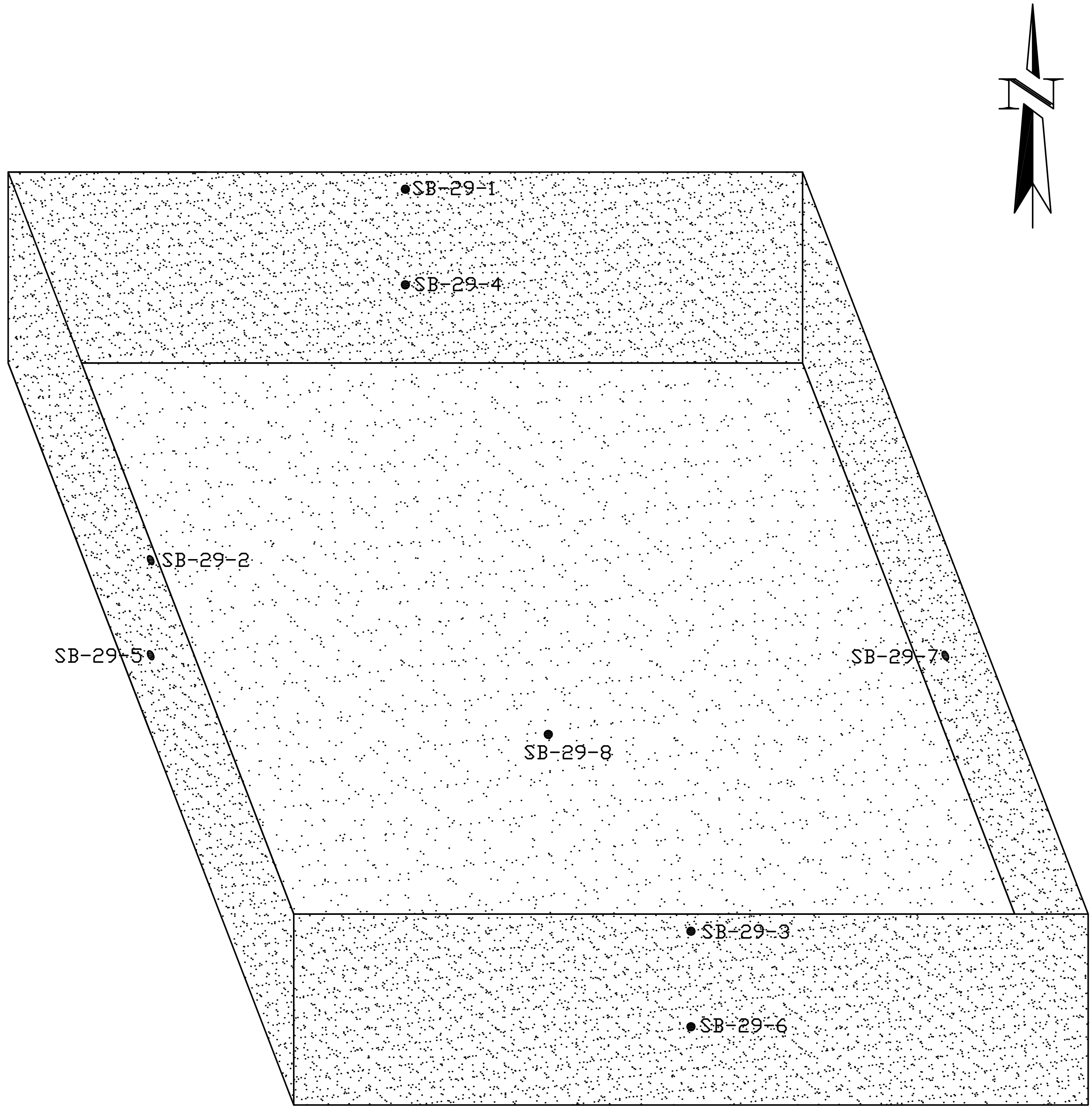
DATE DRAWN:	MAR 2011
REVISED BY:	
DATE REVISED:	

EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-28

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE **4-28**

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Excavations\SB-28.dwg, 3/29/2011 12:10:01 PM



0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 84 - 86 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 144 - 150 INCHES BELOW SURFACE.

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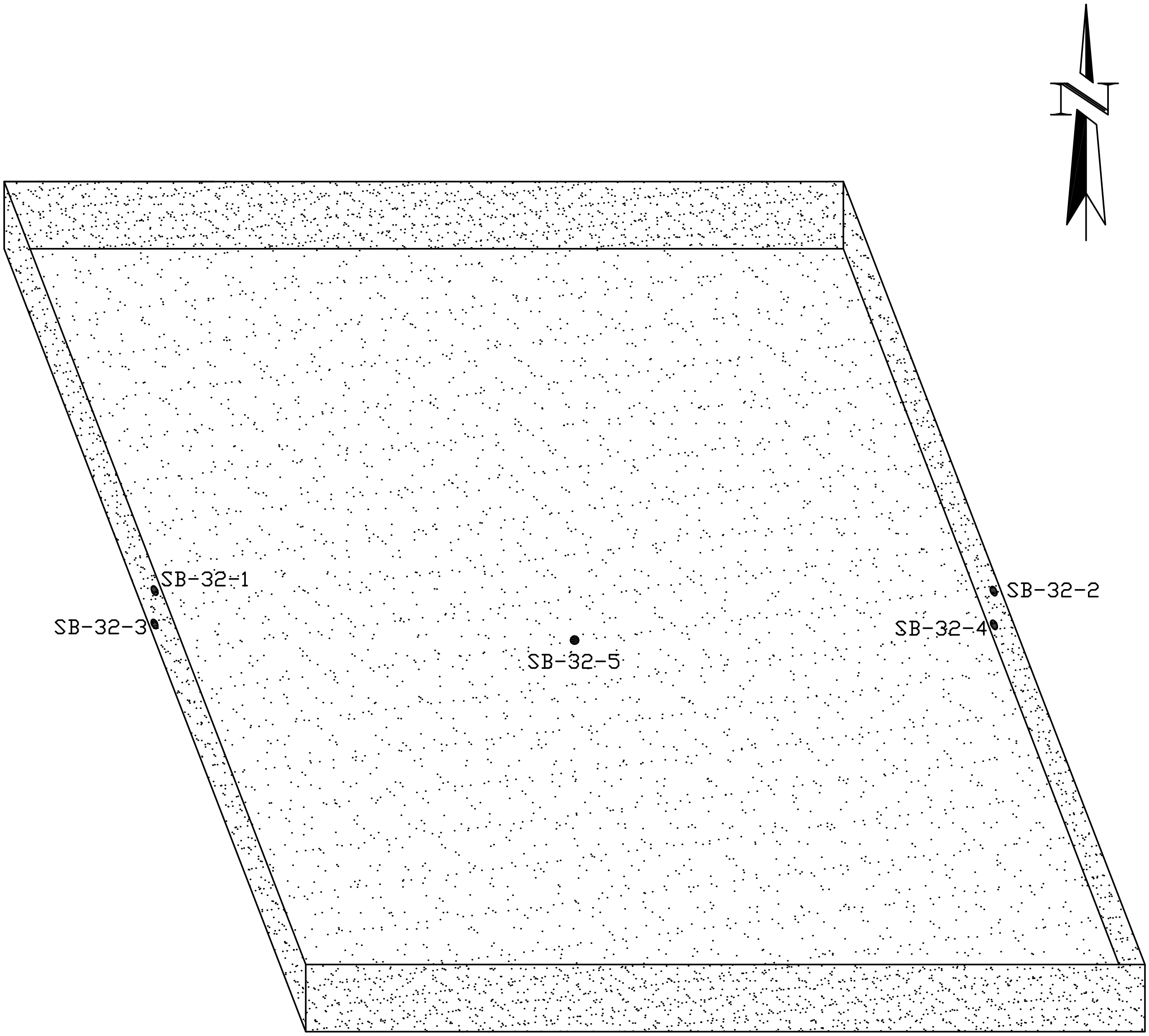
EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-29

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 4-29



S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Excavations\SB-32.dwg, 3/29/2011 12:13:25 PM

0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:
- -SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- -MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 36 - 38 INCHES BELOW SURFACE.
- -BASE ENDPOINT SAMPLE WILL BE COLLECTED 48 - 54 INCHES BELOW SURFACE.

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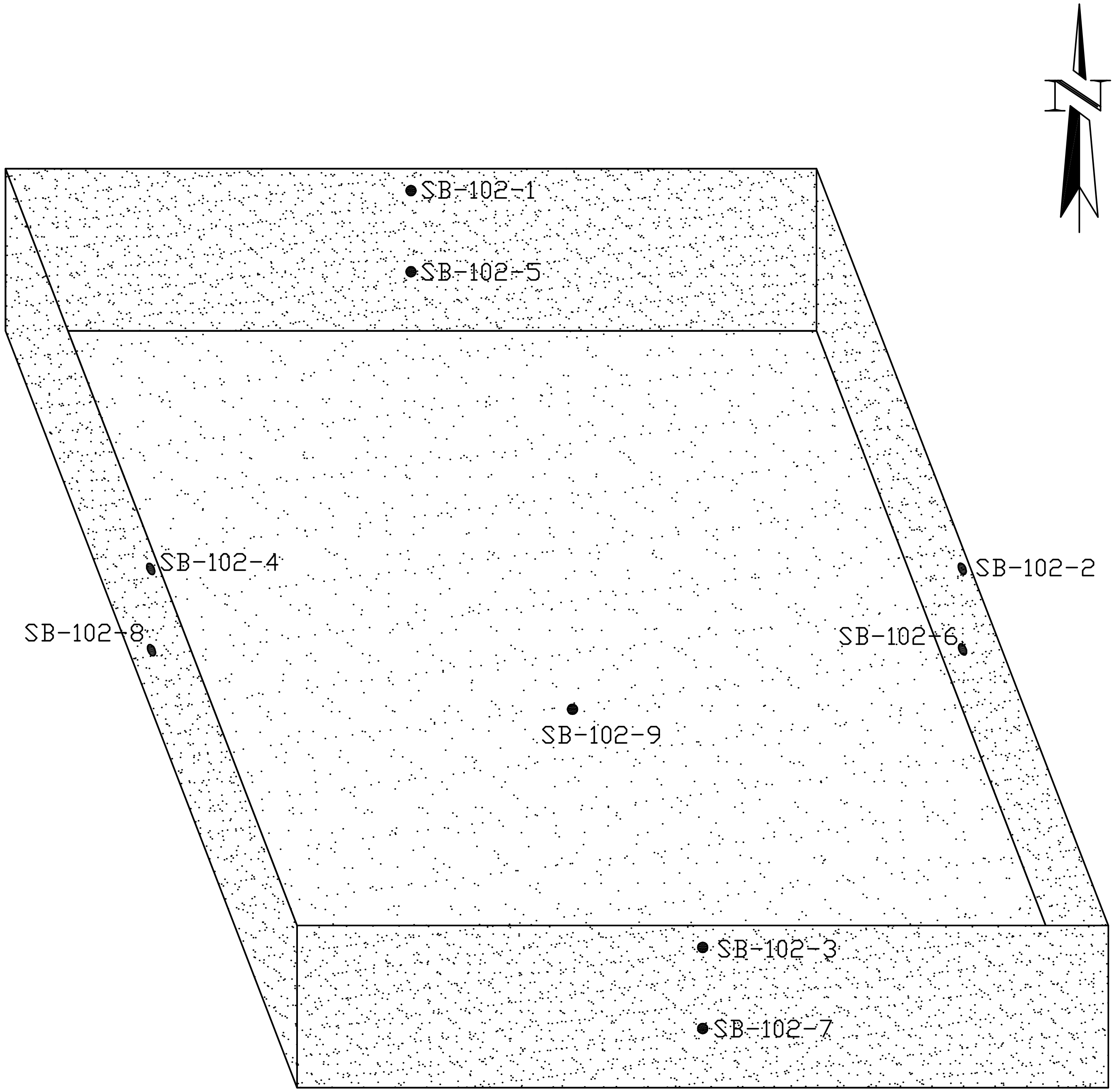
EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-32

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE 4-30



0 4 8 16

SCALE: 1 INCH EQUALS 8 FEET

LEGEND

● ENDPOINT SOIL SAMPLE LOCATION

NOTES:

- SHALLOW SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 12 - 14 INCHES BELOW SURFACE.
- MIDPOINT SIDEWALL ENDPOINT SAMPLES WILL BE COLLECTED 60 - 62 INCHES BELOW SURFACE.
- BASE ENDPOINT SAMPLE WILL BE COLLECTED 96 - 102 INCHES BELOW SURFACE.

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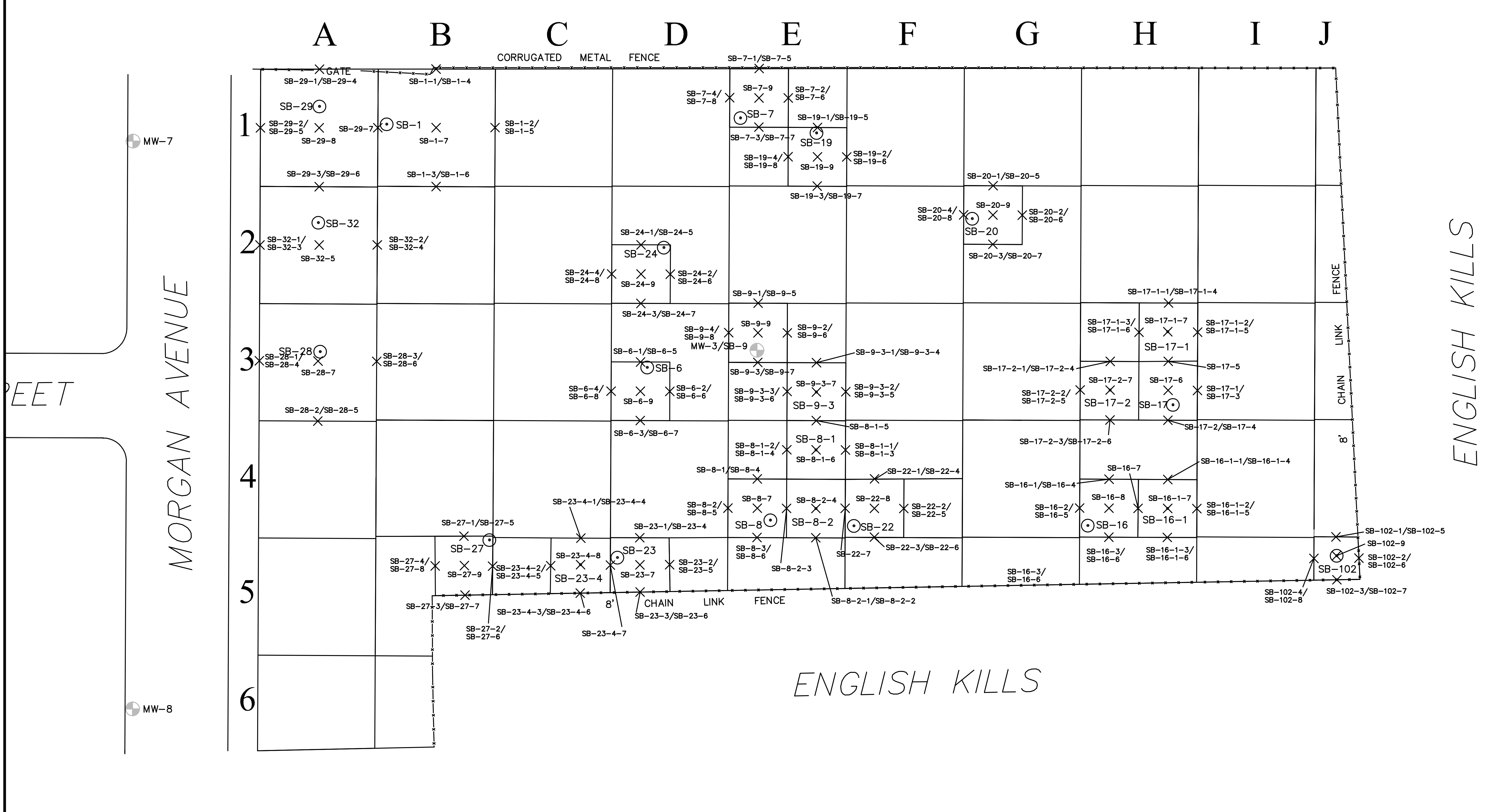
DATE REVISED:	

EXCAVATION AND ENDPOINT SAMPLING PLAN FOR SB-102

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE **4-31**



LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SOIL BORING LOCATIONS
- ENDPOINT SAMPLING LOCATIONS

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming

100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

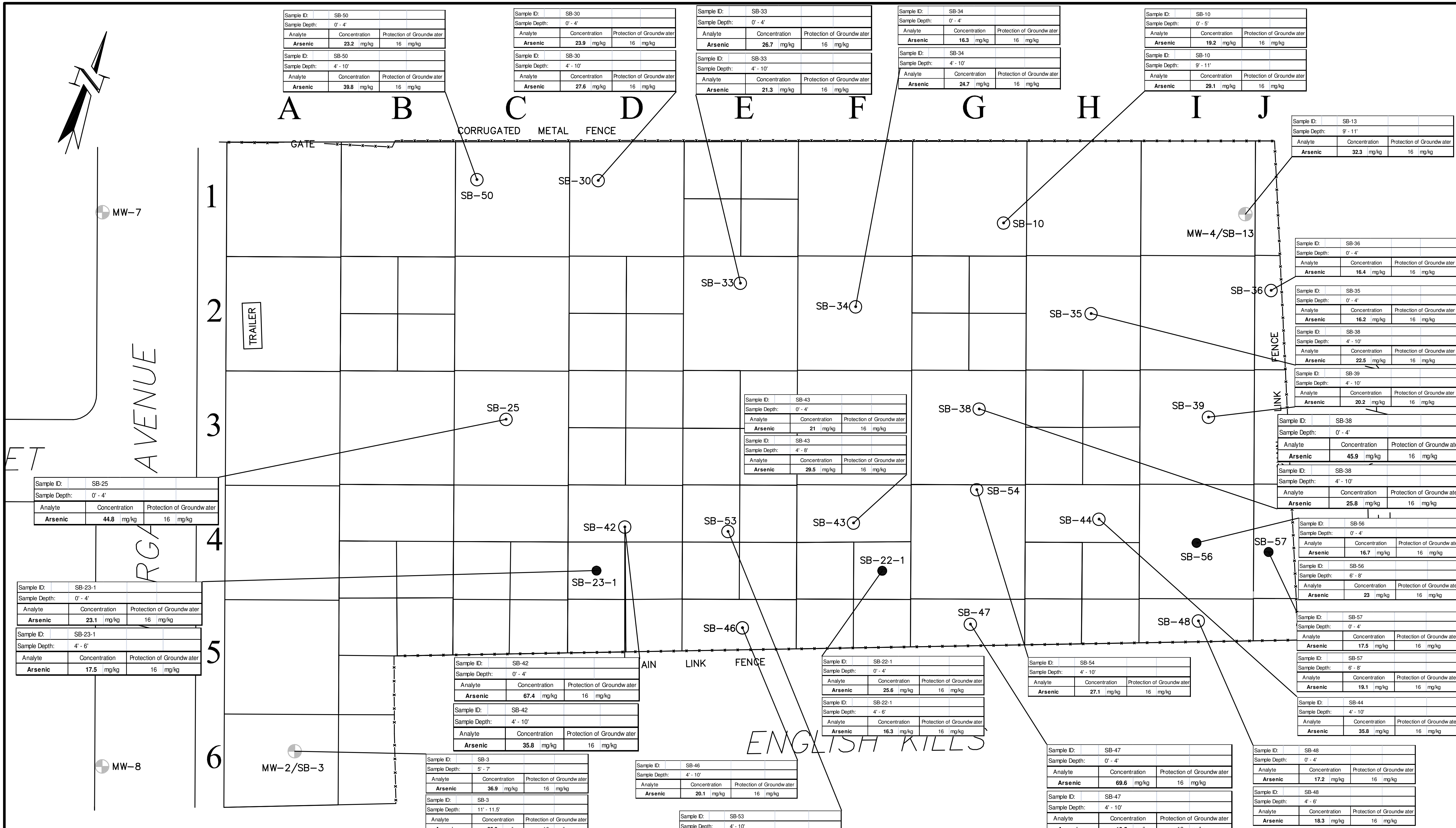
PROJECT # 47743	
DRAWN BY: DAB	
DATE DRAWN: MAR 2011	
REVISED BY:	
DATE REVISED:	

ENDPOINT SAMPLING LOCATIONS

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-32

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Endpoint Sampling Site Plan.DWG, 3/23/2011 12:33:20 PM



Sample ID:	SB-50	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**23.2** mg/kg	16 mg/kg

Sample ID:	SB-50	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**39.8** mg/kg	16 mg/kg

Sample ID:	SB-30	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**23.9** mg/kg	16 mg/kg

Sample ID:	SB-30	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**27.6** mg/kg	16 mg/kg

Sample ID:	SB-33	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**26.7** mg/kg	16 mg/kg

Sample ID:	SB-33	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**21.3** mg/kg	16 mg/kg

Sample ID:	SB-34	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**16.3** mg/kg	16 mg/kg

Sample ID:	SB-34	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**24.7** mg/kg	16 mg/kg

Sample ID:	SB-10	
Sample Depth:	0' - 5'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**19.2** mg/kg	16 mg/kg

Sample ID:	SB-10	
Sample Depth:	9' - 11'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**29.1** mg/kg	16 mg/kg

Sample ID:	SB-13	
Sample Depth:	9' - 11'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**32.3** mg/kg	16 mg/kg

Sample ID:	SB-36	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**16.4** mg/kg	16 mg/kg

Sample ID:	SB-35	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**16.2** mg/kg	16 mg/kg

Sample ID:	SB-38	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**22.5** mg/kg	16 mg/kg

Sample ID:	SB-39	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**20.2** mg/kg	16 mg/kg

Sample ID:	SB-38	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**45.9** mg/kg	16 mg/kg

Sample ID:	SB-38	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**25.8** mg/kg	16 mg/kg

Sample ID:	SB-43	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**21** mg/kg	16 mg/kg

Sample ID:	SB-43	
Sample Depth:	4' - 8'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**29.5** mg/kg	16 mg/kg

Sample ID:	SB-25	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**44.8** mg/kg	16 mg/kg

Sample ID:	SB-56	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**16.7** mg/kg	16 mg/kg

Sample ID:	SB-56	
Sample Depth:	6' - 8'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**23** mg/kg	16 mg/kg

Sample ID:	SB-23-1	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**23.1** mg/kg	16 mg/kg

Sample ID:	SB-23-1	
Sample Depth:	4' - 6'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**17.5** mg/kg	16 mg/kg

Sample ID:	SB-57	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**17.5** mg/kg	16 mg/kg

Sample ID:	SB-42	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**67.4** mg/kg	16 mg/kg

Sample ID:	SB-22-1	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**25.6** mg/kg	16 mg/kg

Sample ID:	SB-54	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**27.1** mg/kg	16 mg/kg

Sample ID:	SB-57	
Sample Depth:	6' - 8'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**19.1** mg/kg	16 mg/kg

Sample ID:	SB-22-1	
Sample Depth:	4' - 6'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**16.3** mg/kg	16 mg/kg

Sample ID:	SB-42	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**35.8** mg/kg	16 mg/kg

Sample ID:	SB-44	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**35.8** mg/kg	16 mg/kg

Sample ID:	SB-47	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**69.6** mg/kg	16 mg/kg

Sample ID:	SB-48	
Sample Depth:	0' - 4'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**17.2** mg/kg	16 mg/kg

Sample ID:	SB-3	
Sample Depth:	5' - 7'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**36.9** mg/kg	16 mg/kg

Sample ID:	SB-46	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**20.1** mg/kg	16 mg/kg

Sample ID:	SB-3	
Sample Depth:	11' - 11.5'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**25.3** mg/kg	16 mg/kg

Sample ID:	SB-47	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**18.5** mg/kg	16 mg/kg

Sample ID:	SB-48	
Sample Depth:	4' - 6'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**18.3** mg/kg	16 mg/kg

Sample ID:	SB-53	
Sample Depth:	4' - 10'	
Analyte	Concentration	Protection of Groundwater
Arsenic	**25.1** mg/kg	16 mg/kg

LEGEND

⦿ 2007 AND 2009 SOIL BORING LOCATIONS
• 2010 SOIL BORING LOCATIONS
PROTECTION OF GROUNDWATER = BROWNFIELDS SCOs FOR THE PROTECTION OF GROUNDWATER

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming
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PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

REMAINING ARSENIC CONCENTRATIONS EXCEEDING THE RESTRICTED USE - PROTECTION OF GROUNDWATER SCOs

FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-33

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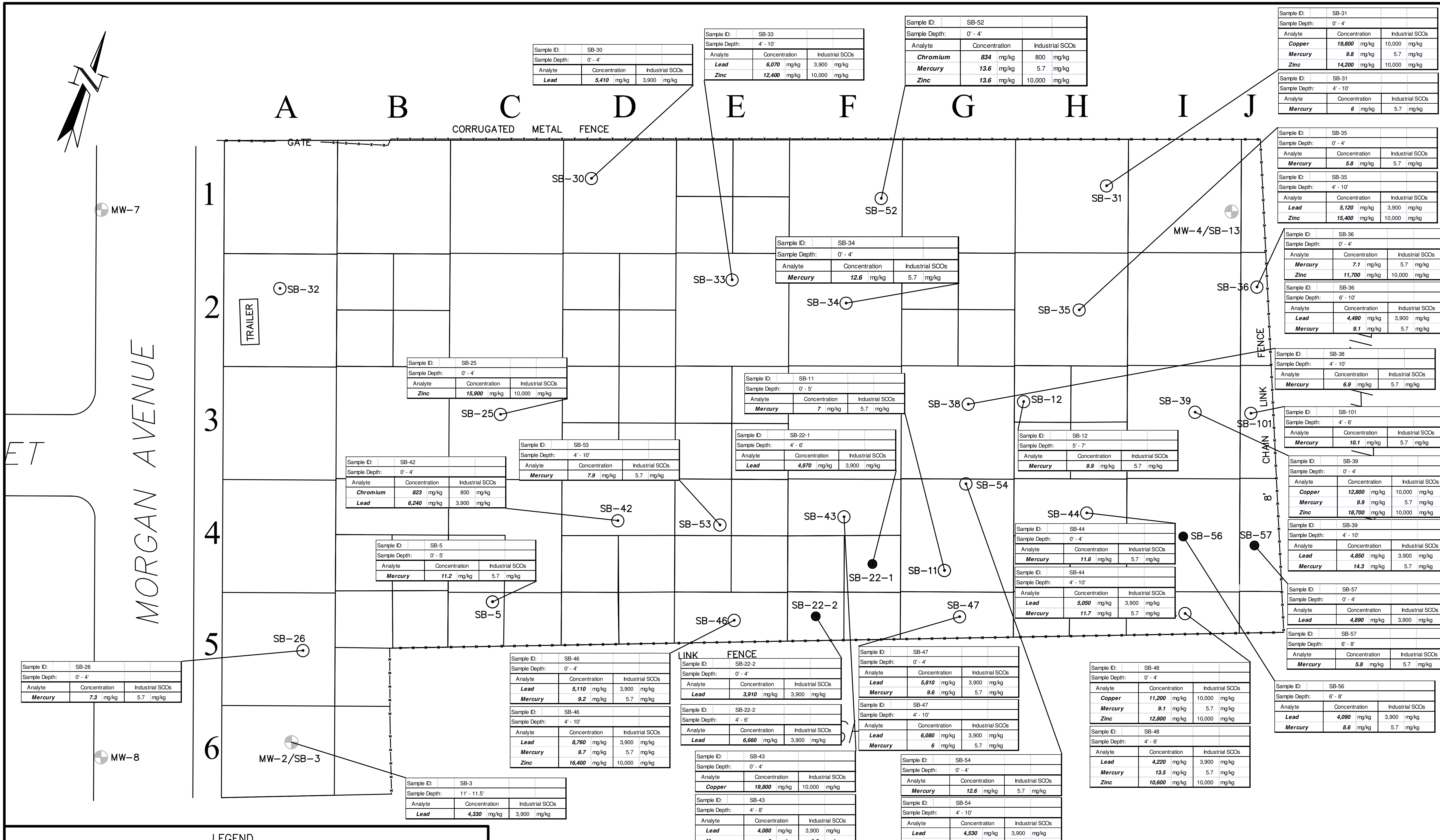

Sample ID:	SB-30			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Lead	**5,410**	mg/kg	3,900	mg/kg

Sample ID:	SB-33			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**6,070**	mg/kg	3,900	mg/kg
Zinc	**12,400**	mg/kg	10,000	mg/kg

Sample ID:	SB-52			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Chromium	**834**	mg/kg	800	mg/kg
Mercury	**13.6**	mg/kg	5.7	mg/kg
Zinc	**13.6**	mg/kg	10,000	mg/kg

Sample ID:	SB-31			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Copper	**19,800**	mg/kg	10,000	mg/kg
Mercury	**9.8**	mg/kg	5.7	mg/kg
Zinc	**14,200**	mg/kg	10,000	mg/kg

Sample ID:	SB-31			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Mercury	**6**	mg/kg	5.7	mg/kg

Sample ID:	SB-35			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**5.8**	mg/kg	5.7	mg/kg

Sample ID:	SB-35			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**5,120**	mg/kg	3,900	mg/kg
Zinc	**15,400**	mg/kg	10,000	mg/kg

Sample ID:	SB-34			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**12.6**	mg/kg	5.7	mg/kg

Sample ID:	SB-36			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**7.1**	mg/kg	5.7	mg/kg
Zinc	**11,700**	mg/kg	10,000	mg/kg

Sample ID:	SB-36			
Sample Depth:	6' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,490**	mg/kg	3,900	mg/kg
Mercury	**9.1**	mg/kg	5.7	mg/kg

Sample ID:	SB-25			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Zinc	**15,900**	mg/kg	10,000	mg/kg

Sample ID:	SB-11			
Sample Depth:	0' - 5'			
Analyte	Concentration		Industrial SCOs	
Mercury	**7**	mg/kg	5.7	mg/kg

Sample ID:	SB-38			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Mercury	**6.9**	mg/kg	5.7	mg/kg

Sample ID:	SB-101			
Sample Depth:	4' - 6'			
Analyte	Concentration		Industrial SCOs	
Mercury	**10.1**	mg/kg	5.7	mg/kg

Sample ID:	SB-53			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Mercury	**7.9**	mg/kg	5.7	mg/kg

Sample ID:	SB-22-1			
Sample Depth:	4' - 6'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,970**	mg/kg	3,900	mg/kg

Sample ID:	SB-12			
Sample Depth:	5' - 7'			
Analyte	Concentration		Industrial SCOs	
Mercury	**9.9**	mg/kg	5.7	mg/kg

Sample ID:	SB-42			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Chromium	**823**	mg/kg	800	mg/kg
Lead	**6,240**	mg/kg	3,900	mg/kg

Sample ID:	SB-39			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Copper	**12,800**	mg/kg	10,000	mg/kg
Mercury	**9.9**	mg/kg	5.7	mg/kg
Zinc	**18,700**	mg/kg	10,000	mg/kg

Sample ID:	SB-44			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**11.6**	mg/kg	5.7	mg/kg

Sample ID:	SB-39			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,850**	mg/kg	3,900	mg/kg
Mercury	**14.3**	mg/kg	5.7	mg/kg

Sample ID:	SB-5			
Sample Depth:	0' - 5'			
Analyte	Concentration		Industrial SCOs	
Mercury	**11.2**	mg/kg	5.7	mg/kg

Sample ID:	SB-44			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**5,050**	mg/kg	3,900	mg/kg
Mercury	**11.7**	mg/kg	5.7	mg/kg

Sample ID:	SB-57			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,890**	mg/kg	3,900	mg/kg

Sample ID:	SB-57			
Sample Depth:	6' - 8'			
Analyte	Concentration		Industrial SCOs	
Mercury	**5.8**	mg/kg	5.7	mg/kg

Sample ID:	SB-26			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**7.3**	mg/kg	5.7	mg/kg

Sample ID:	SB-46			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Lead	**5,110**	mg/kg	3,900	mg/kg
Mercury	**9.2**	mg/kg	5.7	mg/kg

Sample ID:	SB-22-2			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Lead	**3,910**	mg/kg	3,900	mg/kg

Sample ID:	SB-47			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Lead	**5,810**	mg/kg	3,900	mg/kg
Mercury	**9.6**	mg/kg	5.7	mg/kg

Sample ID:	SB-48			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Copper	**11,200**	mg/kg	10,000	mg/kg
Mercury	**9.1**	mg/kg	5.7	mg/kg
Zinc	**12,800**	mg/kg	10,000	mg/kg

Sample ID:	SB-56			
Sample Depth:	6' - 8'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,090**	mg/kg	3,900	mg/kg
Mercury	**8.6**	mg/kg	5.7	mg/kg

Sample ID:	SB-46			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**8,760**	mg/kg	3,900	mg/kg
Mercury	**9.7**	mg/kg	5.7	mg/kg
Zinc	**16,400**	mg/kg	10,000	mg/kg

Sample ID:	SB-22-2			
Sample Depth:	4' - 6'			
Analyte	Concentration		Industrial SCOs	
Lead	**6,660**	mg/kg	3,900	mg/kg

Sample ID:	SB-47			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**6,080**	mg/kg	3,900	mg/kg
Mercury	**6**	mg/kg	5.7	mg/kg

Sample ID:	SB-48			
Sample Depth:	4' - 6'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,220**	mg/kg	3,900	mg/kg
Mercury	**13.5**	mg/kg	5.7	mg/kg
Zinc	**10,600**	mg/kg	10,000	mg/kg

Sample ID:	SB-43			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Copper	**19,800**	mg/kg	10,000	mg/kg

Sample ID:	SB-54			
Sample Depth:	0' - 4'			
Analyte	Concentration		Industrial SCOs	
Mercury	**12.6**	mg/kg	5.7	mg/kg

Sample ID:	SB-3			
Sample Depth:	11' - 11.5'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,330**	mg/kg	3,900	mg/kg

Sample ID:	SB-43			
Sample Depth:	4' - 8'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,080**	mg/kg	3,900	mg/kg
Mercury	**8**	mg/kg	5.7	mg/kg

Sample ID:	SB-54			
Sample Depth:	4' - 10'			
Analyte	Concentration		Industrial SCOs	
Lead	**4,530**	mg/kg	3,900	mg/kg
Mercury	**8.5**	mg/kg	5.7	mg/kg

LEGEND

- MONITORING WELL
- 2007 AND 2009 SOIL BORING LOCATIONS
- 2010 SOIL BORING LOCATIONS

INDUSTRIAL SCOs = PART 375 RESTRICTED USE – INDUSTRIAL SCOs

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming
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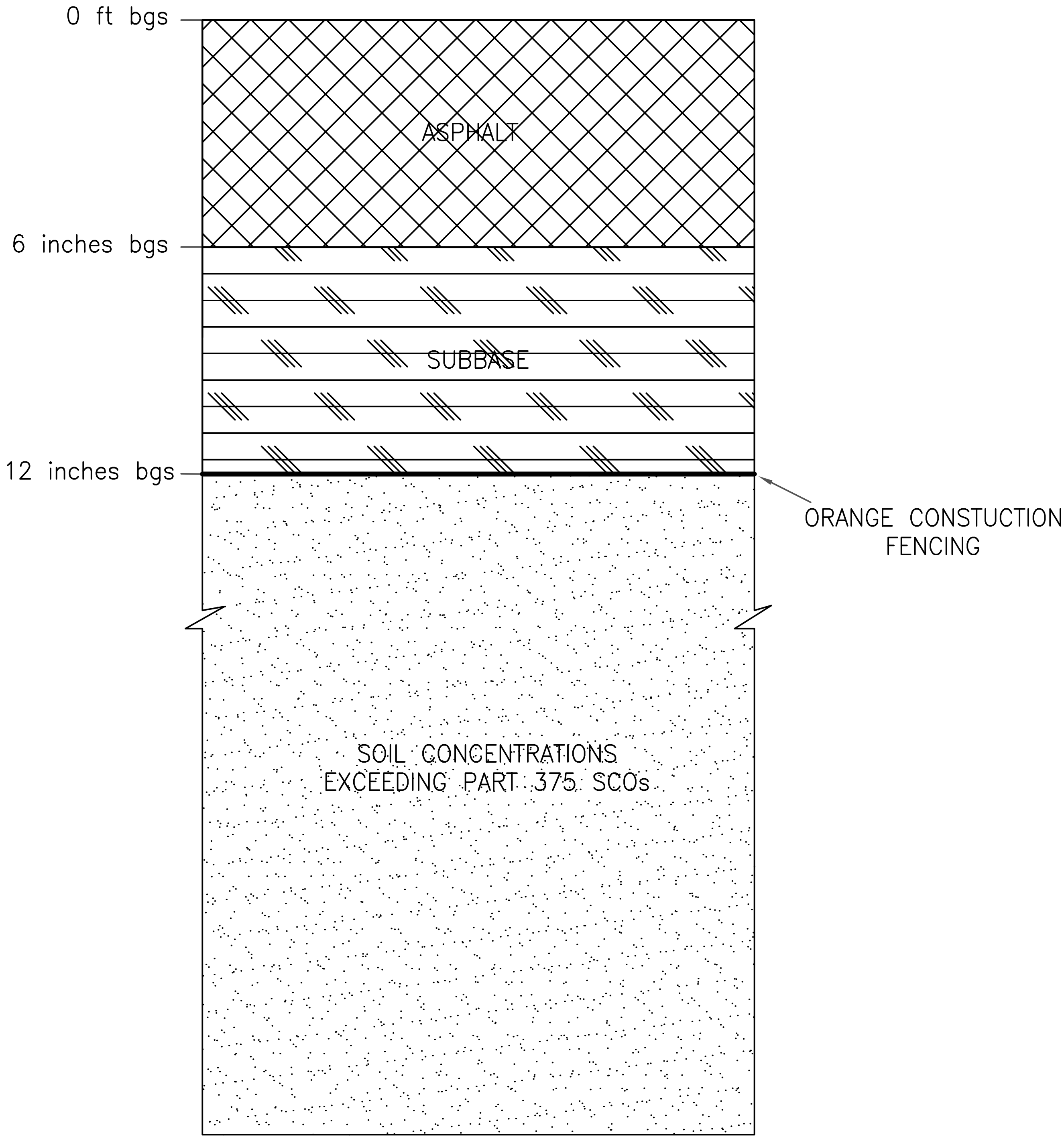
PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

REMAINING TAL METAL CONCENTRATIONS EXCEEDING THE RESTRICTED USE - INDUSTRIAL SCOs
FRITO LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4-34



DRAWING IS NOT TO SCALE

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

PROJECT #	47743
DRAWN BY:	DAB
DATE DRAWN:	MAR 2011
REVISED BY:	
DATE REVISED:	

PROPOSED ASPHALT COVER SYSTEM

FRITO-LAY
218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE **4-35**

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Proposed Asphalt Cover System.dwg, 4/27/2011 9:29:52 AM

APPENDIX A
METES AND BOUND SURVEY

S U R V E Y R E A D I N G F O R SL# 22111

Survey dated **04/04/2006**, made by **Boro Land Surveying, P.C.** shows **one (1) two-story structure, one (1) one-story structure, shed and frame trailer with** no encroachments or variations of lot lines except the following:

1. Fence along a portion of the northerly line varies with record line.

2. Wall along a portion of the northerly line varies with record line.

3. Corrugated metal Bulkhead along the easterly record line.

4. Fence and wall with Gates along the westerly line situate up to 2 feet 11-3/4 inches east of record line.

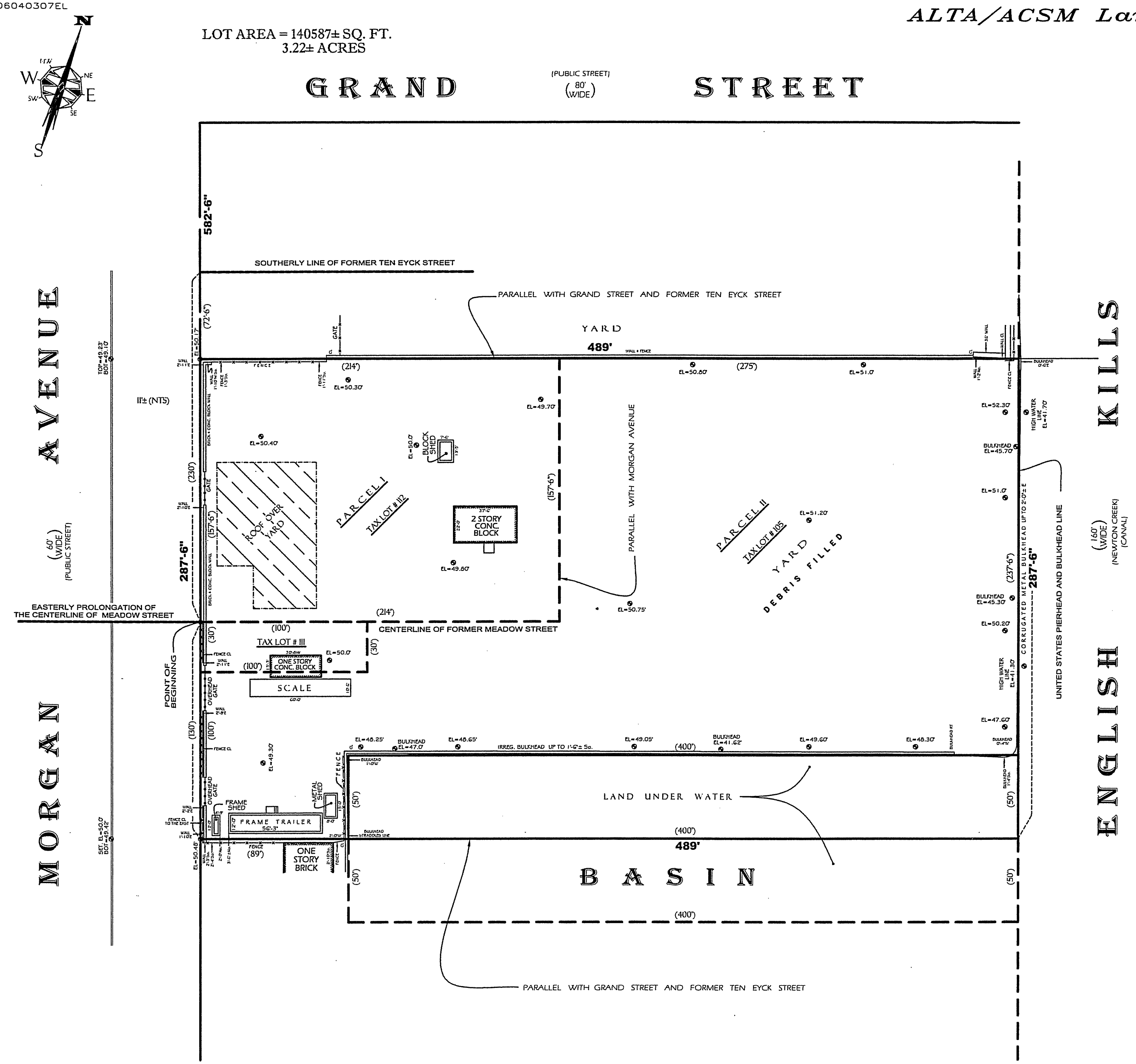
No Reading is made herein with respect to interior lot lines.

As to 1, 2 & 4: Mortgage Policy affirmatively insures against a diminution in value of the insured mortgage resulting from enforced removal of said fences and walls.

06040307EL

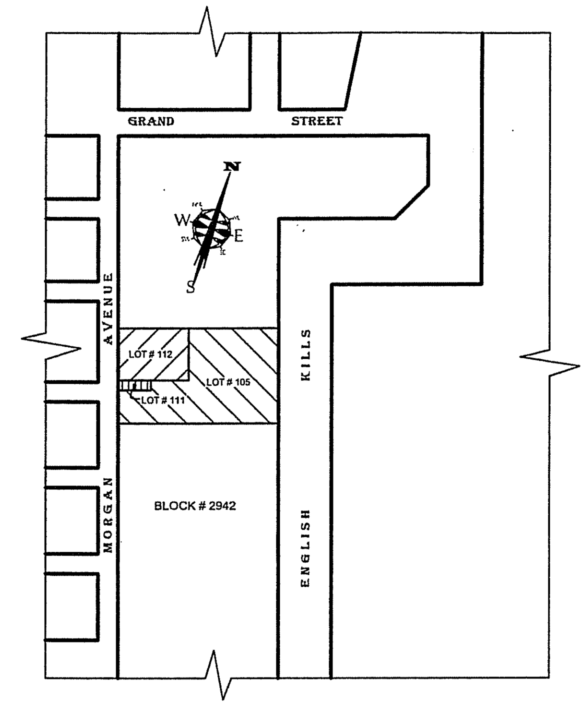
ALTA/ACSM Land Title Survey

TITLE No. SL-22111



VICINITY MAP

N. T. S.



NOTE:

TOGETHER WITH & SUBJECT TO COVENANTS & RESTRICTIONS RECORDED IN
L 19 CP 7 &
L 21 CP 300
" NOT PLOTTABLE "

LEGEND

—×—×—	CHAIN LINK FENCE	CALC.	CALCULATED	ST.	STREET
—o—o—	IRON/OR METAL FENCE	C.D.	CELLAR DOOR	STY.	STORY
———	WOOD FENCE	CL	CLEAR	N./No.	NORTH
– – – –	OTHER TYPE OF FENCE	CONC.	CONCRETE	S./So.	SOUTH
—•—•—	WIRE FENCE	ENT. UND.	ENTRANCE UNDER	E.	EAST
▨	CHIMNEY		HEDGE	W.	WEST
▣	DRAIN	IND'T	INDEPENDENT	NE.	NORTHEAST
—••—••—	OVERHEAD WIRE	LA.	LOW AREA	SE.	SOUTHEAST
Ⓤ	UTILITY POLE	N.T.S.	NOT TO SCALE	NW.	NORTHWEST
A.	AREAWAY	ORN.	ORNAMENTAL	SW.	SOUTHWEST
ALUM.	ALUMINUM	PROJ.	PROJECTS	W.W./W.	WINDOW WELL
AWN.	AWNING	RET.	RETAINING		
BSM'T	BASEMENT	RT	RIGHT		

NOTE:

*COMMUNITY PANEL #3604970056B
EFFECTIVE DATE 11-16-83
PREMISES PARTIALLY IN ZONE C
AREA OF MINIMAL FLOODING
PARTIALLY IN ZONE B
AREA BETWEEN LIMITS OF THE 100 YEAR
AND 500 YEAR FLOOD
PARTIALLY IN ZONE A5
AREA OF 100 YEAR FLOOD

*PREMISES IS ADEQUATELY SERVED BY THE FOLLOWING PUBLIC UTILITIES LOCATED IN STREET:
WATER, ELECTRIC, GAS, TELEPHONE, STORM SEWER AND SANITARY SEWER.

*THERE ARE NO SETBACK OR RESTRICTION LINES AFFECTING PROPERTY. (EXCEPT AS SHOWN ON THE SURVEY)

LEGAL DESCRIPTION

Block 2942 Lots 105, 111 & 112

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, WITH THE BUILDINGS AND IMPROVEMENTS THEREON ERECTED, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, COUNTY OF KINGS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOW:

PARCEL I (TAX LOT 112)

BEGINNING AT A POINT ON THE EASTERLY SIDE OF MORGAN AVENUE WHERE THE SAME IS INTERSECTED BY THE FORMERLY CENTER LINE OF MEADOW STREET AS IT WAS LAID OUT ON THE COMMISSIONERS MAP OF THE CITY OF BROOKLYN PRIOR TO JULY 20, 1983:

RUNNING THENCE NORTHERLY ALONG THE EASTERLY SIDE OF MORGAN AVENUE, 157 FEET 6 INCHES;

THENCE EASTERLY PARALLEL WITH OR NEARLY SO WITH TEN EYCK STREET AS LAID OUT ON THE COMMISSIONERS MAP OF THE CITY OF BROOKLYN 214 FEET;

THENCE SOUTHERLY PARALLEL OR NEARLY SO WITH THE EASTERLY SIDE OF MORGAN AVENUE 157 FEET 6 INCHES TO THE CENTER LINE OF THE SAID FORMER MEADOW STREET;

THENCE WESTERLY ALONG THE CENTER LINE OF SAID FORMER MEADOW STREET, 214 FEET TO THE POINT OR PLACE OF BEGINNING.

PARCEL II (TAX LOT 105 & 111)

BEGINNING AT A POINT ON THE EASTERLY SIDE OF MORGAN AVENUE LOCATED 230 FEET SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF MORGAN AVENUE WITH THE SOUTHERLY SIDE OF TEN EYCK STREET;

RUNNING THENCE EASTERLY AND PARALLEL WITH TEN EYCK STREET 214 FEET;

THENCE NORTHERLY AND PARALLEL WITH MORGAN AVENUE 157 FEET AND 6 INCHES;

THENCE EASTERLY AND PARALLEL WITH TEN EYCK STREET, 275 FEET TO THE CANAL OR NEWTON CREEK;

THENCE SOUTHERLY ALONG SAID CANAL 287 FEET 6 INCHES;

THENCE WESTERLY AND PARALLEL WITH TEN EYCK STREET 489 FEET TO THE EASTERLY SIDE OF MORGAN AVENUE;

THENCE NORTHERLY ALONG SAID MORGAN AVENUE, 130 FEET TO THE POINT OR PLACE OF BEGINNING.

SURVEYORS CERTIFICATE

THE UNDERSIGNED, BEING A REGISTERED SURVEYOR OF THE STATE OF NEW YORK CERTIFIES TO:
*SUTTON LAND SERVICES, LLC
*FIRST AMERICAN TITLE INSURANCE COMPANY OF NEW YORK
*ROLLING FRITO-LAY SALES, LP

ED 1. THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE (i) IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA, ACSM AND NSPS IN 2005, INCLUDES ITEMS 2, 3, 4, 6, 7(a), 7(b)(1), 8, 9, 10, 11, 12, 13, 14, 15, AND 16 OF TABLE A THEREOF, AND (ii) PURSUANT TO THE ACCURACY STANDARDS (AS ADOPTED BY ALTA, ACSM AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION) THE UNDERSIGNED FURTHER CERTIFIES THAT THE SURVEY MEASUREMENTS WERE MADE IN ACCORDANCE WITH THE "MINIMUM ANGLE, DISTANCE AND CLOSURE REQUIREMENTS FOR SURVEY MEASUREMENTS WHICH CONTROL LAND BOUNDARIES FOR ALTA/ACSM LAND TITLE SURVEYS."

2. THE SURVEY WAS MADE ON THE GROUND ON APRIL 4, 2006 AND CORRECTLY SHOWS THE AREA OF THE SUBJECT PROPERTY, THE LOCATION AND TYPE OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS SITUATED ON THE SUBJECT PROPERTY, AND ANY OTHER MATTERS SITUATED ON PROPERTY.

3. THERE ARE NO VISIBLE EASEMENTS OR RIGHTS OF WAY OF WHICH THE UNDERSIGNED HAS BEEN ADVISED.

4. EXCEPT AS SHOWN ON THE SURVEY, THERE ARE NO (A) OBSERVABLE, ABOVE GROUND ENCROACHMENTS (i) BY THE IMPROVEMENTS ON THE SUBJECT PROPERTY UPON ADJOINING PROPERTIES, STREETS OR ALLEYS, OR (ii) BY THE IMPROVEMENTS ON ADJOINING PROPERTIES STREETS OR ALLEYS UPON THE SUBJECT PROPERTY; (b) PARTY WALLS; (c) ENCROACHMENTS OF ANY BUILDINGS OR IMPROVEMENTS ON ANY EASEMENT AREA; (d) STREAMS, RIVERS, SPRINGS, PONDS, LAKES, DITCHES OR DRAINS LOCATES OR BORDERING ON OR RUNNING THROUGH THE SUBJECT PROPERTY OR (e) GAPS, GORES OR OVERLAPS BETWEEN THE BOUNDARIES OF THE SUBJECT PROPERTY AND THE BOUNDARIES OF ANY ADJOINING PARCELS OR ROADS, HIGHWAY, STREETS OR ALLEYS.

5. THE LOCATION OF EACH EASEMENT, RIGHT OF WAY, SERVITUDE, COVENANT, RESTRICTION AND OTHER MATTER AFFECTING THE SUBJECT PROPERTY AND LISTED IN THE TITLE INSURANCE COMMITMENT SL-22111 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY OF NEW YORK OR APPARENT FROM A PHYSICAL INSPECTION OR OTHERWISE KNOWN TO ME WITH RESPECT TO THE SUBJECT PROPERTY, HAS BEEN SHOWN ON THE SURVEY, TOGETHER WITH APPROPRIATE RECORDING REFERENCES, TO THE EXTENT THAT SUCH MATTER CAN BE LOCATED. THE PROPERTY SHOWN ON THE SURVEY IS THE PROPERTY DESCRIBED IN THE TITLE COMMITMENT. THE LOCATION OF ALL IMPROVEMENTS ON THE SUBJECT PROPERTY IS IN ACCORD WITH MINIMUM SETBACK PROVISIONS AND RESTRICTIONS OF RECORD REFERENCED IN SUCH TITLE COMMITMENT.

6. THE SUBJECT PROPERTY HAS ACCESS TO AND FROM DULY DEDICATED AND ACCEPTED PUBLIC STREETS OR HIGHWAYS, AND ALL DRAINAGE, UTILITY AND ANY OTHER MUNICIPAL SERVICES ARE PROVIDED OR AVAILABLE FROM SUCH STREETS OR HIGHWAYS.

7. THE SUBJECT PROPERTY DOES NOT SERVE ANY ADJOINING PROPERTY FOR DRAINAGE, UTILITIES, OR INGRESS AND EGRESS.

8. THE RECORD DESCRIPTION OF THE SUBJECT PROPERTY FORMS A MATHEMATICALLY CLOSED FIGURE.

9. NO PORTION OF THE PROPERTY SHOWN ON THE SURVEY LIES WITHIN A SPECIAL HAZARD AREA, AS DESCRIBED IN THE FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH THE SUBJECT PROPERTY IS LOCATED. SEE NOTE A

10. THE PARTIES LISTED ABOVE ARE ENTITLED TO RELY ON THE SURVEY AND THIS CERTIFICATE AS BEING TRUE AND ACCURATE.

DATED: APRIL 4, 2006

VINCENT J. DICCE
REGISTRATION No. 049333

UNAUTHORIZED ALTERATIONS OR ADDITIONS 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. GUARANTEES OR 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. GUARANTEES OR CERTIFICATION ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

BLOCK: 2942
LOT: 105,111&112
SECTION: 10
COUNTY: KINGS
DWG BY: P.J.
CHK'D BY:

SURVEYED
APRIL 4, 2006

GRAPHIC SCALE
0' 5' 10' 25' 50'
SCALE: 1"=35'

VINCENT J. DICCE L.S.,Pres.

CERTIFIED ONLY TO:
(SURVEY TO BE USED SOLELY FOR TITLE PURPOSES.)
(NOT TO BE USED FOR THE STAKEOUT OF STRUCTURES.)
*SUTTON LAND SERVICES, LLC
*FIRST AMERICAN TITLE INSURANCE COMPANY OF NEW YORK
*ROLLING FRITO-LAY SALES, LP

BORO LAND SURVEYING, P.C.
353 COURT STREET
BROOKLYN, N.Y. 11231
TEL. (718) 624-BORO (2676)

APPENDIX B
PROJECT ORGANIZATION AND CONTACT LIST

ORGANIZATION CHART
Frito-Lay Environmental Remediation
202-218 Morgan Avenue, Brooklyn, New York

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Kevin Sarnowicz, NYSDEC Case Manager
Albert DeMarco, NYSDOH Public Health Specialist

Owner
Cedric Robinson (Environmental Manager)
Keith Massa (Mfg./Whse. Senior Program Manager)

Construction Management
John Haesler (Project Director)
Jathan Floren (Project Manager)

Environmental Consultant
Vincent Frisina, P.E. (Project Director)
Michael Brady, P.E. (Project Manager)

General Contractor
Eric Coppola (President)
Rich Angus (Project Manager)

Remediation Subcontractor
Richard Taylor (President)

FRITO-LAY
CONTACT INFORMATION

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S & D Capex Program Manager
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Cell (607) 427-7363

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Engineer
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Environmental Technician
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Michael Brady, PE, Project Manger
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Paula Loht, CIH, Corporate Safety Manager
ploht@gfnet.com
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Camp Hill, PA 17011
Phone: (717) 763-7211
Fax: (717) 763-8150

COPPOLA PAVING AND LANDSCAPING
Eric Coppola
Coppola Paving and Landscaping
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Bronx, NY 10475
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Fax: (718) 325-9305
eric@coppolacorp.com

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Brookside Environmental, Inc.
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rtaylor@brooksideweb.com

FRITO-LAY
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(732) 321-6798

NYSDEC
James Quinn jaquinn@gw.dec.state.ny.us
Kevin Sarnowicz kpsarnow@gw.dec.state.ny.us
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7016
Phone: (518) 402-9768

NYSDOH

Albert DeMarco ajd03@health.state.ny.us
Public Health Specialist
NYS Department of Health
Bureau of Environmental Exposure Investigation
Flanigan Square, Room 300
547 River Street
Troy, NY 12180-2216
Phone: (518) 402-7860

Gannett Fleming

APPENDIX C
HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FRITO-LAY, INC.
REMEDIAL INVESTIGATION
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

JANUARY 2007

Prepared for:

FRITO-LAY, INC.

Prepared by:

GANNETT FLEMING ENGINEERS, P.C.
LOCUST VALLEY, NEW YORK

TABLE OF CONTENTS

APPENDICES

1.0 PROJECT HEALTH AND SAFETY POLICY

The maintenance of a safe and healthy work environment for Gannett Fleming employees is of utmost importance for the successful operation of our business. To this end, health and safety requirements must be considered fundamental to all aspects of the firm's operations.

To achieve our objectives, it is essential that our personnel be trained to follow procedures consistent with applicable safety standards. However, employees must be constantly alert to their personal obligation to comply with safe operating procedures. The continued cooperation of all our personnel is required to support and sustain an effective safety program.

Willful or consistent disregard of the safety provisions of this Health and Safety Plan (HASP) by a Gannett Fleming Engineers, P.C. (GF) employee will subject that employee to disciplinary action, up to and including discharge.

GF employees are required to follow the procedures specified in this HASP for applicable operations. If employees are required to engage in work activities that in their judgment would involve a threat to their personal safety, they shall immediately notify their Department Head and refrain from any exposure to the unsafe condition. The Department Head and the employee shall arrange for and verify that the unsafe condition has been eliminated or that proper safety measures are in place to protect the employee before resuming the work activity.

If employees are planning to engage in work activities that are not covered in this HASP, or if they are uncertain about the safety requirements for a specific work activity, they shall contact their Department Head before proceeding with the work. Also, if employees have any questions about the safety training requirements for their jobs or when and where to obtain safety training, they shall contact their Department Head. Any questions concerning safety procedures, safety equipment or safety training that cannot otherwise be resolved shall be referred by the Department Head to the Project Manager and Corporate Health and Safety Manager.

2.0 SCOPE AND APPLICABILITY

This HASP is designed to provide safe procedures and practices for GF engaged in performing site reviews, investigations and inspections at 202-218 Morgan Avenue, Brooklyn, New York. This HASP will also be made available to GF subcontractors and subconsultants as a safety reference. The requirements of Part 1910- General Industry Standards, Part 1926- Construction Standards of the Code of Federal Regulations, the New York State Department of Labor (NYDOL) regulations, and New York State Department of Transportation (NYSDOT) regulations apply to these activities. If there is a conflict, the provision more protective of employee safety and health shall apply.

The HASP is based on available information concerning possible hazards that exist, or may exist, at the project sites. If more information concerning the nature of possible health and physical hazards become available, the HASP will be modified accordingly. Modifications will be made by the GF Site Safety and Health Supervisor (SSHS) and approved by the GF Project Manager and GF Health and Safety Manager. All modifications will be documented on a written memorandum by the SSHS. Additionally, a copy of this HASP shall be available for review by all personnel prior to their initial entry onto the site and be maintained on-site by the SSHS.

3.0 KEY PERSONNEL AND RESPONSIBILITIES

This section establishes the authority and responsibility for site health and safety and lists key project personnel. Any changes in key site personnel must receive prior approval by the GF Project Manager and Health and Safety Manager. A listing of project contacts is included as Appendix D.

Key Personnel	Title
Vincent Frisina, P.E.	Project Manager
Designated Field Personnel	Site Safety & Health Supervisor
Thomas Gingrich	Corporate Safety Manager

3.1 GF Project Manager

- Verify that health and safety provisions as defined in this HASP are implemented at the project site.
- Advise the Site Safety and Health Supervisor (SSHS) of his/her safety, health and environmental responsibilities and hold them accountable for their assigned site activities.
- Approve all changes of key site personnel.
- Design and manage site operations to minimize environmental, safety, and human health impacts and provide workplaces that control recognized safety hazards.
- Review and evaluate site performance in safety, health, and environmental protection.
- Consult with the GFHealth and Safety Manager and Corporate Safety Manager as required to resolve health and safety issues arising at the project site.

3.2 GF Health and Safety Manager

- Assume responsibility as GF Safety Representative to the Frito-Lay, Inc. representative.
- Designate professional staff to support site safety, health, and environmental control activities.
- Verify that personnel receive the necessary training for conducting an effective site health and safety program.
- Approve all changes of key health and safety personnel.
- Provide consultation to the SSHS for the resolution of site health and safety issues.

3.3 GF Site Safety and Health Supervisor

- Overall responsibility for verifying that GF site activities are conducted in accordance with the provisions contained in this HASP.

- Provide oversight of health and safety issues that affect GF project activities at the site.

- Advise the Project Manager on health and safety issues that affect project activities at the site.

- Verify that Personal Protective Equipment (PPE), monitoring equipment, sanitation facilities, etc., are adequate to support an effective health and safety program at the site.

- Arrange for site personnel to be informed of potential health and safety hazards associated with their assigned tasks and verify that safe work practices and procedures are instituted, including the proper wearing of PPE.

- Direct site emergency response activities with respect to GF employees.

- Enforce health and safety provisions applicable to GF personnel at the project site as applicable.

- The primary site duty and responsibility is to implement and direct the health and safety program at the site in accordance with the provisions contained in this HASP.

- Verify that GF site activities are conducted in a safe manner.

- Authority to stop any operation that threatens the health or safety of GF site personnel or the surrounding populace or has the potential for a significant adverse impact to the environment.

- Be present on-site as required during site work activities.

- Maintain a Daily Safety Log summarizing daily GF health and safety activities, as applicable. The logbook shall include, as a minimum, the following information: instrument field calibration data (if applicable), air monitoring results (if applicable), weather conditions, names of personnel present at the site (including visitors), PPE utilized at site activities, any unusual events, accidents or breaches of procedure. The Daily Safety Log Book shall be turned over to the Project Manager at the conclusion of field activities for inclusion in the project files.

- Maintain Daily Air Monitoring Reports (if applicable) to include instrument utilized for air monitoring, instrument calibration data, air monitoring results from each work location prior to the initiation of each day's activities, periodically throughout the day and the end of each day's activities.

- Conduct initial site safety briefings and daily safety meetings for all GF site personnel when on site.

- Modify the HASP as necessary as on-site activities and events change. All HASP modifications shall be presented in a written memorandum to the Project Manager and GF Health and Safety Manager.

- Consult with the GF Health and Safety Manager to resolve site health and safety issues.

3.4 GF Corporate Safety Manager

- Provide employees with training, safety equipment and personal protective equipment as requested.

- Assist the Project Manager, Health & Safety Manager, and SSHS in identifying and minimizing safety and health hazards at the site.

3.5 Site Personnel

- Take reasonable precautions to prevent injury to themselves and to their fellow employees.

- Perform only those tasks that they believe they can do safely, and immediately report any accidents and/or unsafe conditions to the SSHS.

- Notify the SSHS of any special medical problems or medical restrictions and make certain that all on-site personnel are aware of any such problems.

4.0 PROJECT BACKGROUND INFORMATION

GF has been retained by Frito-Lay, Inc. to perform data collection of debris piles currently on site and testing and install soil borings to investigate the soil and groundwater at 202-218 Morgan Avenue, Brooklyn, New York for volatile organic compounds (VOCs), base neutral compounds (BNs), Metals, and Polychlorinated Biphenyls (PCBs). This work will be used to quantify and delineate impacted soil/sediment and assess groundwater quality and to develop remedial alternatives and/or site monitoring.

Anticipated on-site activities include the following:

- Site reconnaissance
- Visual inspection of areas for surficial staining and indications of potential impact
- Surficial debris and soil sampling
- Oversight of surface pile disposal and building demolition
- Geophysical survery
- Boundary and baseline survey
- Installing soil borings
- Collecting soil and groundwater samples from new borings
- Collecting soil gas samples

5.0 HAZARD ASSESSMENT AND CONTROL

This section identifies potential physical and health hazards that may be encountered while performing site investigation tasks. Additionally, control measures are provided that will be implemented to reduce the risk associated with the identified hazards. If the nature of the project tasks change or additional hazards are identified, this section will be amended as appropriate.

5.1 Hazardous Materials

Currently the project tasks will require GF employees to handle, or work around potential VOCs, BNs, PCBs, and metals impacted material at the facilities. In the event that previously unidentified hazardous materials or site contamination is encountered during the course of site activities, the work will cease and the SSHS will notify the GF Project Manager who will in turn notify the Frito-Lay representaive.

The GF Health and Safety Manager will ensure that personnel involved in sampling of hazardous materials and potential VOCs, BNs, PCBs, and metals impacted material have undergone Occupational Safety & Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour training. All personnel involved in sampling will also have reviewed the GF, Inc. Standard Operating Procedure Number 1: Respiratory Protection Program (Appendix A). Additionally, Personal Protective Equipment (PPE) appropriate to the nature and condition of the material (as determined by the inspector) will be worn by field inspectors. Minimum PPE requirements for sampling include:

- Disposable latex gloves
- Disposable Tyvek coverall (optional)
- Reflective safety vest
- Safety shoes
- Hard hat

Hazardous materials brought on-site by GF or its subcontractors will be stored in the appropriate containers and labeled as to its contents and hazard potential in accordance with 29 CFR 1910.1200. Additionally, Material Safety Data Sheets (MSDS) will be maintained by the SSHS and reviewed with affected site personnel. Four copies of each MSDS will be sent to Frito-Lay, Inc. along with the anticipated quantities to be used, methods of use, storage methods and storage location prior to using the materials on-site.

5.2 Physical Hazards

The following physical hazards are anticipated during site investigation activities at each of the sites:

- Slips, trips and falls
- Eye hazards

- Heat stress/cold stress
- Severe weather
- Vehicular traffic
- Trenches and excavation
- Contaminant Exposure

5.2.1 ***Slips, Trips, and Falls***

The potential for slips, trips and falls are posed by working on uneven and/or wet/icy walking/working surfaces. Site personnel should remain cognizant of uneven walking/working surfaces; wet snow or ice conditions, protruding and/or scattered debris or materials and stored equipment. Site personnel will be required to wear appropriate safety footwear for the facility conditions.

5.2.2 ***Eye Hazards***

The potential for physical and chemical injury to the eyes is inherent with site investigation work. Therefore, site personnel are required to wear ANSI-approved safety glasses with side shields or safety goggles while performing site activities.

5.2.3 ***Heat Stress/Cold Stress***

Heat stress may occur in summer activities, and the SSHS will institute a visual monitoring program when ambient temperatures exceed 70ºF. The monitoring program will consist of the following:

- Encourage the routine intake of non-caffeinated fluids
- Monitor employees for visual signs of heat-related illness symptoms
- Establish work/rest regimes in accordance with ACGIH guidelines
- Establish a "buddy system" to ensure that employees are not working alone during activities that pose a potential heat stress concern

Cold stress may occur during winter site activities. The SSHS shall be cognizant of weather conditions and remind employees to dress appropriately with adequate insulating dry clothing to maintain core body temperatures above 96.8ºF when air temperatures are below 40ºF. The SSHS will visually monitor GF site workers for the symptoms of cold-related injuries. If continuous work is to be performed in the cold at air temperatures below 19.4ºF, the SSHS will institute a work-warming regimen in accordance with the ACGIH guidelines.

5.2.4 ***Severe Weather***

Exterior work will not be permitted when severe weather conditions exist. Severe weather conditions include electrical storms, tornadoes, hurricanes, floods, high winds, heavy rain or snow that creates unsuitable walking/working surfaces, and excessive heat or cold indices.

5.2.5 ***Vehicular Traffic***

The nature of the work to be performed by GF and subcontractor personnel may expose personnel to on site vehicular traffic. All personnel will be required to wear safety vests consisting of fluorescent orange, pink or green material with safety reflective material and hard hat when working on site. Additionally, traffic control shall be established in accordance with the GF's Safety Manual for Field Operations, Section II.F, Traffic Control Standards and Guidelines (See Appendix A) and the NYSDOT Manual of Uniform Traffic Control Devices to reduce the risk of site personnel being struck by traffic.

5.2.6 *Trenches and Excavation*

GF personnel are not permitted to enter or work near open trenches or excavations greater than 4 feet in depth. In the event that it becomes necessary for GF personnel to enter trenches or excavations greater than 4 feet in depth, the SSHS will evaluate the trench/excavation to ensure that proper protective systems (i.e., shoring, sloping, shielding) in accordance with 29 CFR 1926.652 are in place and atmospheric monitoring for oxygen, flammability and other potential hazard materials has been performed.

5.2.7 *Confined Space Entry*

Confined space entries by GF personnel are not anticipated during site activities and, therefore, GF personnel are not permitted to enter confined spaces. If entry into a confined space becomes necessary, the SSHS must modify this HASP and obtain approval from the GF Project Manager and Health and Safety Manager prior to entry. Upon authorization, the entry may proceed with appropriately trained personnel and under procedures in accordance with the GF, Inc. Standard Operating Procedure Number 10: Confined Space Entry Program (See Appendix A).

5.2.8 *Contaminant Exposure*

GF personnel may encounter areas contaminated with VOCs, BNs, PCBs, and metals impacted material. Exposure to such contamination may occur through inhalation, dermal contact, or ingestion. Sampling and testing of media for contaminants must be conducted in accordance with training, certification, and PPE requirements outlined in Section 5.1 of this HASP, and the medical requirements described in Section 7.0 of this HASP. Additionally, air monitoring shall be conducted during intrusive field operations using a calibrated, photo ionization detector (PID). A PID reading of 5 parts per million (ppm) above the ambient or background measurements shall require the SSHS to evaluate the need for respiratory protection.

6.0 SAFETY AND HEALTH TRAINING

In accordance with 29 CFR 1910.1200, Hazard Communication, the SSHS will provide a daily initial site awareness briefing when on-site. The briefing will include a review of this HASP with particular attention to potential hazards, control measures, PPE use and limitations, and emergency response procedures. All personnel will be required to sign the Initial HASP Training Log (Appendix B).

7.0 MEDICAL REQUIREMENTS

All GF and subcontractor personnel involved in the site inspections and investigations and who may be required to wear a respirator shall have a current medical certification in accordance with 29 CFR 1910.134(b)(10).

7.1 Medical Treatment For Site Accidents/Incidents

Prior to the start of work at the site, the SSHS shall identify the nearest medical facility emergency room, obtain the phone number and driving directions. Additionally, the SSHS will obtain other local emergency numbers such as the police, fire, and ambulance.

The SSHS shall be informed of any site-related injury, exposure and/or medical condition resulting from activity on the site. All employees are entitled to medical evaluation and treatment in the event of a site accident or incident. If requiring medical attention, injured employees will be evacuated to nearby hospitals. Hospital directions and route maps are provided in Appendix C.

7.2 Universal Precautions

Universal Precautions shall be followed on site to minimize the risk from blood-borne pathogens. The universal precautions consist of treating all human blood and certain human body fluids as if being infectious for HIV, HBV and other blood borne pathogens. Clothing and first-aid materials, visibly contaminated with blood, will be collected by the SSHS and placed into a biohazard bag. Individuals providing first aid should wear latex gloves. If providing CPR, a one-way valve CPR device should be used (these will be included in on-site first-aid kits).

Work areas visibly contaminated with blood or body fluids shall be cleaned up using a 1:10 dilution of household bleach.

7.3 First-Aid Kits

A first-aid kit shall be available, readily accessible and fully stocked at the site.

7.4 Accident/Incident Reports

An Accident/Incident Report (Appendix E) shall be completed by the SSHS following the provision of any first-aid treatment at the site or medical evaluation. A copy of the report shall be provided to the Project Manager and Health and Safety Manager within 24 hours. The Project Manager and the Health and Safety Manager shall be notified by telephone as soon as possible after the event.

8.0 GENERAL SITE SAFETY REQUIREMENTS

8.1 Safe Work Practices

The following safe work practices are to be incorporated into work activities at 202-218 Morgan Avenue, Brooklyn, New York:

- The SSHS will be on-site as required during project activities.
- On-site personnel are required to wear hard hat, reflective vest and safety shoes during all project site activities.
- Medical monitoring, respiratory fit test, and training documentation information, as needed, will be kept on site by the SSHS.
- Ground Fault Interrupt (GFI) circuits shall be used for cord and plug equipment in areas where water may be encountered.
- No open flames, fires, or portable kerosene or propane space heaters are permitted on site or within project trailers.
- On-site personnel required to wear respiratory protection devices are not allowed to have facial hair that interferes with a satisfactory fit of the respirator-to-face seal.
- All site personnel must have a respiratory fit test certificate issued within the past six months prior to the use of respiratory protection.
- Adequate quantities of potable drinking water should be available.
- Hazardous Materials brought on site shall be labeled in accordance with 29 CFR 1910.1200 and stored in accordance with 29 CFR 1910.106.
- Compressed gas cylinders brought on-site shall be stored in a designated location, upright, with valve caps secured in place and in secure racks or chained securely to a wall.
- No firearms or knives (except utility knives required for work tasks) will be permitted on-site.

8.2 Housekeeping Requirements

In accordance with 29 CFR 1910.141 and 29 CFR 1926.25 work areas (as applicable) should be kept in a neat and orderly condition. Work areas should be kept dry and free of obstacles or protrusions.

8.3 Posting

In accordance with 29 CFR 1903.2, the OSHA poster, informing employees of the protection and obligations provided for in the OSHA Act, shall be available, as applicable.

Emergency phone numbers and directions to the designated site hospitals (Appendix C) shall be maintained in this HASP document. Copies of this HASP will be available to site personnel and at least one copy will be on-site at all times during field activities.

8.4 Material Safety Data Sheets

Copies of MSDS for all chemical materials brought on site (if any) shall be maintained on site by the SSHS.

9.0 EMERGENCY RESPONSE

9.1 Emergency Contacts

The following organizations are to be contacted for the provision of emergency services:

Agency	Telephone
Police Department	911
Fire Department	911
Poison Control	(800) 222-1222
Project Manager Vincent Frisina, P.E.	(516) 671-8440 ext. 1323 (office) (631) 456-1555 (Cell) (631) 361-8994 (residence)
Insurance Manager Craig Campbell	717-763-7211, ext. 2794
Corporate Safety Manager Thomas Gingrich	717-763-7211, ext. 2087 717-545-0454 (residence)

9.2 Emergency Signal for Site Operations

Prior to start of work at a specific site, the SSHS shall designate an assembly location, preferably uphill and upwind of the work area.

Verbal communications between personnel shall be used to signal on-site GF personnel to safely discontinue work and immediately leave their location and meet at the pre-designated assembly location.

9.3 Emergency Standard Operating Procedures

The following standard operating procedures are to be implemented by on-site personnel in the event of an emergency. The SSHS shall be notified and shall conduct response actions.

Upon notification of a personnel injury, the designated emergency signal shall be sounded. All personnel are to terminate their work activities. The SSHS, if necessary, shall notify the ambulance service and hospital emergency room of the situation. If the injury is minor, but requires medical attention, the SSHS shall transport the victim to the hospital by an on-site vehicle. The SSHS shall accompany the victim to the hospital and provide assistance in describing the circumstances of the accident to the attending physician.

Upon notification of an equipment failure or accident, the SSHS shall determine the effect of the failure or accident on-site operations. If the failure or accident affects the safety of personnel or prevents completion of the scheduled operations, all work shall be stopped until the situation is evaluated and appropriate actions taken.

Upon notification of a natural disaster such as tornadoes, high winds, floods, thunderstorms or earthquakes, all work activities are to be terminated by the SSHS and all personnel are to evacuate the area.

Upon discovery of previously unidentified hazardous materials or contamination, the SSHS should evacuate the work area and contact the Project Manager.

9.4 Emergency Response Follow-Up Actions

Following activation of the Emergency Response Plan, the SSHS shall notify the Project Manager by telephone and the following individuals as appropriate: Insurance Manager, Safety Manager, and the Health and Safety Manager. The SSHS shall submit a written report documenting the incident within one working day.

APPENDIX A

Gannett Fleming Corporate Safety Manual for Field Operations

<u>SAFETY MANUAL #</u>

I Acknowledge that a copy of Gannett Fleming's "Safety Manual for Field Operations" has been issued to me for my use.

Name_______________________________________
(Please Print)

Employee No. ________________________________

Signature_____________________________________

Date ____

SAFETY MANUAL
FOR
FIELD OPERATIONS

GANNETT FLEMING
ENGINEERING COMPANIES

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INTRODUCTION

This manual has been developed by Gannett Fleming for use by Gannett Fleming Engineering Companies' employees. It is not intended to be used by any client or subcontractor of the Gannett Fleming Engineering Companies.

INTENT AND USE OF MANUAL

The maintenance of a safe and healthy working environment for our employees is of the utmost importance for the successful operation of our business. To this end, safety requirements must be considered fundamental to all aspects of the firm's operations.

To achieve our objectives, it is essential that our personnel be trained to follow procedures consistent with applicable safety standards. However, employees must be constantly alert to their personal obligation to comply with safe operating procedures. The continued cooperation of all our personnel is required to support and sustain an effective safety program.

Willful or consistent disregard of the safety provisions of this manual by any Gannett Fleming employee will subject that employee to disciplinary action, up to and including discharge.

This manual is not intended to be all inclusive or to address all health and safety issues. The health and safety procedures of this manual are intended only for the applications cited herein. In addition, they may require supplementation with Standard Operating Procedures or site specific health and safety plans more specific to the nature of the work being performed.

Gannett Fleming employees are required to follow the procedures specified in this manual for applicable company field operations. If employees are required to engage in work activities that in their judgment would involve a threat to their personal safety, they shall immediately notify their supervisor and refrain from any exposure to the unsafe condition. The supervisor and the employee shall arrange for and verify that the unsafe condition has been eliminated or that proper safety measures are in place to protect the employee before resuming the work activity.

If employees are planning to engage in work activities that are not covered in this manual, or if they are uncertain about the safety requirements for a specific work activity, they shall contact their supervisor before proceeding with the work. Also, if employees have any questions about the safety training requirements for their jobs or when and where to obtain safety training, they shall contact their Supervisor. Any questions concerning safety procedures, safety equipment or safety training that cannot otherwise be resolved shall be referred by the Supervisor to the Safety Manager.

Modification of the procedures contained in this manual can be made on a case by case basis only after consulting with and obtaining the written approval of the Safety Manager. Questions concerning the implementation of this manual should be directed to the Safety Manager.

PART I

DEFINITIONS

DEFINITIONS

The terms defined herein shall, for all purposes of this Safety Manual for Field Operations, have the meanings herein specified, unless the context clearly indicates otherwise:

APPROVED	-	In reference to a code, standard, device, or item of equipment, one that is sanctioned, endorsed, accredited, certified, listed, labeled, or accepted by a duly constituted and nationally recognized authority or agency as satisfactory for use in a specified manner.
ATTENDANT	-	A person who is assigned as standby to monitor a confined space process or operation and provide support or react as required.
AUTHORIZED - EMPLOYEE		A Gannett Fleming employee designated or assigned by his supervisor to perform a specific type of duty or duties, to use specified equipment or vehicles, and/or to be present in a given location at specified times.

DEFINITIONS
(continued)

AUTHORIZED - REPRESENTATIVE		A person, other than a Gannett Fleming employee, who has been designated by his Supervisor, company, or agency to act on its behalf on specified matters.
BLINDING	-	Inserting a solid barrier across the open end of a pipe leading into or out of the confined space, and securing the barrier in such a way to prevent leaking of material into the confined space.
CATENARY SYSTEM	-	A system of suspended cables attached at fixed points, implied herein as high tension electric cables.
COMBUSTIBLE GAS INDICATOR	-	An instrument which samples air and indicates (a) whether there is an explosive mixture present, and (b) the percentage of the lower explosive limit of the air-gas mixture that has been reached.

DEFINITIONS
(continued)

CONFINED SPACE - An enclosed area that has the following characteristics:

? its primary function is something other than human occupancy,
? has restricted entry and exit,
? may contain potential or known hazards.

Examples of confined space include, but are not limited to: tanks, silos, vessels, pits, vaults, pipelines, ducts, manholes, sewers, septic tanks, tunnels, caves, drainage pipes, culverts, caissons, cut and cover excavations, sinkholes, open topped space more than four feet deep, such as pits and trenches, or a chlorine room when a leak is suspected. Tanks and other structures under construction may be considered confined spaces until completely closed.

DEFINITIONS
(continued)

CPR	-	Cardiopulmonary Resuscitation
DOUBLE BLOCK AND BLEED	-	A method used to isolate a confined space from a line, duct or pipe by physically closing two in-line valves on a piping system, and opening a "vented-to-atmosphere" valve between them.
ENGULFMENT	-	The surrounding, capturing, or both, of a person by divided particulate matter or liquid.
ENTRY	-	Ingress by persons into a confined space which occurs upon breaking the plane of the confined space portal with his/her face; and all periods of time in which the confined space is occupied.
EQUIPMENT CENTER MANAGER	-	The person in charge of any Gannett Fleming equipment center or equipment dispensing.

DEFINITIONS
(continued)

FIRE EXTINGUISHER - A device having characteristics essential for extinguishing flame. Fire extinguishers may contain liquid, dry chemicals, or gases. They are tested and rated to indicate their ability to handle specific classes and sizes of fires, as follows:

? Class A Extinguishers – for ordinary combustibles, such as wood, paper and textiles, where a quenching/cooling effect is required.

? Class B Extinguishers - for flammable liquid and gas fires, such as oil, gasoline, paint, and grease, where oxygen exclusion or a flame interruption effect is essential.

? Class C Extinguishers - for fires involving energized electrical

DEFINITIONS
(continued)

wiring and equipment, where the non-conductivity of the extinguishing agent is of prime importance.

? Class D Extinguishers - for fires in combustible metals such as magnesium, potassium, powdered aluminum, zinc, sodium, titanium, zirconium, and lithium.

FLAMMABILITY - Property of a substance referring to its ability to be easily ignited or to burn.

FLAMMABLE - Said of any substance that is easily ignited, burns intensely, or has a rapid rate of flame spread.

HARD HAT - An approved metal or plastic helmet worn by a worker to provide head protection when the worker is subject to the hazard of falling or moving objects.

DEFINITIONS
(continued)

HAZARDOUS ATMOSPHERE	-	An atmosphere that may be or is injurious to occupants by reason of: oxygen deficiency or enrichment; flammability or explosivity; or toxicity.
INSURANCE MANAGER	-	The Gannett Fleming employee who is responsible for insurance matters for the company.
LANYARD	-	A flexible line to secure a worker wearing a safety belt or harness to a drop line, lifeline, or fixed anchorage.
LIFELINE	-	A horizontal line between two fixed-anchorages, independent of the work surface, to which a lanyard is secured either by tying off or by means of a suitable sliding connection.
LOCKOUT/ TAGOUT	-	The placement of a lock/tag on the energy isolating device in accordance with an established

DEFINITIONS
(continued)

		procedure, indicating that the energy isolating device shall not be operated until removal of the lock/tag in accordance with an established procedure. (The term "lockout/tagout" allows the use of a lockout device, a tag, or a combination of both.)
LOWER EXPLOSIVE LEVEL	-	Minimum or least concentration of gas or vapor in air below which a substance will not burn or explode.
LOWER FLAMMABLE LEVEL	-	Minimum or least concentration of gas or vapor in air below which a substance will not burn.
MSHA	-	Mine Safety and Health Administration, an agency of the Federal government.
NON-PERMIT CONFINED SPACE (NPCS)	-	A space which, by configuration, meets the definition of a confined space but which after evaluation is found to have little potential for generation of hazards or has the hazards

DEFINITIONS
(continued)

		eliminated by engineering controls.
OCCUPATIONAL ILLNESS	-	A physical ailment or injury incurred as a direct result of exposure to a work environment.
OSHA	-	Occupational Safety and Health Administration, an agency of the Federal government.
PERMIT REQUIRED CONFINED SPACE (PERMIT SPACE) (PS)	-	A confined space which after evaluation has actual or potential hazards which have been determined to require written authorization for entry.
PERSONAL PROTECTIVE EQUIPMENT	-	Equipment and/or clothing worn by an individual to prevent illness or injury.
PROTECTIVE CLOTHING	-	Clothing worn to protect a worker from exposure to or contact with harmful substances.

DEFINITIONS
(continued)

QUALIFIED PERSON	-	A person who by reason of training, education and experience is knowledgeable in the operation to be performed and is competent to judge the hazards involved.
RESPIRATOR	-	A protective device for the human respiratory system designed to protect the wearer from inhaling contaminated air.
SAFETY BELT	-	A device usually worn around the waste which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.
SAFETY MANAGER	-	A person trained in safety and having specific authority to direct the safety program of the company.
SHALL	-	Denotes a mandatory requirement.

DEFINITIONS
(continued)

SHOULD	-	A recommendation that is a sound safety and health practice; it does not denote a mandatory requirement.
SUPERVISOR	-	Person in responsible charge of a group of workers or a work activity.
THIRD RAIL	-	An exposed or partially exposed electrified conductor, adjacent to a railroad track, used to provide electric power to a locomotive.
TOXIC GASES -		Gases which are poisonous or which reduce the oxygen content of an atmosphere below safe levels for human occupancy.
TOXICITY	-	A measure of the poisonous nature of a substance, such as gases or liquids.

PART II

GENERAL REQUIREMENTS

II.A. ACCIDENTS

1.0 PURPOSE:

To establish procedures for seeking medical attention and reporting of job related accidents, injuries and occupational illnesses.

2.0 SCOPE:

Applies to all Gannett Fleming employees.

3.0 RESPONSIBILITIES:

Employee - To report and seek medical attention for all job related accidents or occupational illnesses.

Supervisor - To supply emergency information for field offices; to complete or require the completion of the "Employer's Report of Occupational Injury or Disease" form and send it to the company Insurance Manager; to immediately notify the Safety Manager of employee fatality; to correct or arrange for the correction of deficiencies that were determined to contribute to or cause an injury.

Safety Manager - To investigate accidents, injuries and occupational illnesses; to identify deficiencies; to prepare appropriate reports for governmental agencies, insurance and internal purposes.

4.0 PROCEDURES:

4.1 Emergency telephone numbers such as physician, hospital, ambulance, fire and police departments and utility companies shall be posted at field offices.

4.2 All accidents, however minor, should be reported to the immediate supervisor.

4.3 For injuries such as minor cuts and bruises, employees should seek treatment from an individual trained in first aid. For all other injuries, if the injury is not so severe as to prevent the moving of the employee, the employee should be transported to the nearest medical facility, hospital or physician. If the injury is of a severe nature as to prevent the moving of the employee or if unsure of the severity of the injury, the hospital emergency care telephone number or ambulance service telephone number shall be called and an ambulance requested. The caller shall be prepared to give the location, phone number being called from, number of people injured and nature of injuries. The caller shall stay on the line until party called hangs up.

II.B. CONFINED SPACE ENTRY

1.0 PURPOSE:

To establish procedures for safe work practice to be utilized when engaged in work activities that may involve confined space entry.

2.0 SCOPE:

2.1 Provides minimum safety requirements to be followed by Gannett Fleming employees while entering, exiting and working in confined spaces.

2.2 Although this section describes specific safety steps to be taken for entry into confined spaces, it is not intended to preclude the use of any additional measures that may be deemed necessary for a particular situation.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to obtain a confined space entry permit when required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

II.B. CONFINED SPACE ENTRY

(continued)

Supervisor - To arrange employee safety training pertinent to the job, including confined space entry; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manger identification and entry procedures; to assist employees if assistance is needed to identify and minimize work site safety hazards; to advise Employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manger - To train employees in the identification of and entry into confined spaces; to provide employees with safety equipment and personal protective equipment; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

Entry Supervisor – Know the hazards that may be faced during the confined space entry. Verify that the permit has been completed prior to entry. Terminate the entry and cancel the permit if any of the required provisions of the permit are not met or if additional hazards which affect the safety of the entrants become apparent. Advise the designated rescue service of the entry and confirm that they are available to respond to an emergency. Enforce the removal of unauthorized persons who enter or attempt to enter the confined space. Be responsible for the adherence to procedures to insure that all operations remain consistent with the terms of the entry permit and that entry conditions remain acceptable.

4.0 CONFINED SPACE CLASSIFICATIONS (PERMIT SPACE):

4.1 A Permit Required Confined Space (PS) is an enclosed space which has all of the following characteristics:

? Is large enough and so configured that an employee can bodily enter and perform assigned work;

? Has limited or restricted means for entry or exit (some examples are tanks, vessels, silos, manholes, storage bins, hoppers, vaults, pits, and diked areas);

? Is not designed for continuous employee occupancy; and

? Has one or more of the following characteristics:

- Contains or has a known potential to contain a hazardous atmosphere;

- Contains a material with the potential to engulf an entrant;

- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross section;

- Has an energy hazard which can involve contact with electrical equipment, steam or other sources of heat inside the space. This type of equipment can include shafts, augers, mixers or impellers; or

- Contains any other known serious safety or health hazard.

4.2 A Non-Permit Confined Space (NPCS) is an enclosed space which does not meet the PS definition. If there is any doubt whether or not a confined space may be classified as an NPCS, the employee should request a determination by the Supervisor or Safety Manager.

5.0 GENERAL PROCEDURES

5.1 Hazards shall be identified for each confined space. The hazard identification process shall include, but not be limited to, a review of the past and current uses of the confined space, which may adversely effect the atmosphere of the confined space. This information shall be used to determine testing requirements prior to entry.

II.B. CONFINED SPACE ENTRY
(continued)

5.2 Review the means of entry and exit into the confined space and the hazards posed by adjacent spaces and operations.

5.3 Field personnel working in or around confined spaces shall have a working knowledge and understanding of the hazards that may exist.

5.4 Before entry into a confined space, testing shall be conducted for a hazardous atmosphere by a competent team member who has been trained in proper testing techniques. The equipment used must be calibrated to the manufacturers specifications. At a minimum, testing must monitor oxygen levels, combustible gases, vapors and any toxic materials which are known to exist in the space. Testing needs to be done prior to entry to assess the conditions and while the space is occupied. The air outside the space should be tested to defect hazards that may affect persons remaining outside the space.

The confined space shall not be entered unless confined space atmosphere testing results are within the following acceptable limits:

? Test for gases in the correct order. Always test for oxygen first. Oxygen content should be between 19.5% and 23%. If the oxygen level is low, other meter readings, such as flammables and toxics, may not be accurate.

? Test for flammability shall be less than 10% of Lower Explosive Level (LEL) or Lower Flammable Level (LFL).

? Test for toxicity shall be less than recognized exposure limits for each monitored substance.

Test the air at several levels in the space. Some gases may be present only at the bottom, others only at the top. Testing at lower, middle and upper levels of space will detect these differences. Sometimes it is necessary to enter the space to test corners or behind equipment. If entry into the space for testing is required, the tester must wear appropriate respiratory protection equipment.

Initial testing of atmospheric conditions and subsequent testing after a job has been stopped for a significant period of time shall be done with ventilation systems shut down. Further testing shall be conducted with ventilation system turned on to verify that the contaminants are removed and the ventilation system is not itself causing a hazardous condition. If the confined space is vacated for any significant period of time, the atmosphere of the confined space shall be retested before re-entry is permitted.

5.5 Whenever testing of the atmosphere indicates that levels of oxygen, flammability, or toxicity are not within acceptable limits, entry shall be prohibited. If the source of the contaminant cannot be determined, precautions shall be adequate to deal with the worst possible condition that the contaminant could present in the confined space.

5.6 Based on the evaluation of the confined space hazards, a qualified person shall classify the confined space as either a PS or an NPCS.

5.7 Personal protective equipment shall be worn as needed for safe entry and occupancy of the confined space. Personal protective equipment includes but is not limited to: approved respirator, hard hat, safety goggles or safety glasses, safety shoes, gloves and chemical protective clothing. Personal safety equipment is not an adequate substitute for safe working conditions, adequate ventilation or safe working practices.

5.8 Approved low-voltage electrical equipment must be used where the atmosphere in the confined area may contain flammable vapors or where the atmosphere could contain solvent vapors within their flammable limits. All electrical outlets and circuits used to energize such equipment shall be equipped with ground-fault interrupters.

5.9 If initial air monitoring indicates the presence of flow oxygen levels or high toxic levels, forced ventilation into the space using adequately sized equipment should be provided. The most effective method of ventilation involves placing an air hose far enough into the space to force the air to the bottom. The air will eventually be vented through an opening in the space.

If the entrant is welding inside the space, it will be more efficient to capture the contaminants at the point of generation and carry them out of the space via flexible piping. If this method is chosen be sure that the exit point is far enough outside the space to keep contaminants from being drawn back down into the space.

If any work is being done outside, be aware of environmental factors such as the direction the wind is blowing. Vent exhaust contaminants downwind from the space. If air is being vented into the space using outside air, be sure the air is taken upwind from any airborne contaminants.

6.0 PERMIT SPACE PROCEDURES

6.1 A confined space entry permit shall be prepared by the entry supervisor for all Permit Space entries. This document shall include as a minimum the following information:

1. Name and location of the space to be entered

2. Purpose of entry

3. When the entry will be performed including the date and the authorized duration of entry

4. Who will be entering the space

5. Who will be serving as attendants

6. Who is authorizing the entry into the space

7. The hazards anticipated inside the space

8. How the space will be made safe for entry including:

    ? lockout and tagout procedures

- ? emptying, cleaning or purging the space
- ? disconnecting process supply lines
- ? insertion of blanks into supply lines

9. The acceptable conditions inside the space prior to the entry such as:

   - ? acceptable oxygen level
   - ? acceptable levels of airborne toxic materials
   - ? acceptable levels of flammable vapors

10. The equipment needed to control the hazards existing in the space and the equipment needed to respond to an emergency situation:

    - ? personal protective equipment
    - ? testing equipment
    - ? communication equipment
    - ? rescue equipment

II.B. CONFINED SPACE ENTRY
(continued)

11. Initial, periodic or continuous monitoring of conditions inside the space. Include the name or initials of the person who performed the tests and the times and date the tests were completed

12. The person who will initiate the rescue procedures and the team that will be called to perform the rescue in an emergency situation

13. Procedures entrants and attendants will follow

14. Additional required permits (e.g., Hot Work Permits) needed to safely perform work inside the space.

Each permit is valid for not more than one work shift.

6.2 A sample PS permit is provided in Appendix B. Each Gannett Fleming division or section may develop a permit form which best meets its needs. However, the form must be approved by the Corporate Safety Manager prior to use.

6.3 An attendant trained for confined space entry shall be stationed outside any PS. It is important that communication be maintained between team members. If problems arise, the attendant must be able to order the entrants out of the space, or the entrants must be able to summon for help. The entrants and the attendants can maintain visual and voice contact. If the entrants are out of visual range, portable electronic communication equipment can be used. The attendant shall provide standby assistance to occupants entering the confined space, direct occupants to exit the confined space when irregularities are observed, initiate evacuation and emergency procedures, monitor conditions or changes that could adversely affect the entry and remain at the point unless relieved by another attendant.

6.4 All energy sources that are potentially hazardous to confined space entrants shall be secured, relieved, disconnected and/or restrained before personnel are permitted to enter the confined space. Precautions shall be used to prevent flammable, toxic, irritating or oxygen displacing gases and vapors from entering the space. All hazardous material piping, high pressure piping, high temperature piping and other piping that could induce a hazard shall be isolated by utilizing blinding, disconnection, removal or double block and bleed as needed to prevent entry of material and hazardous contaminants.

6.5 Procedures and equipment necessary to rescue entrants from a PS must be provided. In PS having a restricted means of access (such as a sewer manhole), any person entering the confined space must be fitted with a safety harness and lifeline. The lifeline should be secured outside the entrance. Where entry into a vessel, manhole, or other confined space must be made through a top opening, an approved hoisting device or other effective means must be provided to lift employee out of space. Ladders must be in place for entrances and exits where the drop or climb involves a depth of more than 3 feet.

6.6 Continuous monitoring of the PS atmosphere is required during occupancy.

7.0 NPCS PROCEDURES

7.1 When a qualified person determines atmospheric test results are within acceptable limits (Oxygen - 19.5 % to 23.5%; Flammability - less than 10% of the lower explosive limit or lower flammable limit, and toxicity less than recognized exposure limits) and there is no known potential for generation of hazards, a confined space permit will not be required.

II.B. CONFINED SPACE ENTRY
(continued)

7.2 A qualified person shall determine the need for periodic testing and re-evaluation of the hazards based on possible changes in activities in the space, or other physical or environmental conditions which could adversely affect the space and change the classification.

7.3 Continuous monitoring of the NPCS atmosphere is not required during occupancy.

II.C. ELECTRICAL HAZARDS

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized when engaged in work activities that may involve electrical hazards.

2.0 SCOPE:

Applies to all Gannett Fleming personnel in work activities that may involve electrical hazards.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange employee safety training pertinent to the job; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manger if assistance is needed to identify and minimize work site safety hazards; to advise Employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.3 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, liquids, or other causes.

4.4 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.5 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, shall be preformed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.6 Gloves shall be worn when hand protection is required.

4.7 Employees are expected to utilize proper judgment in their personal habits. When they report to work they must be in a condition fit to meet daily responsibilities.

4.8 Except where the electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers have been erected to prevent physical contact with the lines, employees shall maintain clearances under, over, by, or near power in accordance with the following:

(1) For lines rated 50 kv and below, minimum clearance between the lines and any part of the body shall be 10 feet

plus 0.4 inches for each 1 kv or twice the length of the line insulator, but never less than 10 feet.

4.9 Before starting operations near electrical lines, the owner of the lines or his authorized representative shall be notified of the work and shall be provided information about the nature of the work. The Supervisor shall ascertain the electrical line owner's requirements pertaining to the type of work being performed and shall seek the electrical line owner's cooperation in minimizing potential electrical hazards to workers.

4.10 Any electrical line or wire shall be considered to be an energized line until the owner of the line or his authorized representative confirms that it is de-energized. Electrical equipment shall be considered energized until determined to be de-energized by test or other appropriate methods or means.

4.11 If portable ladders are used, they shall be at such a pitch that the horizontal distance from the top support to the foot of the ladder is about 1/4 of the working length of the ladder. The side rails shall extend not less than 36 inches above the landing. They shall be tied and blocked, or otherwise secured, to prevent their being displaced. Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors. Ladders shall not be used in a horizontal position as platforms or scaffolds. The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.

4.12 Operating voltage of equipment and lines shall be determined before working on or near energized parts.

4.13 Guards or barriers shall be erected as necessary adjacent to all energized equipment or lines to prevent accidental contact when such equipment or lines cannot be de-energized. Where appropriate, signs indicating the hazard shall be posted near the barricade or barrier.

4.14 Measuring tapes or measuring ropes that are metal or contain conductive strands shall not be used when working on or near energized equipment.

4.15 Appropriate warning signs shall be placed near the opening when covers of electrical manholes, handholes or vaults are removed.

4.16 Before an employee enters an electrical manhole, handhole or vault, it shall be protected with a barrier, temporary cover, or other suitable guard.

4.17 Electrical manholes, handholes, and unvented vaults are confined spaces. Entry into these spaces shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.18 Safety switches or circuit breakers shall not be operated without the consent and approval of the Owner or his authorized representative.

4.19 Panelboard covers shall not be removed and/or associated wiring disturbed unless assisted and approved by the Owner or his authorized representative.

4.20 Employees shall not open, internally inspect, or work on any energized electrical control panel, unless such work is required for the employee's performance of a specific work assignment, the employee has authorization from his supervisor, and the employee is accompanied by facility maintenance personnel. When opening, internally inspecting, or working on any energized electrical control panel, precautions shall be taken to prevent accidental operation of relays or other electrical devices due to jarring or vibration.

4.21 Employees shall not enter energized electrical substations, unless entry is required for the employee's performance of a specific work assignment and the employee has been authorized by his supervisor to enter. Prior to entering an energized electrical substation, the employee shall:

? Obtain authorization from the Owner or his authorized representative.

? Determine which facilities are energized.

? Determine what protective equipment and precautions are required and implement them.

? Comply with “Confined Space Entry Procedures" if the space to be entered is a confined space.

II.D. BOATING SAFETY

1.0 PURPOSE:

To establish procedures for safe boating practices to be utilized when work is done from a boat.

2.0 SCOPE:

Applies to all Gannett Fleming employees when using a boat in their work activities.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide field employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR first aid and safety training appropriate for the job.

4.2 Employees are expected to utilize proper judgement in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.3 Boats shall be equipped with Coast Guard approved personal flotation devices for each passenger. In addition, power boats shall be equipped with Coast Guard approved navigation lights, stern light and a horn capable of producing a 4 second blast audible for ½ mile. Additional equipment is determined by the length of the boat.

4.4 The law prohibits the throwing, discharging or depositing of any refuse matter of any kind into the water.

II.D. BOATING SAFETY
(continued)

4.5 The operator of any vessel involved in an on-the-water accident must stop, render assistance to those in danger and offer identification. If a person disappears from a vessel or a death occurs as a result of a boating accident, local authorities must be notified immediately.

II.E. HEAT AND COLD STRESS

1.0 PURPOSE:

To establish practices and procedures to be utilized while performing field activities during periods of hot and cold weather.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in field activities.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To monitor temperature and humidity of work site and to observe employees for symptoms of heat or cold stress. This duty may be assigned to an on-site health and safety officer, as appropriate.

Safety Manager - To assist the Supervisor in selecting and implementing practices and procedures necessary to reduce heat or cold stress.

II.E. HEAT AND COLD STRESS
(continued)

4.0 PROCEDURES

4.1 Work modifications may be necessary during temperatures of greater than 78°F. This may include additional rest periods, supplemental fluids, use of cooling vests or modification of work practices. The Safety Manager should be consulted for recommendations to reduce the employee's heating load.

4.2 Employees exhibiting symptoms of heat exhaustion or heat stoke should receive medical attention from a hospital or physician. Both conditions can be life threatening and should be immediately treated.

Heat Exhaustion - Symptoms and Treatment:

Symptoms - Cool, wet, pale skin; body temperature normal or lower; dilated pupils.

Treatment - remove victim from heat to a cooler place. Have the victim rest and elevate the feet. Loosen or remove clothing. Cool but do not chill the victim (fan and apply cold packs or wet towels).

Care for shock. If the victim is conscious, give one-half glass full of water every 15 minutes, as tolerated. Call physician or hospital, advise them of employee's symptoms and of treatment provided, and seek physician's advice on next course of action.

Heat Stroke - Symptoms and Treatment:

Symptoms - Hot, dry or wet, red skin; body temperature very high; pupils constricted.

Treatment - remove the victim from heat to a cooler place. Cool victim fast (immerse in a cool bath or wrap wet sheets around him or her and direct a fan over the body). Care for shock. Give nothing by mouth. Call physician or hospital, advise them of employee's symptoms and of treatment provided, and seek physician's advice on next course of action.

4.3 If heat cramps are suspected, move the victim to a cooler place. Have victim stop activity. If there are no other injuries, give the victim one-half glass full of water every 15 minutes for 1 hour as tolerated.

II.E. HEAT AND COLD STRESS
(continued)

A victim of extreme heat may first experience heat cramps and then heat exhaustion. If not helped he or she can suffer a heat stroke, a life threatening condition.

4.4 Cold stress may occur during exposures of less than 40^{o}F. Additional clothing and rest periods in heated areas may be necessary to maintain the employee's core temperature. The Safety Manager should be consulted for recommendations to reduce cold stress.

4.5 Cold extremes can produce two kinds of cold emergencies: hypothermia and frostbite.

Hypothermia - Symptoms and Treatment

Symptoms - slowed heart rate; slowed breathing rate; slurred speech; staggered walking; reduced response to pain; cold skin; low core temperature (less than 35^{o}C or 95^{o}F); confusion; muscle stiffness.

Treatment - move the victim from the cold to a warm place. Remove wet clothes and cover with dry clothing or blankets. Warm body slowly, give nothing by mouth unless victim is fully conscious. Do not warm the victim too quickly. Rapid warming could cause serious heart problems or increase circulation to body surface causing additional cooling of vital organs. Do not give beverages containing alcohol or caffeine. Give warm broth or water.

Call physician or hospital, advise them of employee's symptoms and of treatment provided, and seek physician's advice on next course of action.

Frostbite - Symptoms and Treatment:

Symptoms - skin may be slightly flushed prior to frostbite; skin changes to white or grayish yellow as frostbite develops; may be early pain, but often there is no pain; part feels intensely cold and numb; skin may have glossy appearance.

Treatment - move the victim from the cold to a warm place. Rewarm frozen part quickly by immersing in warm (not hot) water; do not rub or massage; put sterile gauze between warmed toes and

II.E. HEAT AND COLD STRESS
(continued)

fingers; loosely bandage. Call physician or hospital, advise them of employee's symptoms and of treatment provided, and seek physician's advice on next course of action.

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized when engaged in work activities within or adjacent to roads, streets, or highways.

2.0 SCOPE:

2.1 Provides procedures to be followed by Gannett Fleming employees while working within or adjacent to roads, streets, or highways.

2.2 Although this section describes specific steps to be taken to provide for the safe movement of traffic through work zones and to enhance the safety of our work force, it is not intended to preclude the use of good judgment or any additional measures that may be deemed necessary for a particular situation.

2.3 The information in this manual shall be used in conjunction with appropriate state and Federal traffic control manuals.

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES

(continued)

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange employee safety training pertinent to the job, including traffic control standards and guidelines; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager when assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To train employees in the application of traffic standards and guidelines; to provide employees with safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES
(continued)

4.0 GENERAL PROCEDURES:

4.1 The guidelines contained herein are minimum desirable guidelines for normal situations. Additional protection must be provided when special complexities and hazards prevail. The protection prescribed for each situation shall be based on speed and volume of traffic, duration of operation, and exposure to hazards. As used in these guidelines, the term street refers to all streets or roadways in any municipality, including cities, towns, villages, or other local jurisdictions.

4.2 Motorists should be guided in a clear and positive manner while approaching and driving through work and survey areas.

a. Adequate warning and direction by means of proper pavement markings, signing, and use of other devices which are effective under varying conditions of light and weather should be provided to assure the motorist of positive guidance ahead of and through the work area.

b. Flagging procedures, when used, should provide guidance to the motorist traversing the work area. Flagging should only be employed when required to control traffic or when all other methods of traffic control are inadequate to warn and direct drivers.

5.0 SIGNS

5.1 Warning signs shall have a black legend on orange background. It is acceptable to utilize materials having fluorescent red-orange or yellow-orange colors as background. Existing yellow warning signs already in place within these areas may remain in use.

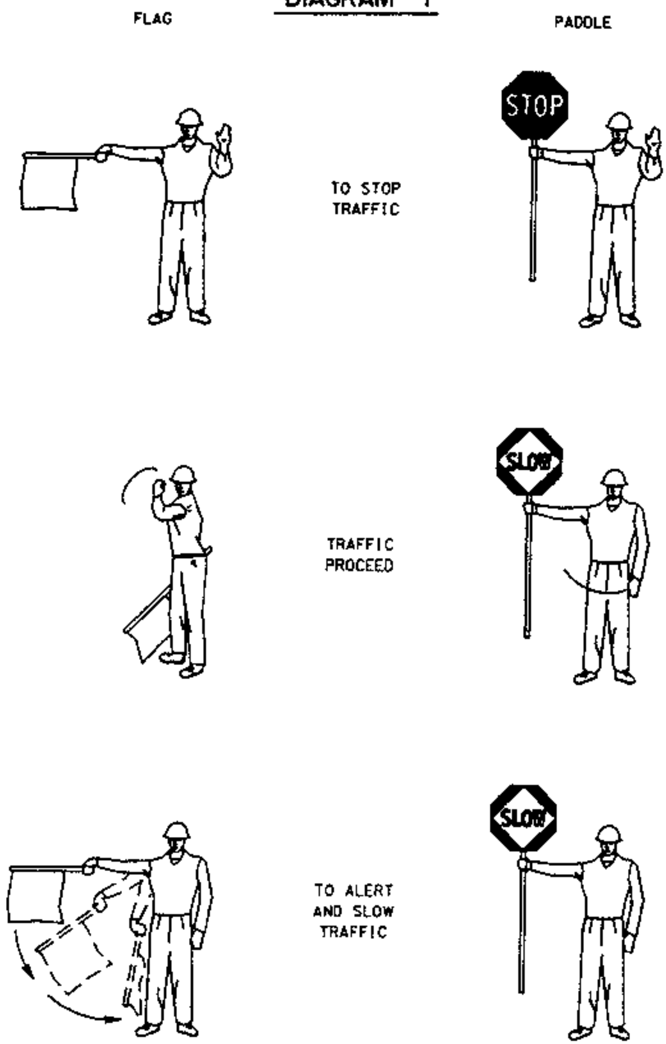
5.2 All signs intended for night use shall be fabricated with encapsulated lens reflective sheeting or an illuminated sign may be used.

5.3 Signs shall be placed to the right of traffic on the street or placed on both sides. Advance warning signs on open highways should be placed about 1,500 feet ahead of the work area. The sign nearest the work or restriction area should be 500 feet from the point of restriction with additional signs at 500 to 1,000 foot intervals. These distances may be adjusted depending on the street type.

5.4 An advance flagger sign shall alert drivers that they are approaching a flagman. This sign may contain words or the flagger symbol. The sign shall be promptly removed, covered, or turned to face away from the street whenever the flagger is not on duty.

5.5 A worker sign is intended for protection of workers in or near a street. This is for use at limited obstruction sites, such as an open manhole with a fence around it, on low speed streets.

DIAGRAM I



USE OF HAND SIGNALING DEVICES BY FLAGGER

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES

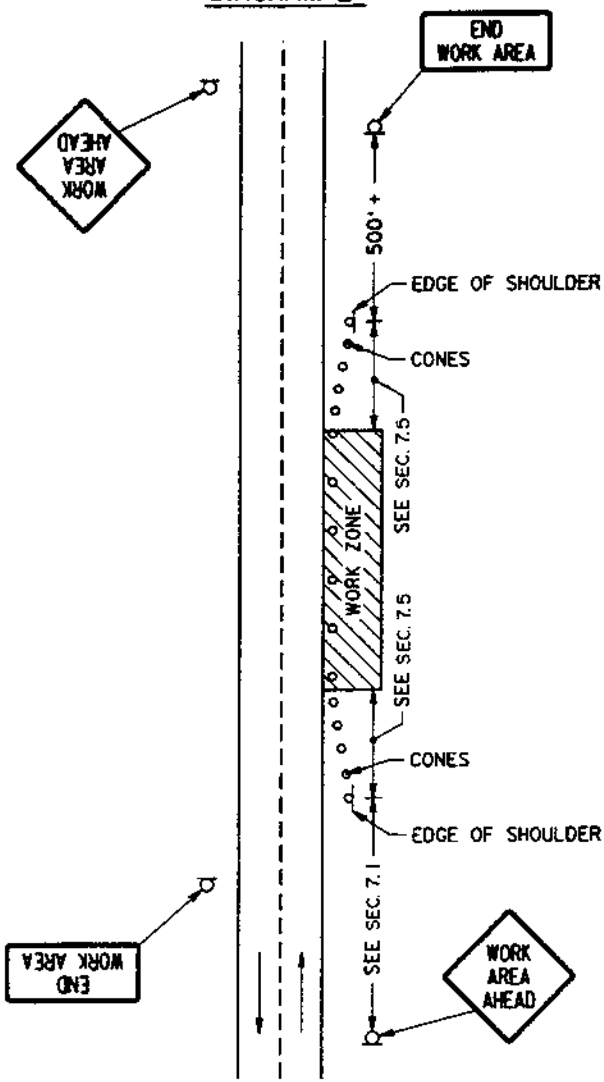
(continued)

6.0 USE OF HAND SIGNALING DEVICES BY FLAGGER

6.1 When a flagger is used to signal oncoming traffic, he shall use a red warning flag or slow/stop paddle.

6.2 Use of the signal flag, slow/stop paddle, and associated hand signals are shown in Diagram 1, opposite page.

DIAGRAM 2



END
WORK AREA
WORK
AREA
AHEAD
500' +
EDGE OF SHOULDER
CONES
SEE SEC. 7.5
WORK ZONE
SEE SEC. 7.5
CONES
EDGE OF SHOULDER
SEE SEC. 7.1
END
WORK AREA
WORK
AREA
AHEAD

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES
(continued)

7.0 TRAFFIC CONTROL FOR WORK BETWEEN TRAVELWAY AND DITCHLINE ON RURAL STREETS (Refer to Diagram 2, opposite page.)

7.1 Distance between advance warning sign and beginning of cone taper should be 350 feet to 500 feet where posted speed limit if 45 mph or less and 500 feet to 800 feet where posted speed limit is greater than 45 mph.

7.2 Traffic cones are not required on the departure end of the work zone on four-lane undivided and divided primary streets.

7.3 On rural streets having a median wider than 8 feet, left and right side sign assemblies shall be required.

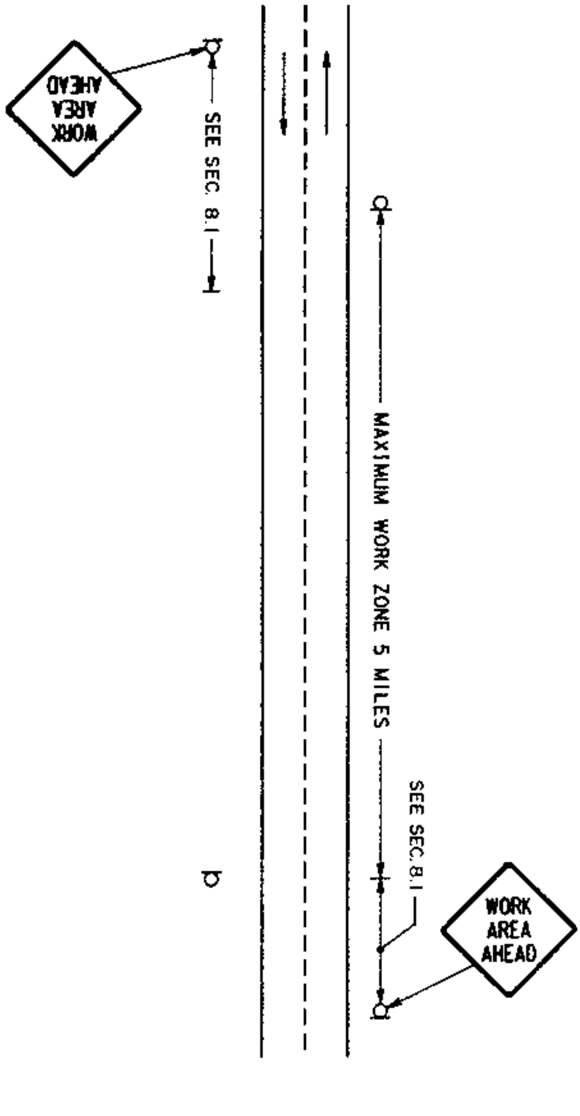
7.4 Spacing of cones shall be 40 feet on straight road and 20 feet on curves and transitions.

7.5 To determine the length of cone transition, use the formula

$$L = \frac{WS^2}{60}$$

where L equals the taper length in feet; W equals the width of offset in feet; and S equals the posted speed.

DIAGRAM 3



WORK
AREA
AHEAD
SEE SEC. 8.1
MAXIMUM WORK ZONE 5 MILES
SEE SEC. 8.1
WORK
AREA
AHEAD

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES

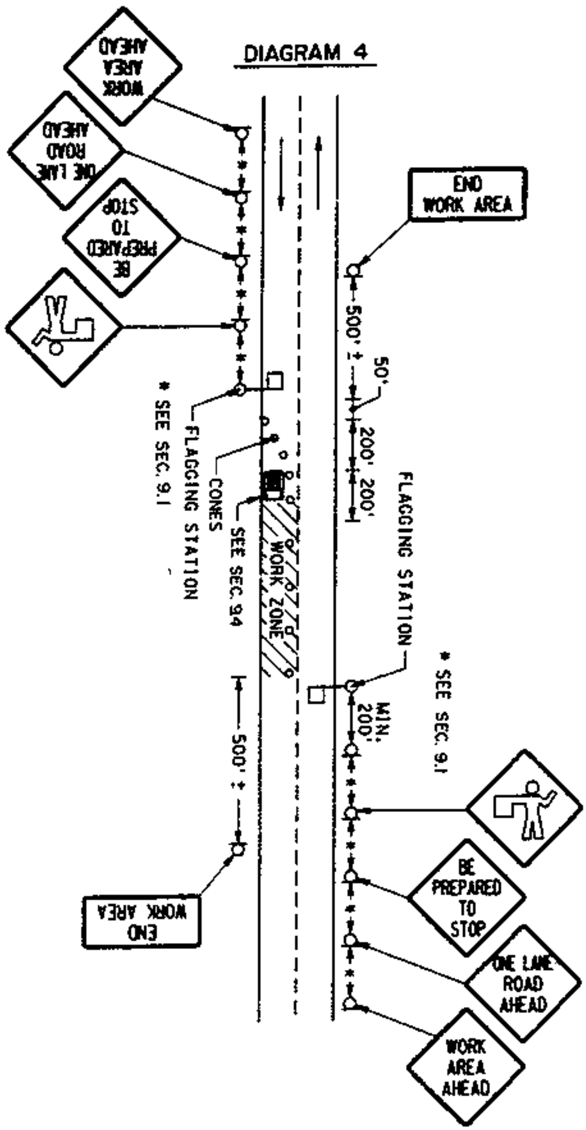
(continued)

8.0 TRAFFIC CONTROL FOR WORK OPERATIONS OFF TRAVELWAY ON RURAL STREETS (Refer to Diagram 3, opposite page.)

8.1 Distance between advance warning sign and beginning of work zone should be 350 feet to 500 feet where posted speed limit is 45 mph or less and 500 feet to 800 feet where posted speed limit is greater than 45 mph.

8.2 On rural streets having a median wider than 8 feet, left and right side sign assemblies shall be required.

DIAGRAM 4


WORK AREA AHEAD
ONE LANE ROAD AHEAD
BE PREPARED TO STOP
END WORK AREA
500' ±
50'
200'
200'
FLAGGING STATION
CONES
SEE SEC. 94
WORK ZONE
* SEE SEC. 9.1
MIN. 200'
500' ±
FLAGGING STATION
* SEE SEC. 9.1
BE PREPARED TO STOP
ONE LANE ROAD AHEAD
WORK AREA AHEAD
END WORK AREA

II.F. TRAFFIC CONTROL STANDARDS AND GUIDELINES
(continued)

9.0 TRAFFIC CONTROL FOR WORK ON TRAVELWAY ON TWO-LANE RURAL STREETS (Refer to Diagram 4, opposite page.)

9.1 Distance between advance warning sign and beginning of work zone should be 350 feet to 500 feet where posted speed limit is 45 mph or less and 500 feet to 800 feet where posted speed limit is greater than 45 mph.

9.2 Flagging stations shall be located far enough in advance of the work zone to permit approaching traffic to reduce speed and/or stop before passing the work zone and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic.

9.3 Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition.

9.4 A truck or trailer with at least one rotating or two alternating high intensity amber flashers shall be parked at the beginning of work in advance of work crew.

9.5 Spacing between cones shall be 40 feet on straight roads and 20 feet on curves and transitions.

PART III

SAFETY EQUIPMENT

III.A. AVAILABLE SAFETY EQUIPMENT

The following is a listing of safety equipment which is available to Gannett Fleming personnel in the performance of their duties:

PERSONAL PROTECTIVE EQUIPMENT

A. Hard hats, liners, and chin straps

B. Safety goggles, glasses, and face shields

C. Ear plugs and muffs

D. Gloves (leather, rubber, or both)

E. Boots and overboots

F. Steel toes and metatarsels for footwear

G. Protective coveralls

H. Reflectorized safety vests

I. Safety belts and harnesses

J. Lifelines

K. Lanyards

L. Respirators, self-contained breathing apparatus

III.A. AVAILABLE SAFETY EQUIPMENT
(continued)

M. Resuscitators

N. Rainsuits

O. First aid kits

P. Fire extinguishers

Q. Flashlights and lanterns

R. Miscellaneous items (as requested)

TRAFFIC CONTROL ITEMS

A. Safety cones (28 to 36 inches in height)

B. Traffic-warning and traffic control signs

    1. Nonreflective-day

    2. Reflective-night

C. Barricades

D. Flashing lights

III.A. AVAILABLE SAFETY EQUIPMENT
(continued)

E. Revolving lights

F. Arrow boards

MEASURING DEVICES

A. Oxygen/combustible gas/toxic gas detector

B. Oxygen and combustible gas detector

C. Toxic gas detector

D. Toxic gas detector tubes

E. Sound-level meter

F. Light meter

G. Velocimeter

H. Thermometer

I. Ground fault circuit interrupter

Other items of safety equipment, not specifically included in this listing, will be provided as needed, upon request.

III.B. HOW TO OBTAIN SAFETY EQUIPMENT

Safety equipment may be obtained by submitting a requisition to the Safety Manager, who has the necessary forms. The requisition must be approved by the Division or Subsidiary Director, Section Head or Regional Office Manager, or an authorized representative and be filed at least 24 hours in advance to allow for equipment scheduling.

The care and maintenance of assigned safety equipment is the responsibility of the employee to whom it is assigned. After use, all equipment must be promptly returned to the Safety Manager or other designated Company employee.

The Safety Manager can be contacted by calling the switchboard operator at the Headquarters Building in Camp Hill (717/763-7211).

III.C. EQUIPMENT OPERATING PROCEDURES

The proper operation and use of safety equipment is essential for the protection of employees who use the equipment. The Equipment Center Manager will demonstrate the proper operation of all requisitioned safety equipment. Questions about the operation or limitations of use should be referred to the Equipment Center Manager. The safety equipment shall be used only for its intended purposes.

PART IV

BASIC PROGRAM REQUIREMENTS

IV.A. CONSTRUCTION PHASE ACTIVITIES

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during construction phase activities. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in construction observation or construction management.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state, and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

IV.A. CONSTRUCTION PHASE ACTIVITIES
(continued)

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Applicable OSHA forms, including the "Job Safety & Health Protection" poster, the U.S. Department of Labor injuries and illnesses report (February 1 through March 1 each year), and the "Emergency Phone Numbers" notice, shall be posted at all field offices.

4.3 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.4 Hard hats shall be worn at all times when on the active portion of a construction site.

IV.A. CONSTRUCTION PHASE ACTIVITIES
(continued)

4.5 The Gannett Fleming field office, if one is utilized, shall be equipped with an appropriately sized first aid kit and correct size and type of fire extinguisher.

4.6 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, dust, liquids, or other causes.

4.7 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.8 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.9 Gloves shall be worn when hand protection is required.

IV.A. CONSTRUCTION PHASE ACTIVITIES
(continued)

4.10 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.11 Caution shall be exercised when working in the vicinity of over-head power lines to avoid electrocution.

4.12 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.13 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

IV.B DRILLING, BORING AND SUBSURFACE INVESTIGATION

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during drilling, boring and subsurface investigation. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in drilling, boring or subsurface investigation activities.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective or safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify or minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - to provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Applicable OSHA forms, including the "Job Safety & Health Protection" poster, the U.S. Department of Labor injuries and illnesses report (February 1 through March 1 each year), and the "Emergency Phone Numbers" notice, shall be posted at all field offices.

4.3 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

IV.B DRILLING, BORING AND SUBSURFACE INVESTIGATION
(continued)

4.4 Hard hats shall be worn at all times.

4.5 The Gannett Fleming field office, if one is utilized, shall be equipped with an appropriately sized first aid kit and correct size and type of fire extinguisher.

4.6 Hearing protection is required during all drilling and boring activities when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.7 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.8 Gloves shall be worn when hand protection is required.

4.9 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.10 Caution shall be exercised when working in the vicinity of over-head power lines to avoid electrocution.

4.11 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.12 Safety glasses with side-shields or safety goggles shall be worn when in close proximity to drilling, boring and subsurface investigation activities, or as otherwise directed by the Supervisor.

4.13 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

4.14 The contract with the drilling, boring, or subsurface investigation contractor shall require the contractor, at its expense and in the presence of the engineer, to have the owners of underground utilities and service lines locate all underground utilities and service lines which may be in the immediate vicinity of the drilling, boring, or subsurface investigation.

IV.C. WORK ON ELEVATED STRUCTURES

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during the work on elevated structures such as bridges, buildings and towers. Required references for these procedures are appropriate OSHA Safety and Health Standards and U.S. Department of Transportation/ F.H.W.A. Bridge Inspector's Training Manual 70.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in work on elevated structures.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Applicable OSHA forms, including the "Job Safety & Health Protection" poster, the U.S. Department of Labor injuries and illnesses report (February 1 through March 1 each year), and the "Emergency Phone Numbers" notice, shall be posted at all field offices.

4.3 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

IV.C. WORK ON ELEVATED STRUCTURES
(continued)

4.4 Hard hats shall be worn at all times when on the job site.

4.5 The Gannett Fleming field office, if one is utilized, shall be equipped with an appropriately sized first aid kit and correct size and type of fire extinguisher.

4.6 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, dust, liquids, or other causes.

4.7 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.8 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

IV.C. WORK ON ELEVATED STRUCTURES
(continued)

4.9 Gloves shall be worn when hand protection is required.

4.10 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.11 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.12 When working in an area not normally used for human occupancy or travel and there is danger of a fall greater than six feet, a safety belt must be worn and secured by a lanyard to a lifeline or to the structure with the appropriate fastening device. If it is impractical or impossible to be secured to the structure, a safety net or other safety device shall be used in accordance with OSHA requirements.

4.13 When working over, on, or near water, where the danger of drowning exists, U.S. Coast Guard-approved life jackets or buoyant work vests shall be worn. In addition, ring buoys with 90 feet of line (minimum) and a life saving skiff shall be in close proximity to the work area for use in a rescue.

IV.C. WORK ON ELEVATED STRUCTURES
(continued)

4.14 When performing work operations from a man basket or mobile platform, employees shall wear safety belts and tie off to the platform on which they are standing.

4.15 Scaffolds more than 4 feet above the ground or floor shall have guardrails and toeboards. Guardrails shall be approximately 42 inches high and toeboards shall be a minimum of 4 inches in height.

4.16 When working from a suspended scaffold, employees shall wear a safety belt secured by a lanyard to a lifeline and the lifeline shall be secured to an anchorage or structural member capable of supporting a minimum dead load of 5,400 lbs. Where the support capability is questionable, contact the Safety Manager. The lanyard shall be a minimum of one-half inch nylon, or equivalent, with a maximum length allowing a fall of no greater than 6 feet. The lanyard and the lifeline shall have a nominal breaking strength of at least 5,400 pounds.

4.17 If portable ladders are used, they shall be at such a pitch that the horizontal distance from the top support to the foot of the ladder is about 1/4 of the working length of the ladder. The side rails shall extend not less than 36 inches above the landing. They shall be tied or blocked, or otherwise secured, to prevent their being displaced. Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors. Ladders shall not be used in a horizontal position as platforms or scaffolds. The use of ladders with broken or missing rungs or steps, broken or split siderails, or other faulty or defective construction is prohibited.

4.18 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

4.19 Caution shall be exercised when working in the vicinity of over-head power lines to avoid electrocution.

IV.D. WORK ON RAILROAD PROPERTY

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during work on railroad property. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE

Applies to all Gannett Fleming personnel engaged in work on railroad property.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

IV.D. WORK ON RAILROAD PROPERTY
(continued)

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.3 Hard hats shall be worn at all times on the job site.

4.4 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, dust, liquids or other causes.

4.5 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.6 Gloves shall be worn when hand protection is required.

4.7 Employees are expected to utilize proper judgment in their personal habits. When they report to work they must be in a condition fit to meet daily responsibilities.

4.8 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.9 Employees shall be mindful that they are on an operating railroad and shall have a safe place to go if a train should approach the work area. Employees shall also be aware of the location and extent of "no clearance" areas.

4.10 When railroad flagmen are provided by the railroad, the employees shall ascertain where the flagmen want them to go when a train passes and what signals will warn of an approaching train.

IV.D. WORK ON RAILROAD PROPERTY
(continued)

When no railroad flagmen are provided, the Gannett Fleming crew shall be alert to the approach of trains and shall warn other crew members of a train's approach.

4.11 When a train approaches:

? Move to a safe place as far from the track as judgment dictates.

? Stand still.

? Secure all items of clothing, papers, and equipment to prevent the air blast created by the train from dislodging them.

? Always be alert for dragging objects from the train.

? Move all inspection equipment clear of the track.

4.12 Minimize walking along the railroad tracks and property except as required for the job. When walking along or across railroad tracks, the following procedures shall be followed:

IV.D. WORK ON RAILROAD PROPERTY
(continued)

? Know the direction of traffic and walk facing traffic. (Note: during construction and in single track areas, traffic may come from either direction).

? Be alert. Look and listen for approaching trains. Have a safe place to go when a train approaches.

? Do not cross between the cars of a train or, in the train switching areas, between the engine and the train.

? Walk outside the track area where possible. Do not step on switch points, switch mechanisms, wires, tie ends, rail or other tripping hazards. (Note: rails and ties may be extremely slippery due to oil, frost, or rain).

? Do not touch or make contact with any electrical wires, cables, bonds, grounds, or other electrical connections attached to the rails, structures or signal system. They may be energized and pose the risk of electrocution.

? Wear a reflective vest and hard hat.

IV.D. WORK ON RAILROAD PROPERTY
(continued)

4.13 Railroad tunnels and other restricted areas:

? Comply with all applicable provisions of Section 4.11 above.

? Proper lighting or flashlights shall be provided and used while in tunnel areas.

? Employees shall not be in restricted areas such as tunnels and depressed cuts without proper railroad protection personnel unless adequate safe areas or train restrictions are in force to provide a safe working area.

? Do not run on bridges or in tunnels, retained cuts, or other restricted areas. If you cannot move safely away from an oncoming train, lie flat on the ground or bridge outside of the track area.

4.14 Assume third rail and catenary systems are energized and that they pose the risk of electrocution until you are certain they have been de-energized. Do not touch or allow objects to touch or come in close proximity with an energized third rail or catenary system and their support structures. Do not use metal tapes, rules, flashlights or ladders for inspection.

IV.D. WORK ON RAILROAD PROPERTY
(continued)

4.15 De-energizing and grounding of the electrical systems, when required, shall be performed by railroad personnel. Do not touch any apparatus or equipment unless required by your duties and you are absolutely sure it is safe to do so.

4.16 Do not cross third rail areas except as required by your duties. Do not step on, sit on, or touch third rails, cover boards, bonds, grounds or other apparatus. Do not touch third rail contact shoes of engines or electrical cars. They may be energized on both sides of engine or car and pose the risk of electrocution. Do not touch anything that is in contact with the third rail system such as debris, wire, or string as they may also be energized and pose an electrocution risk.

4.17 Do not climb any catenary support and do not climb onto the top of any engine, train, or high rail vehicle, unless authorized and required in performance of your duties. Authorized employees shall have proper training and knowledge to perform this duty. Maintain a safe distance from the catenary support and any cables attached to the catenary support system.

Never touch anything that is in contact with the catenary system such as debris, wire or string as they may be energized and pose the risk of electrocution.

4.18 Do not enter operating substations unless authorized railroad personnel are present. Do not touch equipment, wire, cables, or other appurtenances or operate any equipment unless authorized and required in the performance of your duties.

4.19 Normal safety practices as appropriate for each construction operation shall apply while inspecting or observing construction on railroad property.

4.20 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

IV.E SURVEYING

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized when performing all types of field surveying. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in all types of field surveying.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.3 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, dust, liquids or other causes.

4.4 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, shall be performed in accordance with

"Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.5 Gloves shall be worn when hand protection is required.

4.6 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.7 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.8 When surveying in dangerous areas or along highways or roads open to traffic, reflective vests shall be worn.

4.9 When working along highways or roads open to traffic, surveyors shall warn motorists of their presence and be responsible for traffic control. Advance warning signs shall be placed to warn both directions of traffic. Cones shall be located between the workmen and the advance warning signs. A yellow flashing light shall be mounted on the survey vehicle and used as a warning device. See Traffic Control Standards and Guidelines.

4.10 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

IV.F. TUNNEL AND MINE ENTRY

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during entry into or work in tunnels or mines. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in tunnel or mine entry activities.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.3 Hard hats shall be worn at all times.

4.4 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

IV.F. TUNNEL AND MINE ENTRY
(continued)

4.5 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, caisson, trench, hole, sinkhole or open-topped space more than four feet deep, or other confined spaces, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.6 Gloves shall be worn when hand protection is required.

4.7 Caution shall be exercised around over-head power lines to avoid electrocution.

4.8 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.9 Safety glasses with side shields or safety goggles shall be worn when in close proximity to drilling, boring and subsurface investigation activities; when there is a reasonable probability of injury to the eye from debris, dust, liquids, or other causes; or as otherwise directed by the Supervisor.

IV.F. TUNNEL AND MINE ENTRY
(continued)

4.10 Before entering into or making a mine inspection, the Supervisor shall check with the appropriate state regulatory agency (in Pennsylvania, Pennsylvania Bureau of Deep Mine Safety and Pennsylvania Department of Environmental Resources) to determine whether the mine has recently been inspected by the state and whether a state mine inspector can participate in the inspection. The mine inspector's duty is to make sure the mine is safe to enter. In Pennsylvania, the presence of a mine inspector is mandatory.

4.11 Carrying of matches or smoker's articles into tunnels or underground mines is strictly prohibited.

4.12 Any equipment used in tunnels or underground mines shall be MSHA or OSHA approved.

4.13 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

IV.G. SOLID WASTE FACILITY INVESTIGATIONS

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during site investigations of solid waste facilities. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to all Gannett Fleming personnel engaged in solid waste facility investigations.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments; to have a current tetanus inoculation (these are usually good for a maximum of 5 years).

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manger - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

4.3 Hard hats shall be worn at all times in active work areas.

4.4 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.5 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, trench, hole, sinkhole or open-topped space more than four feet deep, or other confined spaces, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.6 Gloves shall be worn when hand protection is required.

4.7 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.8 Safety glasses with side-shields or safety goggles shall be worn if an activity is observed that produces airborne particulate matter or if there is a reasonable probability of injury to the eye from debris, dust, liquids, or other causes. The wearing of contact lenses is not recommended due to the presence of dusts and airborne particles and microbes.

4.9 No open flames or sparks are permitted on the site of a landfill.

4.10 Inhalation of landfill gases should be avoided as far as practicable. Prolonged exposure may require the use of respiratory protection to reduce the chances of overexposure, symptoms of which may include nausea and dizziness.

4.11 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.12 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

IV.H OTHER FIELD ACTIVITIES

1.0 PURPOSE:

To establish procedures for safe work practices to be utilized during other field activities not specifically covered by other sections of this manual. These procedures may require supplementation with OSHA Safety and Health Standards, as appropriate.

2.0 SCOPE:

Applies to Gannett Fleming employees engaged in work activities in outdoor areas, inside process areas of industrial buildings, or in such other locations as may reasonably be expected to have potential safety hazards.

3.0 RESPONSIBILITIES:

Employee - To report to work wearing clothing suitable for the weather and work as deemed appropriate by the Supervisor; to wear personal protective equipment, if required; to become familiar with and adhere to the applicable job related safety requirements, including those of Gannett Fleming, the property owner, the client and Federal, state and local governments.

Supervisor - To arrange safety training pertinent to the job for employees; to assist employees in obtaining personal protective and safety equipment requested for the job; to consult with the Safety Manager if assistance is needed to identify and minimize work site safety hazards; to advise employees to utilize personal protective and safety equipment, as necessary, and practice sound safety principles.

Safety Manager - To provide employees with training, safety equipment and personal protective equipment as requested; to assist the Project Manager, Supervisor or the Employee in identifying and minimizing safety and health hazards at the work site.

4.0 PROCEDURES:

4.1 Personnel who are regularly assigned to field activities shall be instructed in CPR, first aid and safety training appropriate for the job.

4.2 Applicable OSHA forms, including the "Job Safety & Health Protection" poster, the U.S. Department of Labor injuries and illnesses report (February 1 through March 1 each year), and the "Emergency Phone Numbers" notice, shall be posted at all field offices.

4.3 Work shoes or boots with heavy soles to protect the bottom of the foot shall be worn. Shoes with steel shank and toe shall be worn in areas that pose the risk of injury to the foot.

IV.H OTHER FIELD ACTIVITIES
(continued)

4.4 The Gannett Fleming field office, if one is utilized, shall be equipped with an appropriately sized first aid kit and correct size and type of fire extinguisher.

4.5 Safety glasses with side shields or safety goggles shall be worn if there is a reasonable probability of injury to the eye from debris, dust, liquids, or other causes.

4.6 Hearing protection shall be required when noise levels exceed 85 decibels. Generally, if shouting is required to be heard by another within arms length because of noise, hearing protection is required.

4.7 Activities involving entry into a confined space such as a tank, vessel, vault, pit, pipeline, duct, manhole, sewer, tunnel, cave, underground mine, drainage pipe, culvert, trench, hole, sinkhole or open-topped space more than four feet deep, shall be performed in accordance with "Confined Space Entry Procedures", as specified in Section II.B of this manual.

4.8 Gloves shall be worn when hand protection is required.

IV.H OTHER FIELD ACTIVITIES
(continued)

4.9 Employees are expected to utilize proper judgment in their personal habits. When they report to work, they must be in a condition fit to meet daily responsibilities.

4.10 No outdoor work by Gannett Fleming employees shall be permitted during electrical storms.

4.11 Employees should not attempt to move or lift heavy loads or items unless they have received applicable training. Guidance and a demonstration tape about the moving or lifting of heavy loads will be provided by the Safety Manager upon request.

4.12 Caution shall be exercised when working in the vicinity of over-head power lines to avoid electrocution.

4.13 The "Construction Site Safety Awareness Handbook for Employees of Gannett Fleming Companies" is available from the Corporate Safety Manager. All construction site inspectors should have this handbook in their possession.

PART V

HOW TO OBTAIN MORE INFORMATION ABOUT OSHA

V. HOW TO OBTAIN MORE INFORMATION ABOUT OSHA

The requirements of the Occupational Safety and Health Act have been published and are periodically updated in the Federal Register which is on file in our Headquarters Office. Current information about the Act is published by Commerce Clearing House, Inc., and may be found in similar publications. The U.S. Bureau of Labor Statistics also has a number of publications relating to the Act.

For specific information concerning the requirements of the Act, the Safety Manager should be consulted.

PART VI

APPENDICES

APPENDIX A

HEALTH AND SAFETY
STANDARD OPERATING PROCEDURES

The health and safety procedures of the Safety Manual for field operations are intended only for the cited applications. They may require supplementation with Standard Operating Procedures more specific to the nature of the work being performed. The following is a listing of Gannett Fleming Standard Operating Procedures currently being considered:

Decontamination

Air Monitoring & Sampling

Hearing Conservation

Respiratory Protection

Asbestos Sampling & Investigations

Personal Protective Equipment

Handling of Drums & Containers

First Aid Kits

Incident Investigation & Reporting

APPENDIX A
(continued)

Monitoring Equipment (various items)

Communications

Site Specific Health & Safety Plans

Health & Safety Audits

Medical Monitoring

Additional Standard Operating Procedures may be developed as requested.

Gannett Fleming

[illegible] 1
[illegible]

1.0 [illegible]

It is the purpose of this document to provide the employees of Gannett Fleming, Inc. as well as any subsidiaries and affiliated companies (hereinafter the Company) with a safe working environment when utilizing respiratory protection. No Company personnel may use respiratory protection devices until the provisions of this document are met, and shall have a current, valid Respirator User Card.

1.1 [illegible]

This program applies to all Company employees required to wear respiratory protection to protect them from inhalation hazards while performing tasks for the Company.

1.2 [illegible]

- 29 CFR 1910.134 - Respiratory Protection for General Industry and Construction
- 29 CFR 1910.1020/1926.33 - Access to Employee Exposure and Medical Records
- 42 CFR Part 84 - Respiratory Protective Devices
- G-7.1 - 1989 - ANSI/CGA Commodity Specification for Air

1.3 [illegible]

To protect the safety and health of Company personnel who may be required to wear respiratory protection in the performance of their duties, it is imperative that Company personnel adhere to this respiratory program. Responsibilities of respirator wearers, Program Coordinators, the Program Administrator, the Medical Review Officer and Company management personnel are described in this section. Each person whose responsibilities are described herein is solely accountable for fulfilling the designated responsibilities. The names of the Program Administrator and the Medical Review Officer are provided in Section 1.10.

1.3.1 Respirator Wearers

- Wear his/her respirator when and where required and in the manner in which trained.
- Report any malfunctions of the respirator to his/her supervisor or, if applicable, the Safety Coordinator immediately.
- Guard against mechanical damage to the respirator, clean the respirator as instructed, and store the respirator in a clean, sanitary location.

1.3.2 Safety Coordinator

The Safety Coordinator is responsible for assisting the Program Administrator maintain a respiratory protection program that protects Company personnel from recognized inhalation hazards and providing guidance to the project managers and respiratory wearers in the implementation of the program. They are also responsible for the following:

- Verifying all personnel assigned to the office/organization whose duties require the use of respiratory protection are identified.
- Scheduling appropriate training, fit testing and a medical evaluation for all respirator wearers assigned to the office/organization. Establishing and maintaining a system for keeping records for training, fit testing and medical evaluations and forwarding the originals of said records to the Program Administrator.
- Evaluating the tasks for which respiratory protective devices are believed to be required. Assisting in determining the degree of hazards posed by the potential exposure.
- Assisting in determining whether engineering controls and/or administrative procedures are feasible to protect the employees from the hazards.
- Inspecting and repairing respiratory protection devices.

1.3.3 Program Administrator

The Program Administrator is responsible for maintaining a respiratory protection program that protects the Company personnel from recognized inhalation hazards and providing guidance to the Company staff in the implementation of the program. The Administrator also is responsible for conducting, or delegating as appropriate, the following:

- Implementing and administering the Company medical evaluation program.
- Coordinating medical evaluations with the Company's Medical Review Officer.
- Selecting/Assisting in selecting a Safety Coordinator where respiratory protective devices are required.
- Evaluating the tasks for which respiratory protective devices are believed to be required. Determining the degree of the hazards posed by the potential exposure.
- Determining whether engineering controls and/or administrative procedures are feasible to protect the employees from the hazards.
- Determining which respiratory protection devices are required for the appropriate protection for the hazards present.
- Training personnel in the use of respiratory protective devices.
- Conducting qualitative and quantitative fit testing, and issuing necessary protective devices.
- Overseeing the inspection of and verifying the repair of the respiratory protective devices.

- Overseeing the purchase and issuance of respiratory protection devices.
- Establishing and maintaining a system for keeping records of medical evaluations and fit testing.

1.3.4 Business Unit Manager/Organization Manager

- Designate an office/organization Safety Coordinator to assist the Program Administrator with the Respiratory Protection Program.
- Identify all personnel assigned to their organization whose duties require the use of respiratory protection. Provide the names to the Program Administrator.
- Verify each employee under his or her supervision using a respirator has received appropriate training in its use and an annual medical evaluation to determine an employee’s ability to use a respirator.
- Provide the appropriate respirator(s) and accessories, provide adequate storage facilities, and encourage proper respiratory equipment maintenance.
- Report malfunctions of the respiratory equipment to the Program Administrator and, if applicable, the Safety Coordinator immediately.
- Be aware of tasks requiring the use of respiratory protection, and make sure all employees engaged in such work are provided the appropriate equipment and are following this program.

1.3.5 Regional/Division Director

- Verify with Business Unit Manager/Organization Manager where respiratory protection is utilized that all personnel wearing respiratory protection devices have been identified and are receiving the required training and medical evaluation.
- Recommend to the Program Administrator an office/organization Safety Coordinator for regional offices where the use of respiratory protection is required.
- Verify that appropriate respiratory devices are being used and the employees are following this program.

1.3.6 Medical Review Officer

The Medical Review Officer is responsible for the following:

- Establishing medical evaluation and surveillance procedures
- Reviewing the health status of the Company’s personnel who may be required to wear respiratory protective equipment in the completion of their assigned tasks.

1.4 [illegible]

The Medical Review Officer, initially and periodically thereafter, makes a determination as to whether or not an employee can wear the required respirator without physical or psychological risk. Based on the overall health of the individual and the results of medical tests (pulmonary function studies, EKG, etc.), which may be specified by the Medical Review Officer, the examining physician determines whether or not the individual will be restricted from wearing respiratory protective equipment. If a medical restriction is applied, the individual and the Program Administrator are formally notified of the restriction. Specific medical tests and procedures will be determined by the Medical Review Officer, when necessary, and will be in accordance with OSHA medical surveillance requirements.

Additional medical evaluations will be performed in the following instances:

- The employee reports problems wearing a respirator
- When recommended by the Medical Review Officer, Program Administrator or the employee's supervisor

Medical evaluation records shall be maintained by the Medical Review Officer. Employees and their representatives may have access to their medical records by contacting the Medical Review Officer and/or the Corporate Safety Manager.

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If engineering controls and/or administrative procedures are not sufficient to eliminate the hazards, then respiratory protection is authorized and issued for the following personnel who have a current, valid, Respirator User Card:

- Workers on projects known to have contaminant levels requiring the use of respiratory protection or in which contaminant levels requiring the use of respiratory protection may be created without warning.
- Workers performing operations documented to have health hazards requiring the use of respiratory protection and those required to be in the immediate vicinity of where similar levels of contaminants are generated.
- Workers on suspect projects or performing operations suspected of having health hazards requiring the use of respiratory protection but for which adequate exposure data has not been obtained.

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All respirators selected for use by the Company's workers will be certified by the National Institute for Occupational Safety and Health.

Selection of the proper respirator(s) to be used on any Company project or operation will be made only after a determination has been made as to the real and/or potential exposure of employees to harmful concentrations of contaminants. Due to the variety of Company projects, the evaluation will be project and site specific. This evaluation will be performed prior to the start of any task requiring respirators and will be based on the contaminants, atmospheric sampling results, personnel assigned to the project and degree of exposure (e.g. casual, moderate, heavy,). Respiratory protective devices will be selected by the Program Administrator or his/her designee. The following items will be considered in the selection of respirators:

- Effectiveness of the device against the hazards
- Estimated maximum concentration of the substance
- General environment (open air, confined space, etc.)
- Known limitations of the respiratory protective device
- Comfort, fit, and worker acceptance
- Other contaminants in the environment or the potential for oxygen deficiency

Project Managers will contact, with sufficient lead time, the Program Administrator prior to performing work tasks which may expose workers to hazardous substances or oxygen deficient atmospheres. Examples of work that may require the use of respirators include, but are not limited to:

- Hazardous material activities/site investigations
- Lead abatement activities
- Asbestos inspection/abatement activities
- Painting/Coating, especially with epoxy or organic solvent based compounds
- Using solvents, thinners, or degreasers
- Work which generates large amounts of dust
- Repair work in a confined space
- Drilling activities

During the implementation of a work task, a review of the real and/or potential exposures will be periodically performed to determine if respiratory protection continues to be required, and if so, an assessment that the previously chosen respirators still provide adequate protection.

1.3 Types of Respirators

A. Air Purifying Respirator

These respirators remove contaminants from the atmosphere by filtering, absorbing, adsorbing, or chemical reaction with the contaminants as they pass through the respirator canister or cartridge. This type of respirator is a negative pressure respirator which means the user receives air when they inhale. The different types of air purifying respirators are disposable filtering fabric, half face, full face and powered air purifying. Even though powered air purifying respirators have battery operated fans to pull the air through the cartridges or canisters they are considered negative pressure respirators. Air purifying respirators are to be used only where the oxygen content of the atmosphere is between 19.5% to 23.5%.

Air purifying respirators can be classified as follows:

- Particulate removing respirators, which filter out dusts, fibers, fumes and mists. These respirators may be single-use disposable filtering fabric respirators or respirators with replaceable filters.

- Gas and vapor removing respirators, which remove specific individual contaminants or a combination of contaminants by absorption, adsorption or by chemical reaction. Gas masks and chemical cartridge respirators are examples of gas and vapor removing respirators.

- Combination particulate/gas and vapor removing respirators, which combine the respirator characteristics of both kinds of air purifying respirators.

Supplied Air Breathing Apparatus

These respirators provide breathing air independent of the environment and offer the highest degree of protection. The air is supplied to the user through a hose, called an air line. Such respirators are to be used when the contaminant has insufficient odor, taste or irritating warning properties, or when the contaminant is of such high concentration or toxicity that an air purifying respirator is inadequate. The Company's supplied air respirators, also called airline respirators, are pressure demand and also are equipped with an emergency escape bottle for use in case of loss of air. This type of respirator maintains a continuous positive pressure within the face piece, thus preventing leakage into the face piece and supplies the required quantity of air to the user on demand (inhalation).

Self-Contained Breathing Apparatus

These respirators provide breathing air independent of the environment and also offer the highest degree of protection. The air is supplied to the user in a container mounted on the user's back. This type of respirator allows the user complete independence from a fixed source of air. Such respirators are to be used when the contaminant has insufficient odor, taste or irritating warning properties, or when the contaminant is of such high concentration or toxicity that an air purifying respirator is inadequate. They maintain a continuous positive pressure within the face piece, thus preventing leakage into the face piece, and supply the required quantity of air to the user on demand (inhalation).

Emergency Escape Packs

Emergency Escape Packs are for use in case of emergency. Emergency Escape Packs consist of a small pressurized tank containing 5 or 10 minutes of air, a valve and airline and a loose fitting see-through hood. Even though the hood is loose fitting the Emergency Escape Pack is positive pressure because the air exiting the hood keeps the wearer from being exposed to the atmospheric contaminants. The air will last only as long as the indicated tank rating. They are to be used only in an emergency situation. Such situations include Air Purifying Respirator failure or an atmospheric monitoring instrument alarm when not wearing respiratory protection.

Air used in Supplied Air Breathing Apparatus, Self Contained Breathing Apparatus and Emergency Escape Pack must be Grade D Breathing Air. Certification of Grade D Breathing Air must be obtained from the supplier of the breathing air. If a compressor is used to supply air to breathing apparatus, the air must be tested and certified to be Grade D Breathing Air by a qualified laboratory.

1.4 Identification of Respirator Cartridges and Gas Mask Canisters

Respirator cartridges and canisters are designed to protect against potentially hazardous atmospheric contaminants, and are specifically labeled and color coded in accordance with NIOSH requirements to indicate the type and nature of protection they provide. The label must not be removed.

The NIOSH approval label on the respirator will also specify the maximum concentration of a contaminant(s) for which the cartridge or canister is approved.

1.5 Warning Signs of Respirator Failure

a) Particulate Air Purifying

Increased resistance in breathing due to partial clogging of the filtering fabric, canister or cartridges is called loadup. When this occurs the filtering media must be discarded and replaced. If loadup continues to be a reoccurring problem and controls (e.g. forced mechanical ventilation) does not correct the problem, a Supplied Air Breathing Apparatus or Self Contained Breathing Apparatus is required.

b) Gas or Vapor Air Purifying

If, when using a gas or vapor respirator (chemical cartridge or canister), any of the warning properties (e.g., odor, taste, etc.) occur, immediately leave the work area and check the following:

- Proper face seal
- Damaged or missing respirator parts
- Saturated or inappropriate cartridge or canister

If no discrepancies are observed, replace the cartridge or canister. If any of the warning properties appear again, the concentration of the contaminants may have exceeded the cartridge or canister design specification. When this occurs, a Supplied Air Breathing Apparatus or Self Contained Breathing Apparatus is required.

Service Life of Air Purifying Respirator Canisters and Cartridges

The canisters or cartridges of air-purifying respirators are intended to be used until filter resistance precludes further use, or the chemical sorbent is expended as signified by a specific warning property (e.g., odor, taste, etc.). New canisters, cartridges or filters shall always be used when starting a project or task.

The maximum service life of canisters, cartridges and filters will be established by site specific safety procedures or a Health and Safety Plan. The service life will be based on the contaminants, atmospheric sampling results, Permissible Exposure Limits, degree of exposure, task(s) to be performed and other pertinent information collected prior to and during the project. Manufacturers information, including computer software provided by the manufacturer, will also be utilized to establish the maximum service life.

Supplied Air Breathing Apparatus and Self Contained Breathing Apparatus

When using a Supplied Air Breathing Apparatus, leave the work area immediately when the air pressure alarm is activated or activate the emergency escape bottle if an air pressure drop is sensed. When using a Self Contained Breathing Apparatus leave the work area as soon as the air pressure alarm is activated.

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Respirator users will receive training on the contents of the Company Respiratory Protection Program and their responsibilities under it. They will be trained on the proper selection and use, as well as the limitations of the respirator. Training also covers how to ensure a proper fit before use and how to determine when a respirator is no longer providing the protection intended.

The Company will also provide training to respirator wearers in the use, maintenance, capabilities, and limitations of the various types of respirators available for use at the Company. The training will be given initially upon assignment to tasks requiring the use of a respirator. Retraining is given annually thereafter or sooner as deemed necessary by the Program Administrator.

The training program will include the following:

- Nature and degree of respiratory hazard
- Respirator selection, based on the hazard and respirator capabilities and limitations
- Donning procedures and fit tests including hands-on practice
- Care of the respirator including need for cleaning, maintenance, storage, and/or replacement
- Use and limitations of respirator

Respirator training will be properly documented and will include the type and model of respirator for which the individual has been trained and fit-tested.

The respirator users’ supervisors will receive an awareness training on the Respiratory Protection Program including their responsibilities under the Program.

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A fit test shall be used to determine the ability of each individual respirator wearer to obtain a satisfactory fit with any air purifying respirator and supplied air respirator. Either quantitative or qualitative fit tests will be performed. Personnel must successfully pass the fit test before being issued a respirator.

Company employees will not be permitted to wear a respirator in a work situation until he or she has demonstrated that an acceptable fit can be obtained. Fit testing will be conducted initially upon assignment to a task requiring use of a respirator, and annually thereafter. Additional fit testing may also be required if the respirator wearer’s facial features change (e.g. dental changes, weight gain or loss, facial scarring, etc.)

Fit testing will be conducted by the Program Administrator, his/her designee or an outside source and the test results will be the determining factor in selecting the type, model, and size of negative pressure respirator for use by each individual respirator wearer.

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Each time a respirator is donned, the user will perform positive and negative pressure fit checks. These checks are not a substitute for fit testing. Respirator users must be properly trained in the performance of these checks and understand their limitations.

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□□□ica□i□□□□i□ i□a□ion□□ This test cannot be carried out on all respirators; however, it can be used on facepieces of air purifying respirators equipped with tight-fitting respirator inlet covers and on atmosphere supplying respirators equipped with breathing tubes which can be squeezed or blocked at the inlet to prevent the passage of air.

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Positive Pressure Check

Applicability/Limitations: This test cannot be carried out on all respirators; however, respirators equipped with exhalation valves can be tested.

Procedure: Close off the exhalation valve or the breathing tube with the palm of the hand. Exhale gently. If the respirator has been properly positioned, a slight positive pressure will build up inside the face piece without detection of any outward air leak between the sealing surface of the face piece and the face.

1 2 Qualitative Fit Testing

Qualitative fit testing checks the respirator wearer's response to a chemical introduced outside the respirator face piece. This response is either voluntary or involuntary depending on the chemical used. Several methods may be used. The two most common are the irritant smoke test and the odorous vapor test.

Irritant Smoke

The irritant smoke is an irritant to the eyes, skin, and mucous membranes. It must not be introduced directly onto the skin. The test subject must keep his or her eyes closed when being fit tested for a half face respirator. The irritant smoke test is an involuntary response test. The air purifying respirator must be equipped with a P100 (HEPA) filter for this test. While the respirator wearer stands under a large plastic bag an irritant smoke, usually either stannic chloride or titanium tetrachloride, is directed from a smoke tube toward the respirator wearer. The respirator wearer performs the following exercises for one minute each:

- Normal breathing
- Deep breathing
- Side to side movement of the head
- Up and down movement of the head
- Read the Rainbow Passage
- Bending over or jogging in place
- Normal breathing

If the test subject does not respond (e.g. coughing, watery eyes) to the irritant smoke, a satisfactory fit is assumed to be achieved. Any response to the smoke indicates an unsatisfactory fit.

If the respirator wearer cannot smell the irritant smoke, the respirator will be momentarily pulled away from the subject's face. If the subject reacts to the irritant smoke, the respirator will be momentarily pulled away from the subject's face. If the subject reacts to the irritant smoke, a satisfactory fit is assumed. If the subject does not react to the irritant smoke with the respirator pulled away from the face, this test is inappropriate for this subject.

Odorous Vapor

The odorous vapor test is a voluntary response test. It relies on the subject's ability to detect an odorous chemical while wearing the respirator. Air purifying respirators must be equipped with an organic cartridge or canister for this test. Isoamyl acetate (banana oil) is the usual test. An isoamyl acetate saturated gauze pad is placed near the face piece of the respirator without touching the skin. If the test subject is unable to smell the chemical, then a satisfactory fit is assumed to be achieved. If the subject smells the chemical, the fit is unsatisfactory.

If the respirator wearer cannot smell the chemical, the respirator will be momentarily pulled away from the subject's face. If the subject is then able to smell the chemical, a satisfactory fit is assumed. If the subject cannot smell the chemical with the respirator pulled away from the face, this test is inappropriate for this subject.

This test is limited by the wide variation of odor thresholds among individuals and the possibility of olfactory fatigue. Since it is a voluntary response test it depends upon an honest response.

1.3 Quantitative Fit Testing

Quantitative fit testing, using a Porta Count Plus fit test system, or equivalent, is performed on both full face and half face negative pressure air purifying respirators. A fit factor is determined by comparing the particle concentration of the atmosphere outside the respirator with the concentration inside the respirator face piece. The respirator wearer performs the following exercises for one minute each except the grimace which is performed for 40 seconds:

- Normal breathing
- Deep breathing
- Side to side movement of the head
- Up and down movement of the head
- Read the Rainbow Passage
- Grimace
- Bending over or jogging in place
- Normal breathing

An acceptable fit is achieved when the respirator wearer successfully completes exercises and achieves a fit factor of 100 or more for a half face respirator and 1000 or more for a full face respirator.

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Contact lenses are □□□ allowed to be worn when wearing a respiratory protective device.

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No attempt will be made to fit test an employee who has facial hair which interferes with the seal of the respirator to the face, or if facial hair interferes with normal functioning of the exhalation valve of the respirator.

Respirators may □□□ be worn at any time, and the employee shall not conduct work requiring the wearing of a respirator, if the respirator wearer has any facial hair that interferes with the seal of the respirator to the face, or if facial hair interferes with normal functioning of the exhalation valve of the respirator.

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Proper fitting of a respiratory protective device face piece for individuals wearing corrective eyeglasses or goggles may not be established if temple bars or straps extend through the sealing edge of the face piece. If eyeglasses, goggles, face shield or welding helmet must be worn with a respirator, they must be worn so as not to adversely affect the seal of the face piece. If a full-face piece respirator is used, special prescription glasses inserts are available if needed. If the employee has a current prescription, the Company will reimburse the employee for the lenses for the inserts.

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Respirator User Cards will be issued by the Program Administrator or his designee to Company employees who have been trained, passed fit testing and been qualified medically fit to use a respirator. A Respirator User Card will include:

- Name and identification number of the worker.
- Name of person performing the fit test.
- The statement: "(name) has been trained, fitted and medically evaluated to use the respirator(s) indicated."
- The type(s), model(s) and size(s) of respirator(s) that the cardholder was issued.
- The Expiration date of card.

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Respirator fit-testing shall be documented and shall include the type of respirator, brand name and model, including the NIOSH approval number, method of test and test results, test date and the name of the instructor/tester. The original records will be on file in the Program Administrator's office.

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1[illegible]1 Maintenance

The maintenance of respiratory protective devices involves a thorough visual inspection as per the manufacturer's recommendations for cleanliness and defects (i.e., cracking or disfigured rubber, cracking or deterioration of straps, defective or missing exhalation and/or inhalation valves, broken, cracked or scratched lenses, cracked cartridge receptacles, deteriorated or missing cartridge gaskets, etc.) prior to each time it is used or issued. Worn or deteriorated parts shall be replaced prior to use or issue. Replacement parts are available through the Program Administrator. No respirator with a known defect shall be used or issued. No attempt shall be made to replace components, make adjustments or make repairs on any respirator beyond those recommended by the manufacturer. Under no circumstances shall parts be substituted as such substitutions shall invalidate the approval of the respirator. Any repair to reducing or admission valves, regulators, or alarms shall be conducted by either the manufacturer or a qualified trained technician. Respirators issued to Company employees shall be inspected by the instructor/fit tester at the users fit test.

Self Contained Breathing Apparatuses, Supplied Air Breathing Apparatuses and Emergency Escape Packs shall be inspected monthly according to the manufacturer's recommendations by a qualified, trained technician. The regulators must be inspected and tested every six months to make sure the regulators are mechanically sound and the flow of air to the user is per manufacturer's recommendations. The air tanks must be hydrostatically tested to verify soundness. Aluminum cylinders wound in fiberglass must be tested every three years and steel cylinders every five years. Inspection logs will be maintained by the technician with a copy of the logs forwarded to the Program Administrator monthly.

The user will perform an inspection prior to use of either type of air supplied respirator. The respirator will be inspected for cleanliness and defects (i.e., cracking or disfigured rubber, cracking or deterioration of straps, defective or leaking valves, deteriorating airlines/hoses, broken, cracked or scratched lenses, deteriorated or missing gaskets or o-rings, etc.). The inspection will also include the quantity of air in the air cylinder(s) (at least 90% full for Self Contained Breathing Apparatus and Supplied Air Breathing Apparatus and 100% full for Emergency Escape Packs) and the low pressure alarms.

1[illegible]2 Cleaning of Respirators

All respirators in routine use shall be cleaned and sanitized daily. Respirators used non-routinely shall be cleaned and sanitized after each use and filters and cartridges also replaced. Routinely used respirators are maintained individually by the respirator wearer. Replacement cartridges and filters are obtained through the Program Administrator.

Cleaning and disinfection of respirators must be done frequently to ensure that skin-penetrating and dermatitis-causing contaminants are removed from the respirator surface. Respirators maintained for emergency use or those used by more than one person must be cleaned after each use by the user.

The following procedure is recommended for cleaning and disinfecting respirators:

- Remove and discard all used filters, cartridges, or canisters.
- Wash face piece and breathing tube in a cleaner-disinfectant solution. A hand brush may be used to remove dirt. Cleaning solvents shall not be used.
- Rinse completely in clean, warm water.
- Air dry in a clean area in such a way as to prevent distortion.
- Clean other respirator parts as recommended by the manufacturer.
- Inspect valves, head straps, and other parts to ensure proper working condition.
- Reassemble respirator and replace any defective parts.
- Place in a clean, dry plastic bag or other suitable container for storage after each cleaning and disinfection.

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Respiratory protective equipment shall not be ordered, purchased, or issued to personnel unless the respirator wearer has been medically qualified and successfully completed respirator training and passed a fit test. New employees who require respiratory protective equipment, must be placed into the respirator program before being issued equipment.

Company will provide the following types of air purifying respirators:

- MSA Comfo II (half face)
- MSA Ultra-Twin (full face)
- Survivair half mask
- Survivair full face
- North half face
- North full face

These respirators have a variety of cartridges and canisters that may be worn with them. Therefore, the cartridges and canisters and facepieces are packaged separately. The appropriate cartridge or canister is determined, based on the user's needs (see Section 1.5.2), and is issued with the appropriate face piece. In addition, disposable respirators with filter ratings N-95 and N-100 are available for use under appropriate conditions.

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After inspection, cleaning, and any necessary minor repairs, respirators will be stored to protect against sunlight, heat, extreme cold, excessive moisture, damaging chemicals or other contaminants. Routinely used respirators, such as half mask or full face air purifying respirators, shall be placed in sealable plastic bags. Respirators may be stored in such places as lockers or tool boxes only if they are first placed in carrying cases or cartons. Respirators shall be packed or stored so that the face piece and exhalation valves will rest in a normal position and not be crushed. The strap on all full face respirators will be in the normal position, not over the front of the face piece, during storage.

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The Respirator Protection Program will be continuously critiqued and evaluated by the Program Administrator and reviewed at least annually.

The evaluation of the Respirator Program will include investigating wearer acceptance of respirators, inspecting respirator program operation and appraising protection provided by the respirator. Evidence of excessive exposure of respirator wearers to respiratory hazards will be followed up by an investigation to determine why inadequate respiratory protection was provided. The findings of the respirator program evaluation will be documented, and this documentation will list plans to correct faults in the program and set target dates for the implementation of the plans.

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The following records shall be developed and maintained for the Company Respiratory Protection Program and the personnel listed are designated to fulfill the responsibilities of the Program Administrator and Medical Review Officer as described in Section 1.3:

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Medical Evaluations	Medical Review Officer - Dr. Charles Haverstick, WorkNet, Hummelstown, PA (717) 566-8400
Respiratory Protection Program	Office of Program Administrator Thomas W. Gingrich - Corporate Safety Manager (717) 763-7211 - Extension 2087 Gannett Fleming's Harrisburg Office East Building, Room 370, Safety Manual for Field Operations
Hazard Evaluations (Air sampling results, surveys, respirator selection records)	Project Managers, Business Unit Manager, Organization Manager
Training Records, Fit Test Records, Program Evaluations	Office of Program Administrator Thomas W. Gingrich - Corporate Safety Manager (717) 763-7211 - Extension 2087 Gannett Fleming's Harrisburg Office East Building, Room 370

STANDARD OPERATING PROCEDURE NUMBER 10

CONFINED SPACE ENTRY PROGRAM

GANNETT FLEMING, INC.

10.0 PURPOSE

This document sets forth general confined space entry procedures for Gannett Fleming, Inc. (GFI) personnel. No personnel shall be permitted to enter a confined space until the provisions of these procedures, in accordance with the following standards and regulations, have been met.

10.1 KEY ELEMENTS

- Designation and definition of confined space entry personnel: Confined Space Supervisor, Authorized Entrant, Attendant and Rescue Team
- Identification and evaluation of confined spaces
- Confined space entry permits
- Training of personnel
- Duties of confined space entry personnel
- Lockout/tagout requirements
- Ventilation
- Electrical equipment requirements
- Compressed gas cylinders restrictions
- Specific requirements
- Emergency response

10.2 REFERENCES

- 29 CFR Part 1910.146, Permit Required Confined Spaces
- 29 CFR 1910.38, Employee Emergency and Fire Prevention Plans
- 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout)

- American National Standard Safety Requirements for Confined Spaces, American National Standards Institute (ANSI) Z117.1-1989

- Gannett Fleming Safety Manual for Field Operations, Confined Space Entry

10.3 CONFINED SPACE ENTRY PERSONNEL

10.3.1 Confined Space Supervisor

The designated individual responsible for evaluating health and safety issues for confined spaces and the procedures to be performed within the confined space prior to any entry.

10.3.2 Attendant

The designated individual(s) assigned to be present at all times at the confined space entry point, to remain immediately outside the confined space, to monitor confined space conditions and to render assistance if needed, to entrants from outside of the confined space. Attendant shall not enter the confined space unless replaced by an individual equally trained in the performance of these duties.

10.3.3 Authorized Entrant

The designated individual(s) assigned to enter a confined space who has(have) been authorized by the Confined Space Supervisor.

10.3.4 Rescue Team

Those persons designated by the Confined Space Supervisor to perform rescues from confined spaces. The Rescue Team may be composed of an on-site rescue team of GFI workers or off-site emergency rescue personnel from the supporting local Fire Department or Rescue Service.

10.4 CONFINED SPACE IDENTIFICATION AND EVALUATION

10.4.1 Confined Space Identification

The Confined Space Supervisor will identify confined spaces using the following definition: A confined space is an enclosed space which has all of the following characteristics:

- Is large enough and so configured that an employee can bodily enter and perform assigned work;

- Has limited or restricted means for entry or exit (e.g., tanks, vessels, silos, manholes, storage bins, hoppers, vaults, pits and diked areas); and
- Is not designed for continuous employee occupancy.

A permit-required confined space meets the definition of a confined space and has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains a material with the potential to engulf an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or a floor which slopes downward and tapers to a smaller cross section; or
- Contains any other known serious safety or health hazard.

A non-permit required confined space is a confined space that does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

10.4.2 Confined Space Evaluation

Confined spaces shall be evaluated by the Confined Space Supervisor prior to each entry. The Confined Space Supervisor shall evaluate these confined spaces for potential hazards which may be involved and specify entry requirements. Evaluation will include, as a minimum, atmospheric testing for oxygen level, combustible gases and vapors, and toxic gases and vapors which are known to exist or may potentially exist in the confined space. Potential Mechanical/Electrical Hazards must also be evaluated.

The atmosphere shall be tested in the following chronological order: Oxygen Level, Combustible Gases, Toxic Gases. The atmosphere shall be tested at the lower level, middle level and upper level of the confined space. Initial test results shall be recorded on the permit.

Entry into a confined space shall only be permitted when atmospheric testing indicates the following results, except as subsequently stated:

- Oxygen levels are > 19.5 percent and < 23.5 percent
- Combustible Gas Flammability/Explosivity levels are < 10 percent of Lower Explosive Limit (LEL)
- An atmospheric concentration of a specific substance is below the listed OSHA Permissible Exposure Limit (PEL) or ACGIH Threshold Limit Value (TLV)

An Authorized Entrant may enter a confined space when the oxygen level is less than 19.5 percent or when the atmospheric concentration of a specific substance exceeds the listed OSHA PEL or ACGIH TLV ONLY IF the entrant is respirator qualified, the appropriate respirator or breathing apparatus is worn, and the entry under these conditions is specifically authorized by the Confined Space Supervisor.

Following the evaluation of the confined space, the Confined Space Supervisor shall classify the confined space as either a permit-required confined space or a non-permit-required confined space, and specify confined space entry requirements. Entry requirements shall be recorded on the permit. A non-permit-required confined space does not require the use of an entry permit.

All confined spaces shall be continuously tested for oxygen level, flammable/explosive gases, toxic materials and other serious safety or health hazards identified by the Confined Space Supervisor throughout the duration of the confined space entry. Periodic test results shall be recorded on the permit.

10.5 CONFINED SPACE ENTRY PERMIT SYSTEM

A Confined Space Entry Permit (CSEP) system will be used by the Confined Space Supervisor to control employee entry into the permit-required confined space. Prior to each entry into any permit-required confined space, a written CSEP is required and shall be issued by the Confined Space Supervisor. Standard GFI format permits shall be used so that basic elements of information are documented.

10.5.1 Validity Period of Confined Space Entry Permit

A permit is valid for the duration of one work shift. In the event that additional time is needed, a new permit must be issued by the Confined Space Supervisor, pending reevaluation of the confined space certification for acceptable entry conditions.

10.5.2 Confined Space Entry Permit Form

The CSEP form will be completed by the Confined Space Supervisor for each permit-required confined space entry and will be specific to each entry situation. A copy of GFI's standard CSEP form is attached to this Standard Operating Procedure.

10.5.3 Posting, Maintenance, Cancellation and Filing of Confined Space Entry Permits

The CSEP shall be conspicuously posted at each confined space entry point, maintained until the entry has been completed and then canceled. Canceled CSEP forms shall be transferred to the GFI project file and maintained for a minimum period of one year.

10.6 TRAINING

10.6.1 Confined Space Supervisor

The Confined Space Supervisor shall have completed GFI's 16-hour course in Confined Space Operations, or equivalent.

10.6.2 Authorized Entrants

The Authorized Entrant(s) shall have completed GFI's 8-hour course in Confined Space Entry, or equivalent, as a minimum.

10.6.3 Attendants

The Attendant(s) shall have completed GFI's 16-hour course in Confined Space Operations, or equivalent.

10.6.3 Rescue Team

Prior to any confined space entry, the Confined Space Supervisor shall designate a rescue team comprised of on-site GFI personnel or an off-site local Rescue Team. The training of GFI rescue team personnel shall include, as a minimum:

- Use of the equipment needed to perform rescue functions
- Emergency and rescue methods and procedures
- Additionally, at least one member of the rescue team shall hold current certification in Red Cross first aid and Red Cross CPR

10.7 DUTIES

10.7.1 Confined Space Supervisor

The duties of the Confined Space Supervisor shall be as follows:

- Know space hazards including information on the mode of exposure, signs, or symptoms and consequences of exposure
- Identify confined spaces that must be entered as part of the work
- Evaluate confined spaces for potential hazards
- Verify emergency plans and specify entry conditions such as permits, tests, procedures, and equipment before allowing entry
- Verify that equipment specified for confined space entry is available and operational
- Designate a rescue team comprised of on-site GFI personnel or an off-site local Rescue Team and designate means of contacting the rescue team
- Verify training of authorized entrants, attendants and GFI rescue team
- Complete and sign permit form prior to initial entry

- Terminate entry and cancel permits when entry operations are completed or if a new condition exists that may cause death or serious physical harm

- Support Attendants in removal of unauthorized entrants

- Ensure that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained

10.7.2 Authorized Entrants

The duties of the Authorized Entrant(s) shall be as follow:

- Know space hazards, including information on the mode of exposure (e.g., inhalation or dermal absorption), signs or symptoms, and consequences of the exposure

- Use appropriate personal protective equipment properly

- Maintain communication with Attendants as necessary to enable the Attendant to monitor the Authorized Entrant's status as well as to alert the Authorized Entrant to evacuate

- Exit from permit space as soon as possible when ordered by an Attendant or other authorized person, when the Authorized Entrant recognizes the warning signs or symptoms of exposure exist, when a prohibited condition exists, or when an automatic alarm is activated

- Alert the Attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist

10.7.3 Attendants

The duties of the Attendant(s) shall be as follow:

- Remain outside permit space during entry operations and maintain communications with Authorized Entrants unless relieved by another authorized Attendant

- Perform non-entry rescues when specified by employer's rescue procedure

- Know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences of the exposure, and their physiological effects

- Keep an accurate account of those workers entering the permit-required space

- Periodically check the status of conditions in the confined space via the methods used by the Confined Space Supervisor to perform initial evaluation of the confined space

- Order evacuation of the permit space when a prohibited condition exists, when an Authorized Entrant shows signs of physiological effects of hazard exposure, when an emergency outside the confined space exists, and when the Attendant cannot effectively and safely perform required duties

- Summon rescue and other services during an emergency
- Instruct unauthorized persons to stay away from permit spaces or to exit immediately if they have entered the permit space
- Inform Authorized Entrants and Entry Supervisor of entry by unauthorized persons
- Perform no other duties that interfere with the Attendant's primary duties

10.7.4 <u>Rescue Team</u>

The duties of the Rescue Team shall be as follow:

- Report immediately to the confined space, when summoned
- Don the appropriate Personal Protective Equipment (PPE)
- Attempt rescue

10.8 LOCKOUT/TAGOUT

Prior to entry into any confined space, the Confined Space Supervisor shall verify that all mechanical and electrical energy sources (pipes, valves, machinery, etc.) that may pose a hazard due to accidental startup, engulfment or electrocution, have been de-energized and/or rendered in the zero mechanical state through the following methods:

- Lockout/tagout
- Blanking or blinding
- Double block and bleed
- Disconnection

10.9 VENTILATION

Adequately sized mechanical ventilation equipment should be available for confined spaces prior to initial entry and for the duration of the CSEP. The use of mechanical ventilation shall be determined by the Confined Space Supervisor. However, care should be taken to ensure that the mechanical ventilation will not pose a hazard of its own such as carbon monoxide accumulation or ignition source in the confined space or spreading contamination outside of the enclosed area.

10.10 ELECTRICAL EQUIPMENT REQUIREMENTS

When electrical or battery powered equipment is used in a confined space, it shall meet the following requirements:

- Electrical or battery powered equipment must be intrinsically safe when a flammable or potentially explosive atmosphere is present.

- Ground fault electrical circuit interrupters for electrical equipment

10.11 COMPRESSED GAS CYLINDERS

Compressed gas cylinders, except cylinders used for Self-contained Breathing Apparatus (SCBA), shall not be taken into confined spaces.

10.12 CONFINED SPACE ENTRY SPECIFIC REQUIREMENTS

Prior to entry, the Confined Space Supervisor, shall specify the air monitoring requirements and equipment requirements for the confined space entry.

10.13 EMERGENCY RESPONSE

10.13.1 <u>Authorized Entrants</u>

In the event that the Authorized Entrants experience an emergency situation, they shall:

- Notify Attendant of emergency situation

- Help fellow entrant, if incapacitated, and proceed immediately to the nearest escape hatch; if an emergency retrieval system is used to support entry and exit, proceed to the hatch where the emergency retrieval system is located and attach lifeline to harness of incapacitated worker first

- Exit the confined space

10.13.2 <u>Attendant</u>

In the event of an emergency, the Attendant shall:

- Notify the on-site GFI Rescue Team or the off-site local Rescue Team by designated means of communication

- At no time is the Attendant to enter the confined space or leave the entrance unmanned

- The Attendant shall attempt rescue utilizing an emergency retrieval system without entering the space

- Upon arrival of the Rescue Team, the Attendant shall provide them with appropriate information requested to perform the rescue

10.13.3 Rescue Team

In the event of an emergency, the Rescue Team shall:

- Report immediately to the confined space.
- Don the appropriate PPE
- Attempt rescue

CONFINED SPACE ENTRY PERMIT

Entry Date:

Entry Time:

Expiration Time:

CS Location:

Description of task(s):

Confined Space Classification* (Circle) A (Do Not Enter) B (Caution) C

Personnel Assigned

Name: __________________ Duties: ____

Training**: (Circle) 1 2 3

Name: __________________ Duties: ____

Training**: (Circle) 1 2 3

Name: __________________ Duties: ____

Training**: (Circle) 1 2 3

Name: __________________ Duties: Attendant (Required)___________________________

Training**: (Circle) 1 2 3

Name: __________________ Duties: CS Supervisor__________________________________

Training**: (Circle) 1 2 3

Equipment/PPE Required: (Circle) 1 2 3 4 5 6 7 8 9 10

1.	Gloves	6.	Hearing Protection
2.	Hard Hat	7.	Other___________________
3.	Eye Protection	8.	Other___________________
4.	Coveralls	9.	Other___________________
5.	Steel Toe Shoes	10.	Other___________________

Safety Requirements/Procedures: (Circle) 1 2 3 4 5 6

1.	Constant Monitoring	4.	Tripod and Retrieval Winch
2.	Buddy System	5.	Other___________________
3.	Safety Harness	6.	Other ___________________

* A -- Immediately Dangerous to Life and Health
B -- Dangerous but not Immediately Dangerous to Life and Health
C -- Requires no modification to standard procedures

** 1 -- CPR/Fist Aid
2 -- Confined Space Entry
3 -- Respirator Qualified

Emergency Phone Nos. ________ ________

EMS **FIRE** **OTHER**

Monitor No. ______ **Calibrated By** ________ **Date**

Monitor No. ______ **Calibrated By** ________ **Date**

Atmospheric Monitoring Results:

Activity	Time	Oxy%	LEL%	H_2S (ppm)	CO (ppm)	Other
		Acceptable Limits				
		19.5-23.5	0-10	0-10	0-35	
Pre-Entry						
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					
________	___					

Level of protection ____ **Rescue Equipment**

Adeq. PPE Supply ____ **Ventilation**

Isolation Complete ____ **Approved Tools & Equipment**

Tagging ____ **Approved Lighting & Elec.**

Lockout ____ **Communication**

Comments:

Permit Prepared by:

Confined Space Supervisor

APPENDIX B

Initial HASP Training Log

INITIAL HASP TRAINING LOG
FRITO-LAY, INC.

The contents of this Health and Safety Plan have been explained to me and I have had the opportunity to review the plan concerning the field investigation. I understand the information and hazards presented. I agree to comply with the stated policies and procedures. I recognize that these are minimum levels of protection based on current knowledge of the site.

Printed Name	**Organization**	**Signature**	**Date**

APPENDIX C

Hospital Directions

HOSPITAL LOCATIONS AND DIRECTIONS

Hospital Location, Phone Numbers and Directions

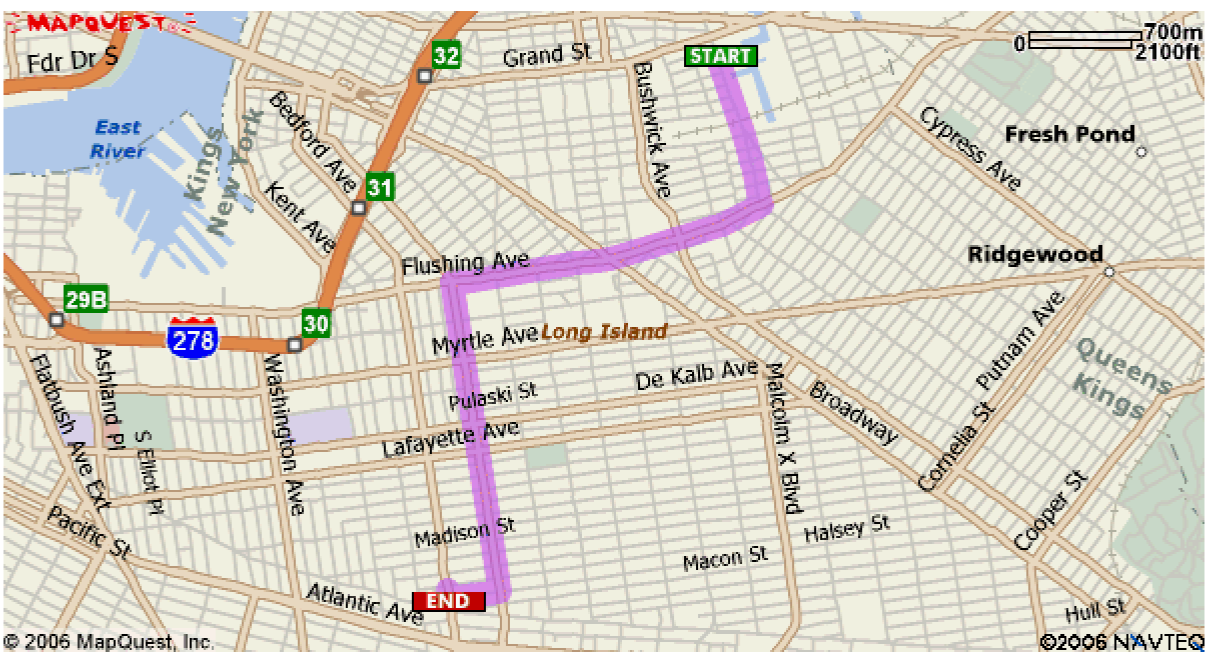
Start

218 Morgan Avenue
Brooklyn, NY 11237

Directions to Hospital: (see map)

1. Start out going SOUTH on MORGAN AVE toward MEADOW ST.
2. Turn RIGHT onto FLUSHING AVE.
3. Turn LEFT onto NOSTRAND AVE.
4. Turn RIGHT onto HALSEY ST.
5. Turn RIGHT onto BEDFORD AVE.
6. End at **Brooklyn Hospital Center**

Brooklyn Hospital Center
1221 Bedford Ave
Brooklyn, NY 11216
718-638-2946



APPENDIX D

Project Contacts

APPENDIX E

Accident / Incident Report

FRITO-LAY, INC.

ACCIDENT / INCIDENT REPORT

Report No. ____________

Site: __________________ Project No. ____________

Location: ____

Date of Report: ____________ Preparer's Name: ____________________________

Name of Injured: ____

Address of Injured: ____

____

SSN: __________________ Sex: __________________ Age ____________

Years of Service: ____________ Time on Present Job: ________________________

Job Title/Classification: ____

Division/Section: ____

Date of Incident: __________________ Time: ________________________

Incident Category:

Motor Vehicle	______	Property Damage	______
Fire	______	Chemical Exp.	______
Near Miss	______	Other	______

Severity of Injury or Illness:

First-Aid Treatment	____________
Lost Time	____________
Physician Treatment	____________
Fatality	____________

Describe property damage: ____

Estimated amount of property damage: ____

Estimated Number of Days Away from Job: ______________________________________

Nature of Injury or Illness: ____

Classification of Injury:

Fractures	______	Heat Burns	______	Cold Exposure	______
Dislocation	______	Chemical Burns	______	Frostbite	______
Sprains	______	Radiation Burns	______	Heat Stroke	______
Abrasions	______	Bruises	______	Heat Exhaustion	______
Lacerations	______	Blisters	______	Concussion	______
Punctures	______	Toxic Respiratory Exposure	______	Faint/Dizziness	______
Bites	______	Respiratory Allergy	______	Toxic Ingestion	______
Dermal Allergy	______				

Part of body affected: ____

Degree of disability: ____

Date medical care was received: ______________________________________

Location where medical care was received: _____________________________

Address where medical care was received: ______________________________

Incident Location

Detailed narrative description (how did accident occur, why: object, equipment tools used, circumstances, assigned duties). Be specific:

Causative agent most directly related to accident (object, substance, material, machinery, equipment, condition):

____

Was weather a factor? ____

Unsafe mechanical/physical environmental condition at time of accident (be specific):

____

Unsafe act by injured and/or others contributing to the accident (be specific, must be answered):

____

Personal factors (improper attitude, lack of knowledge or skill, slow reaction, fatigue):

____

Level of personal protective equipment required in Site Safety and Health Plan:

____

Was injured using required equipment: ____

If not, how did actual equipment use differ from plan?

____

What can be done to prevent a recurrence of this type of accident (modification or machine; mechanical guards; correct environment; training)?

Names of witnesses to accident:

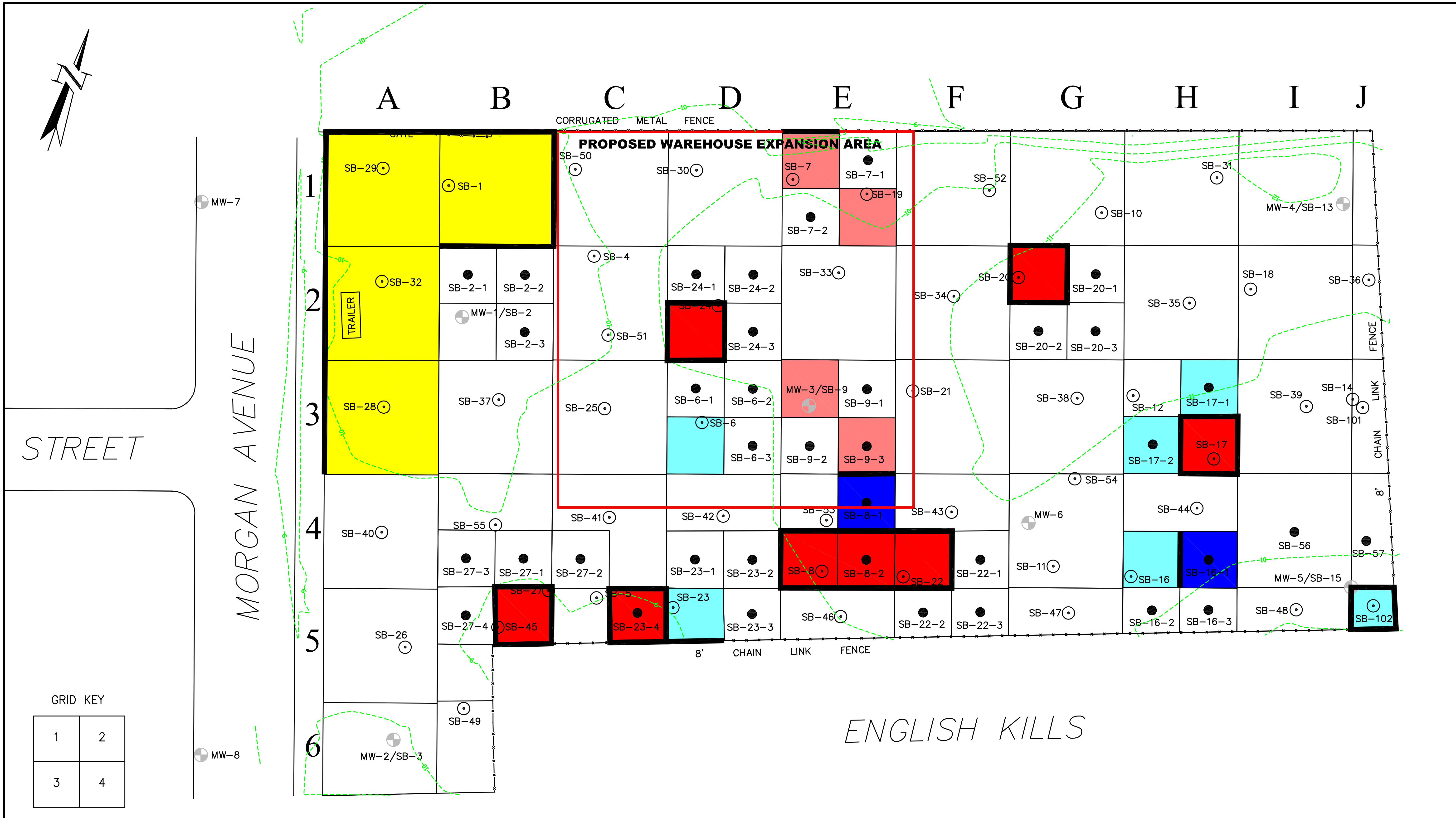
__________________________________ __________________________________

__________________________________ __________________________________

Signature of Site Safety and Health Supervisor: __________________________________

Signature of Project Manager: ____

APPENDIX D
REMEDIATION PLANS AND CONSTRUCTION DRAWINGS



LEGEND

- MONITORING WELL
- SOIL BORING LOCATIONS
- PROPOSED SECOND SUPPLEMENTAL DELINEATION SOIL BORING LOCATIONS
- ARSENIC EXCEEDANCE
- PCB EXCEEDANCE (>10 MG/KG)
- PCB EXCEEDANCE (>50 MG/KG) HAZARDOUS
- SHORING REQUIRED
- LEAD EXCEEDANCE (>10,000 MG/KG)
- PCB EXCEEDANCE (>25 MG/KG)

0 20 40 80

SCALE: 1 INCH EQUALS 40 FEET

DRAWING SOURCE:

Gannett Fleming

100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

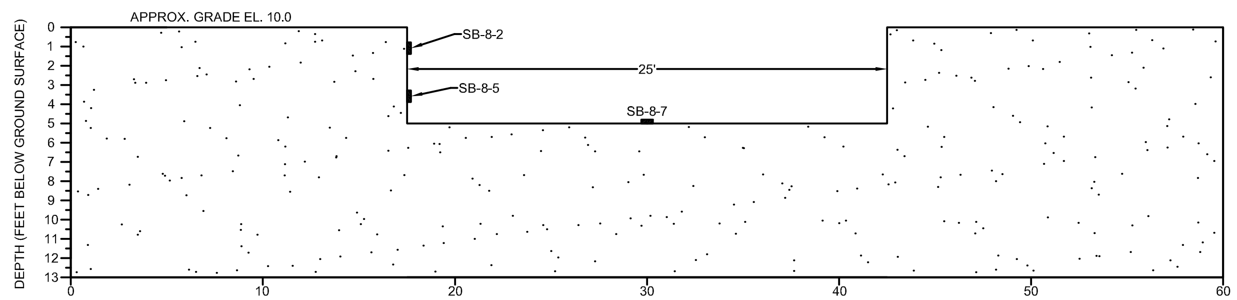
PROJECT #	47743
DRAWN BY:	DAB
DATE DRAWN:	MAR 2011
REVISED BY:	
DATE REVISED:	

"HOT SPOT" AREAS REQUIRING EXCAVATION

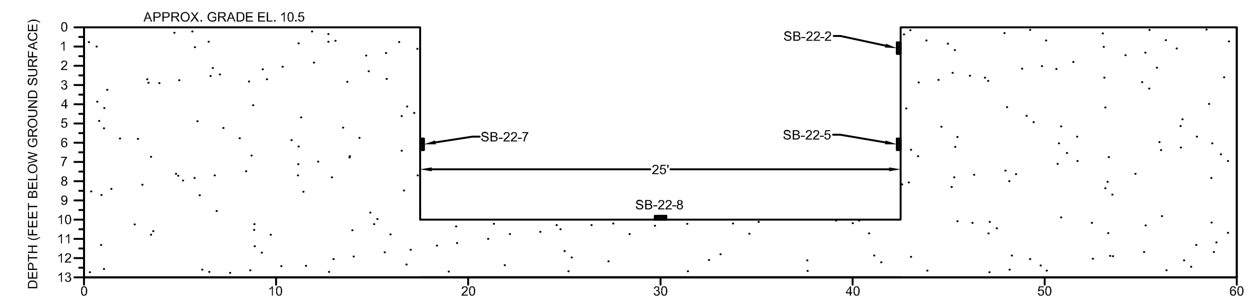
FRITO-LAY
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
1A

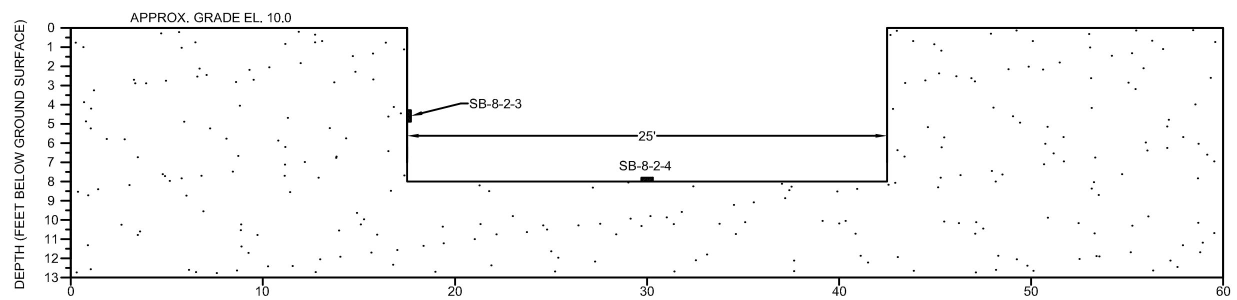
NW SB-8; E3-4 SE



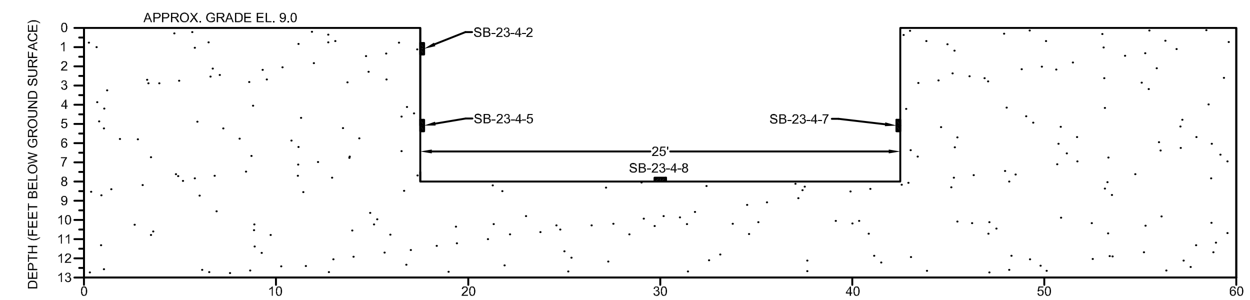
NW SB-22; F3-4 SE



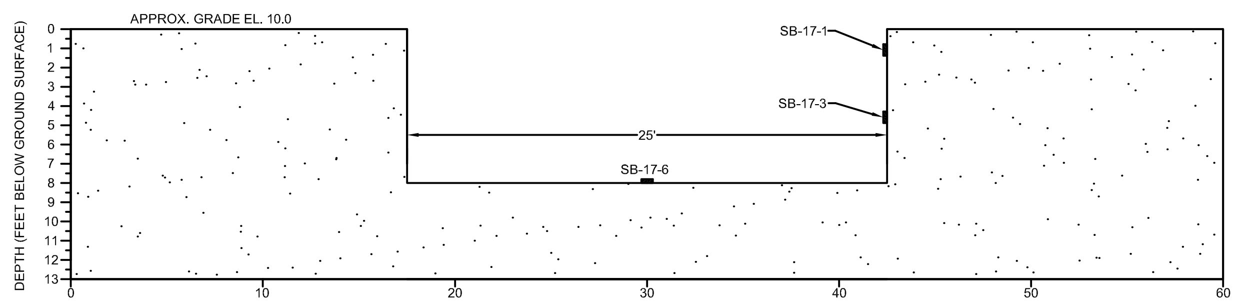
NW SB-8-2; E4-4 SE



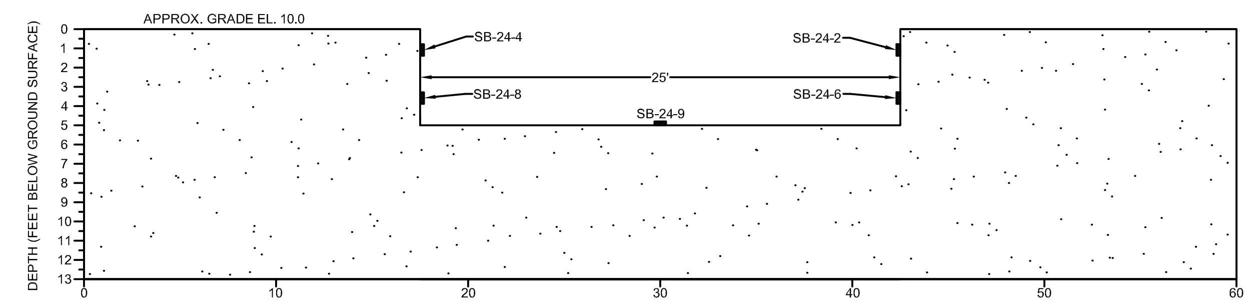
NW SB-23-4; C2-5 SE



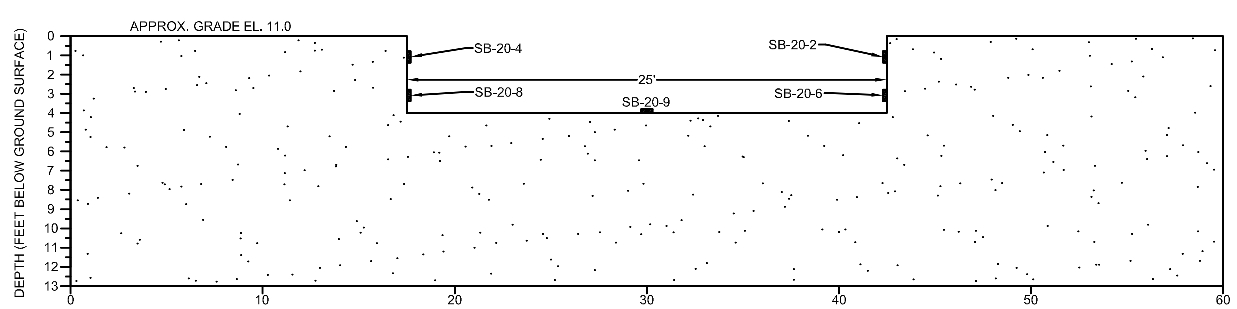
NW SB-17; H4-3 SE



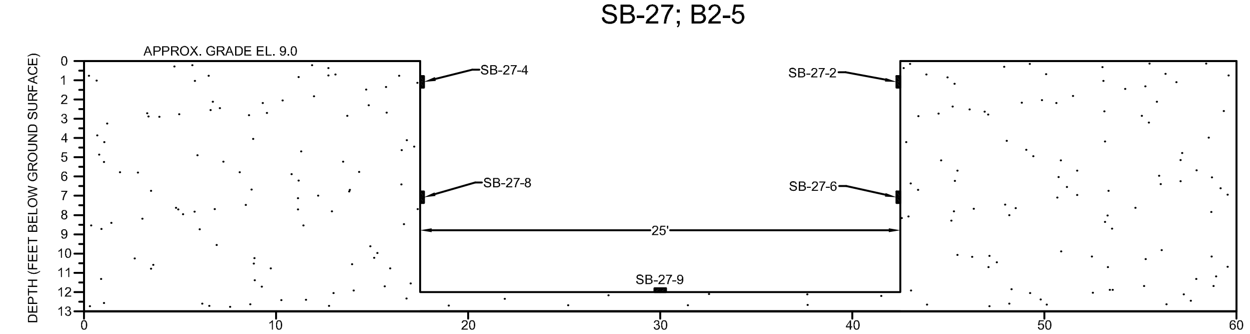
NW SB-24; D3-2 SE



NW SB-20; G1-2 SE



NW SB-27; B2-5 SE



EXCAVATION DETAILS

GRID LOCATION	SAMPLE ID	LENGTH	WIDTH	DEPTH	CUBIC YARDS	CONTAMINANT
E3-4	SB-8	25	25	5	116	PCBs
E4-4	SB-8-2	25	25	8	185	PCBs, LEAD
H4-3	SB-17	25	25	8	185	PCBs
G1-2	SB-20	25	25	4	93	PCBs
F3-4	SB-22	25	25	10	231	PCBs, LEAD
C2-5	SB-23-4	25	25	8	185	PCBs
D3-2	SB-24	25	25	5	116	PCBs
B2-5	SB-27	25	25	12	278	PCBs

NOTE: POST-EXCAVATION SAMPLES ON THE NORTHEAST AND SOUTHWEST WALLS ARE NOT SHOWN.

0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

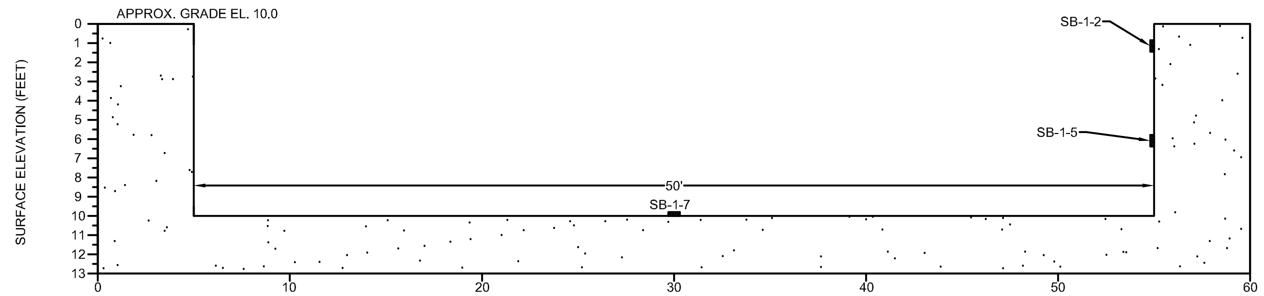
PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

HAZARDOUS EXCAVATION CROSS SECTIONS

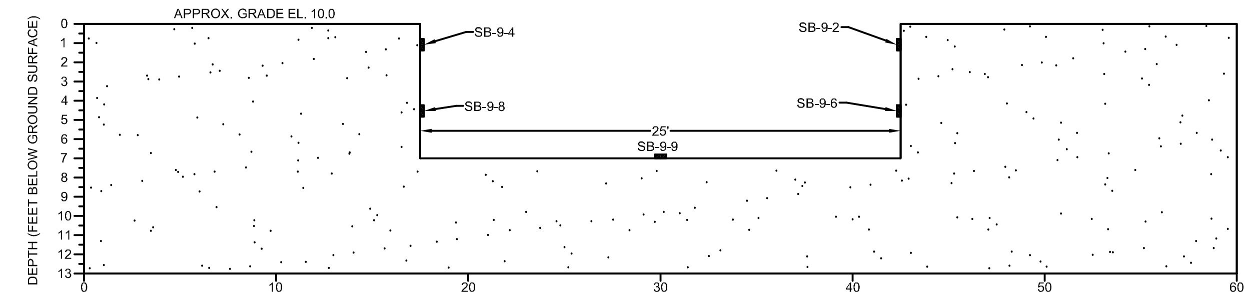
FRITO-LAY
218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
2

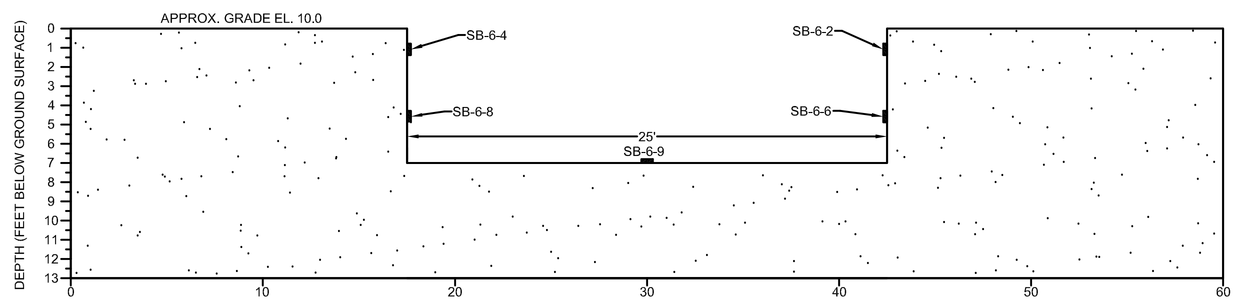
NW SB-1; B-1 SE



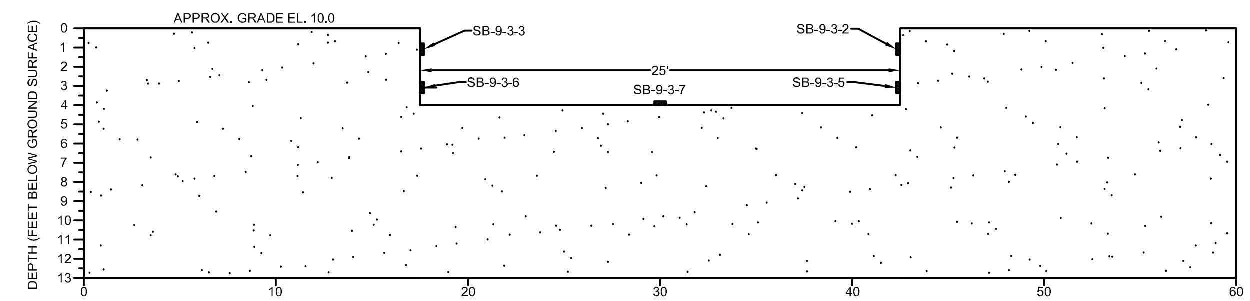
NW SB-9; E1-3 SE



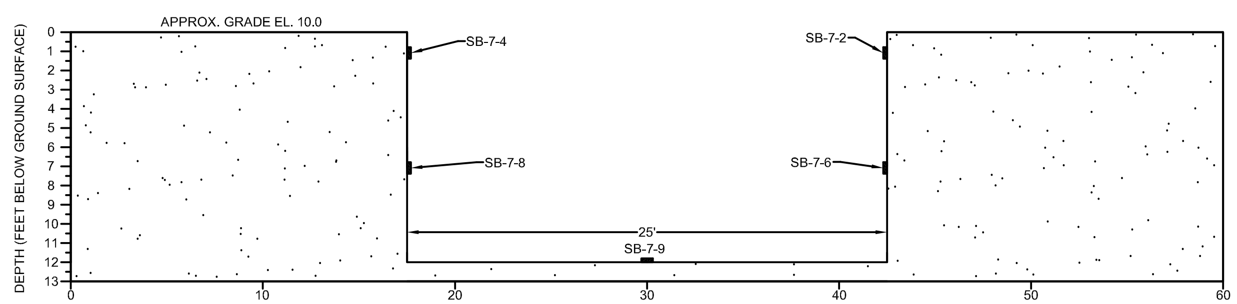
NW SB-6; D3-3 SE



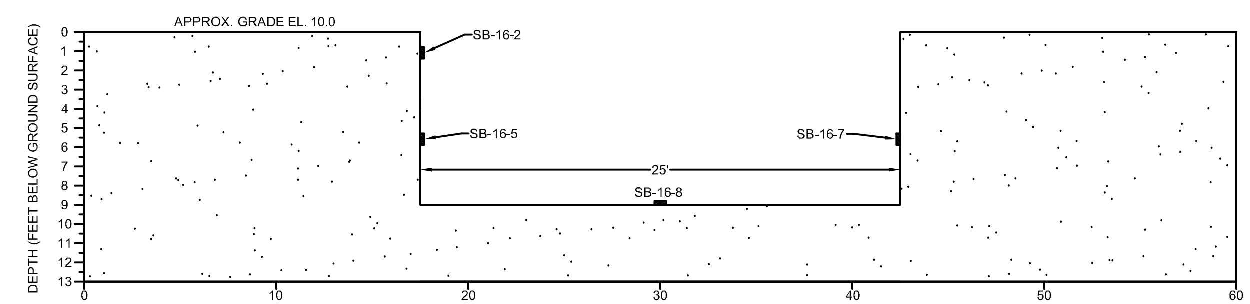
NW SB-9-3; E4-3 SE



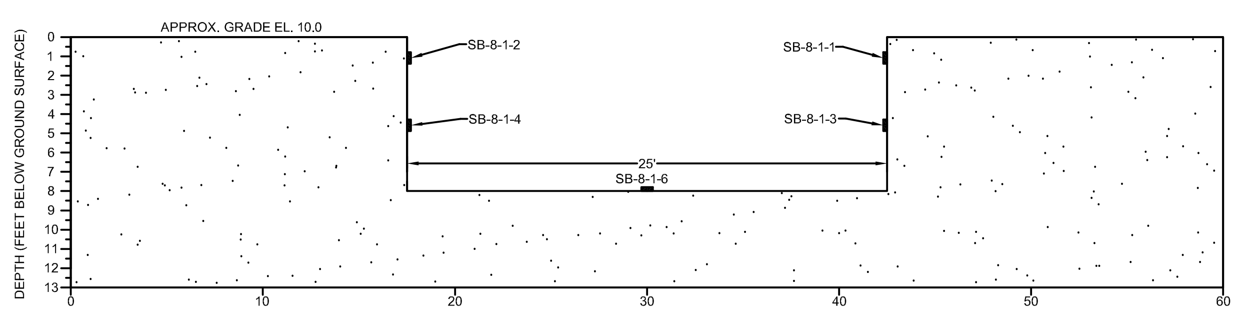
NW SB-7; E1-1 SE



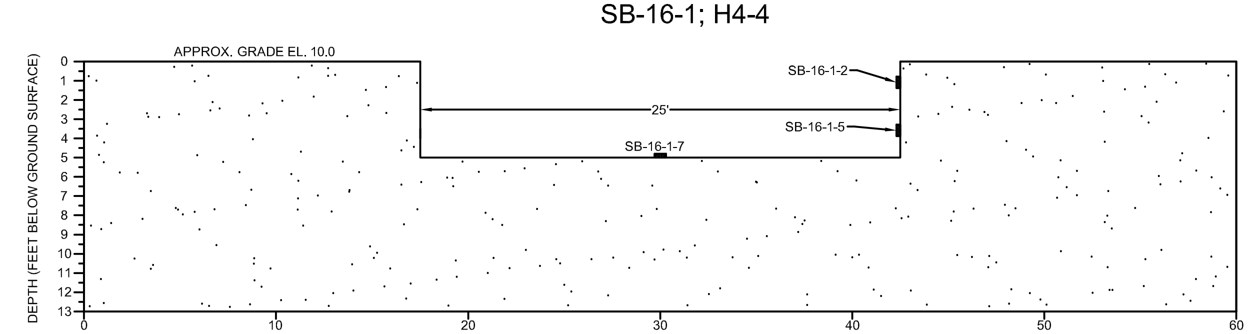
NW SB-16; H3-4 SE



NW SB-8-1; E2-4 SE



NW SB-16-1; H4-4 SE



EXCAVATION DETAILS						
GRID LOCATION	SAMPLE ID	LENGTH	WIDTH	DEPTH	CUBIC YARDS	CONTAMINANT
B-1	SB-1	50	50	10	926	ARSENIC
D3-3	SB-6	25	25	7	162	PCBs, LEAD
E1-1	SB-7	25	25	12	278	PCBs
E2-4	SB-8-1	25	25	8	185	LEAD
E1-3	SB-9	25	25	7	162	PCBs
E4-3	SB-9-3	25	25	4	93	PCBs
H3-4	SB-16	25	25	9	208	PCBs
H4-4	SB-16-1	25	25	5	116	LEAD

NOTE: POST-EXCAVATION SAMPLES ON THE NORTHEAST AND SOUTHWEST WALLS ARE NOT SHOWN.

0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

DRAWING SOURCE:

Gannett Fleming

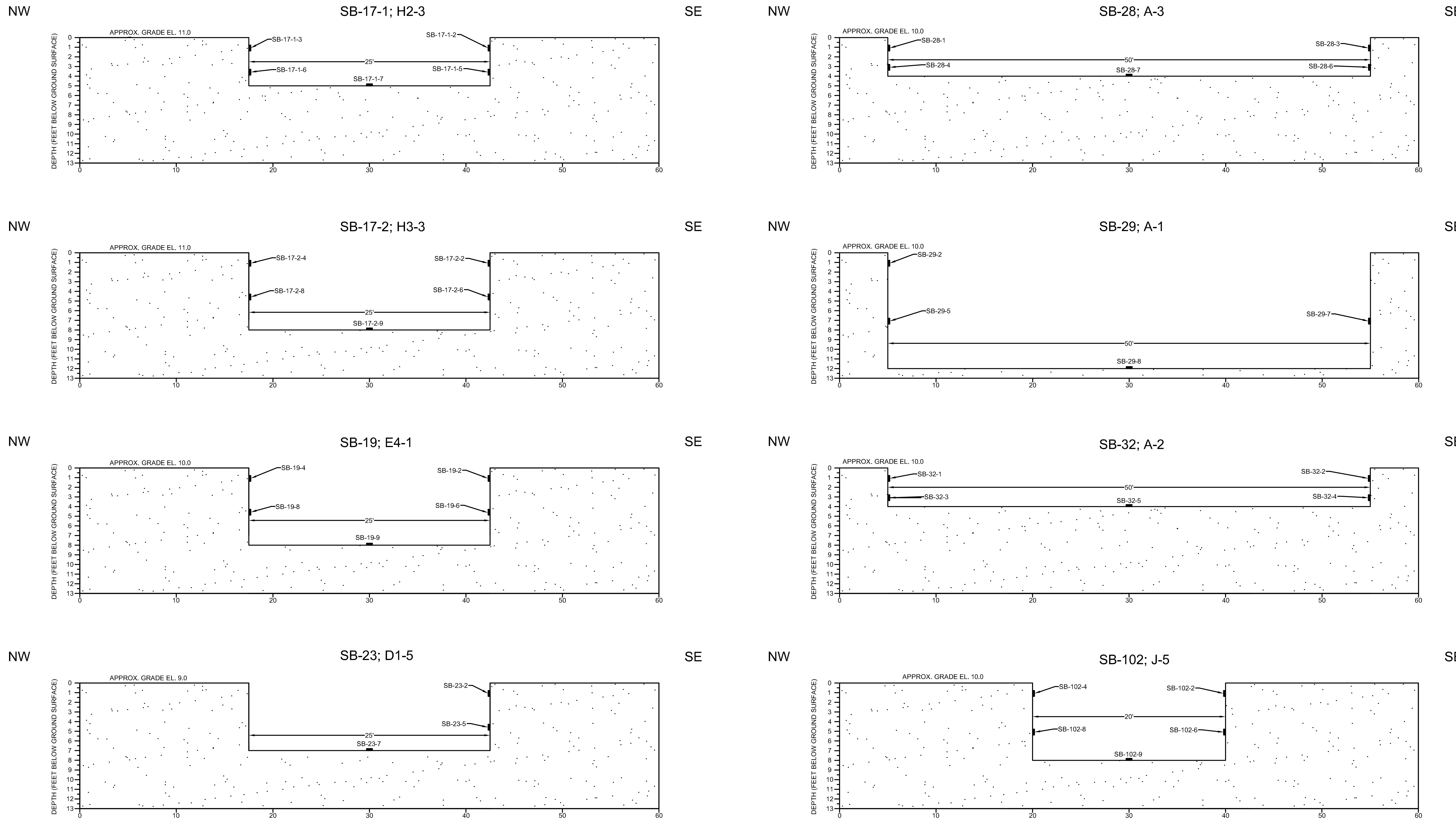
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

EXCAVATION CROSS SECTIONS

FRITO-LAY
218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
3



EXCAVATION DETAILS						
GRID LOCATION	SAMPLE ID	LENGTH	WIDTH	DEPTH	CUBIC YARDS	CONTAMINANT
H2-2	SB-17-1	25	25	5	116	PCBs
H3-3	SB-17-2	25	25	8	185	PCBs
E4-1	SB-19	25	25	8	185	PCBs
D1-5	SB-23	25	25	7	162	PCBs, LEAD
A-3	SB-28	50	50	4	370	ARSENIC
A-1	SB-29	50	50	12	1,111	ARSENIC
A-2	SB-32	50	50	4	370	ARSENIC, LEAD
J-5	SB-102	20	20	8	119	PCBs, LEAD

NOTE: POST-EXCAVATION SAMPLES ON THE NORTHEAST AND SOUTHWEST WALLS ARE NOT SHOWN.

0 5 10 20

SCALE: 1 INCH EQUALS 10 FEET

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

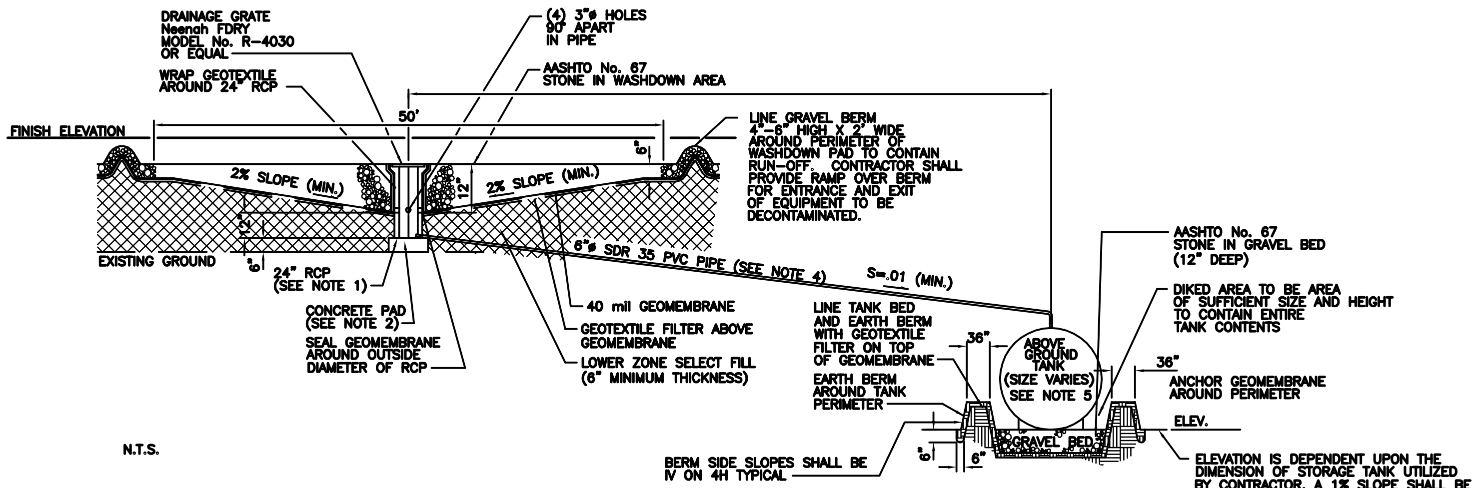
PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

EXCAVATION CROSS SECTIONS

FRITO-LAY
218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
4

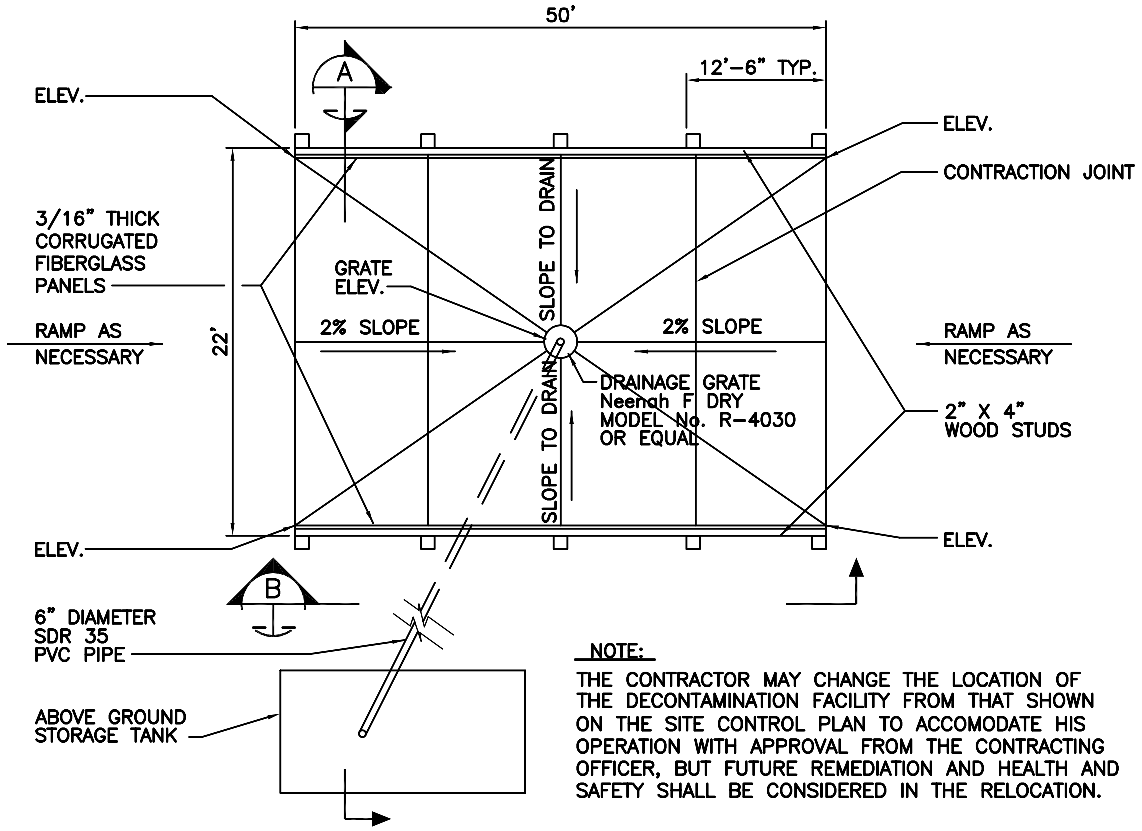
TEMPORARY EQUIPMENT WASHDOWN AREA DETAILS



NOTES:

1. REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C76 CLASS IV.
2. CONCRETE SHALL CONFORM TO ASTM C94, USING 3/4 INCH MAXIMUM SIZED AGGREGATE AND SHALL DEVELOP A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS. SEAL CONCRETE PAD TO 24" RCP USING AN EXTRUDED RUBBER FILLER.
3. PRECAST CONCRETE MANHOLE SHALL CONFORM TO ASTM C478. JOINTS SHALL BE FILLED WITH PREMOLDED MASTIC OR WITH MORTAR.
4. PVC PIPE SHALL BE SDR 35 AND SHALL CONFORM TO ASTM D1785 AND D1784. JOINTS SHALL BE CEMENTED SOCKET TYPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. ABOVE GROUND TANK MUST MEET STATE REGULATORY REQUIREMENTS FOR STORAGE OF HAZARDOUS MATERIALS.
6. ALL PENETRATION DETAILS THROUGH THE GEOMEMBRANE SHALL BE AS DETAILED BY THE MANUFACTURER.
7. CONTRACTOR SHALL REMOVE THE CONCRETE PAD AND 24" RCP PRIOR TO PLACEMENT OF FINAL SELECT FILL.

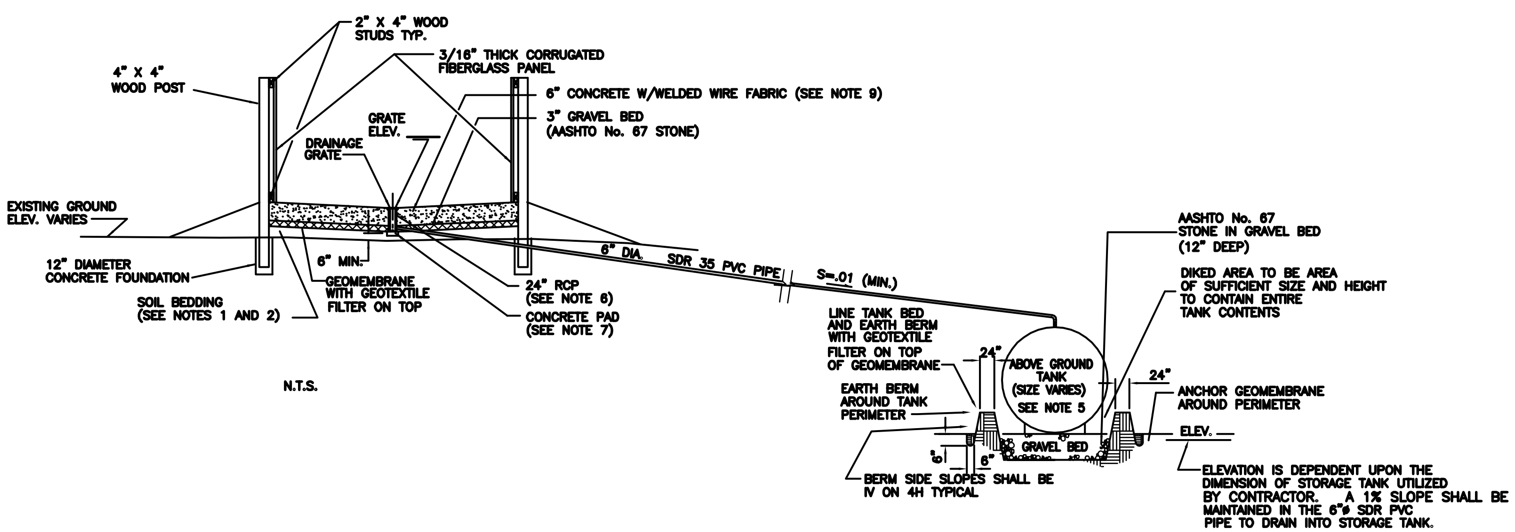
DECONTAMINATION FACILITY PLAN



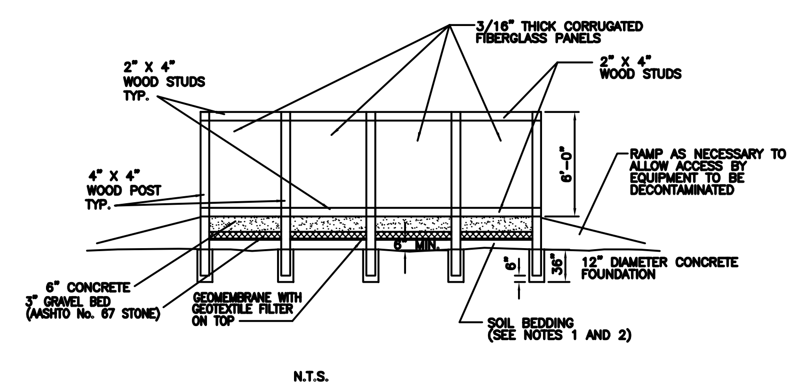
NOTE:

THE CONTRACTOR MAY CHANGE THE LOCATION OF THE DECONTAMINATION FACILITY FROM THAT SHOWN ON THE SITE CONTROL PLAN TO ACCOMODATE HIS OPERATION WITH APPROVAL FROM THE CONTRACTING OFFICER, BUT FUTURE REMEDIATION AND HEALTH AND SAFETY SHALL BE CONSIDERED IN THE RELOCATION.

SECTION A–A



SECTION B–B



NOTES:

1. CONTRACTOR SHALL EXCAVATE AND FILL AS REQUIRED TO ESTABLISH WASTE PILE ELEVATIONS. CONTRACTOR SHALL PLACE AT LEAST 6" OF SOIL BEDDING MATERIAL UNDER ALL GEOMEMBRANES
2. SOIL BEDDING SHALL CONSIST OF SUITABLE BACK FILL CLASSIFIED IN ASTM D2487 AS CL, CH, SC AND SHALL BE FREE OF DEBRIS, ROOTS, ORGANIC OR FROZEN MATERIAL AND STONE HAVING A MAXIMUM DIMENSION OF 1 INCH OR ANY OTHER MATERIAL THAT COULD PUNCTURE THE GEOMEMBRANE
3. CONTRACTOR SHALL CONSTRUCT DRAINAGE SWALES AS NECESSARY TO PREVENT SURFACE RUNOFF FROM ENTERING THE DECONTAMINATION FACILITY.
4. PVC PIPE SHALL BE SDR AND SHALL CONFORM TO ASTM D1785 AND D1784. JOINTS SHALL BE CEMENTED SOCKET TYPE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
5. ABOVE GROUND TANK SHALL MEET STATE REGULATORY REQUIREMENTS FOR STORAGE OF HAZARDOUS MATERIAL.
6. REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C 76 CLASS IV
7. CONCRETE SHALL BE AS SPECIFIED IN SECTION ______ PORTLAND CEMENT CONCRETE. AND CURBS TO ADJACENT SURFACES USING AN EXTRUDED RUBBER FILLER OR MORTAR. SEAL CONTRACTION JOINTS WITH SEALANT SPECIFIED IN SECTION TITLED "PORTLAND CEMENT CONCRETE".
8. PRECAST CONCRETE MANHOLE SHALL CONFORM TO ASTM C478. JOINTS SHALL BE FILLED WITH PREMOLDED MASTIC OR WITH MORTAR.
9. WELDED WIRE FARIC SHALL BE WWF 6 X 6–W2.9 X W2.9. (SEE SLAB REINFORCING DETAIL ON SHEET ____.)
10. CONTRACTOR SHALL LEAVE THE DECONTAMINATION FACILITY IN PLACE UPON COMPLETION OF THE PROJECT TO BE USED FOR FUTURE REMEDIATION WORK.
11. CONTRACTOR SHALL NOT ALLOW PRECIPITATION OR OTHER WATER OTHER THAN DECONTAMINATION WATER TO ENTER THE DECONTAMINATION FACILITY TANK.
12. CONTRACTOR SHALL PROVIDE PERFORATIONS IN THE RCP TO ALLOW DECONTAMINATION WATER COLLECTED ON THE GEOMEMBRANE TO DRAIN. SEAL GEOMEMBRANE TO 24" RCP TO PREVENT INFILTRATION INTO SURFACE BELOW.

DRAWING IS NOT TO SCALE

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

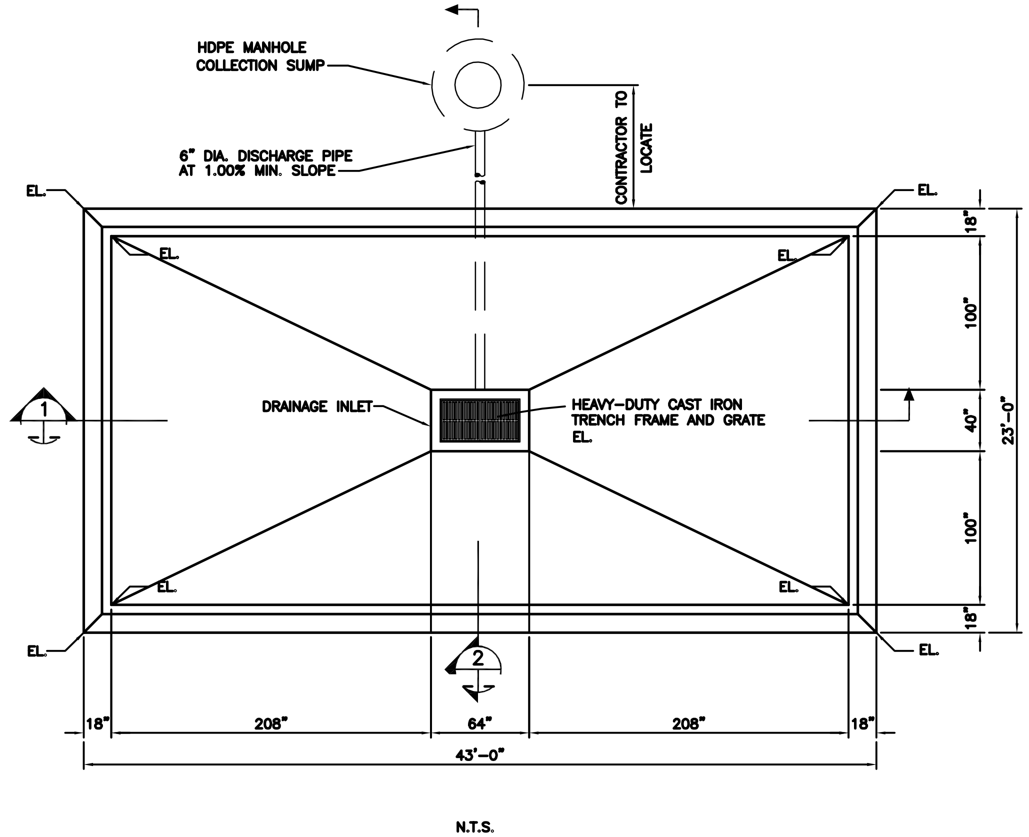
PROJECT # 47743
DRAWN BY: DAB
DATE DRAWN: MAR 2011
REVISED BY:
DATE REVISED:

DECONTAMINATION PAD DETAILS

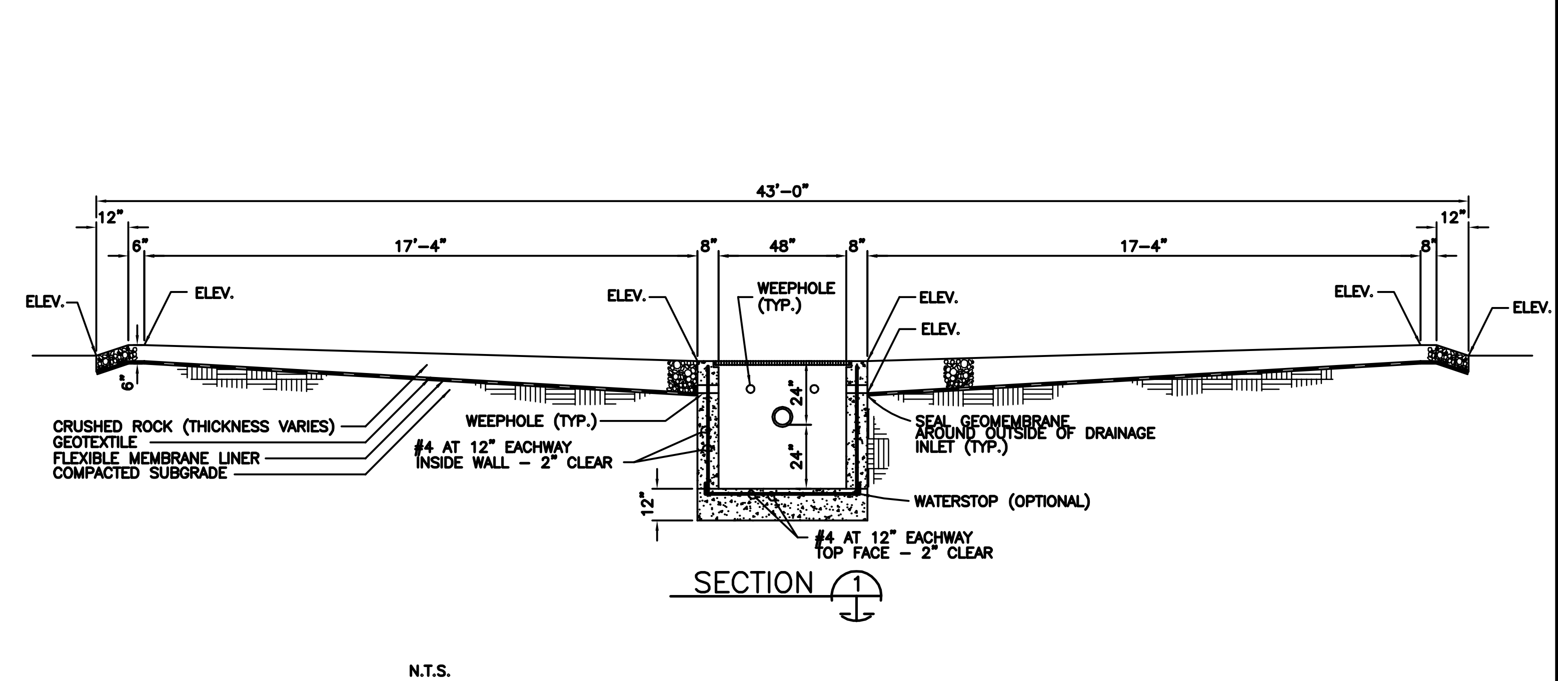
FRITO-LAY, INC.
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
5

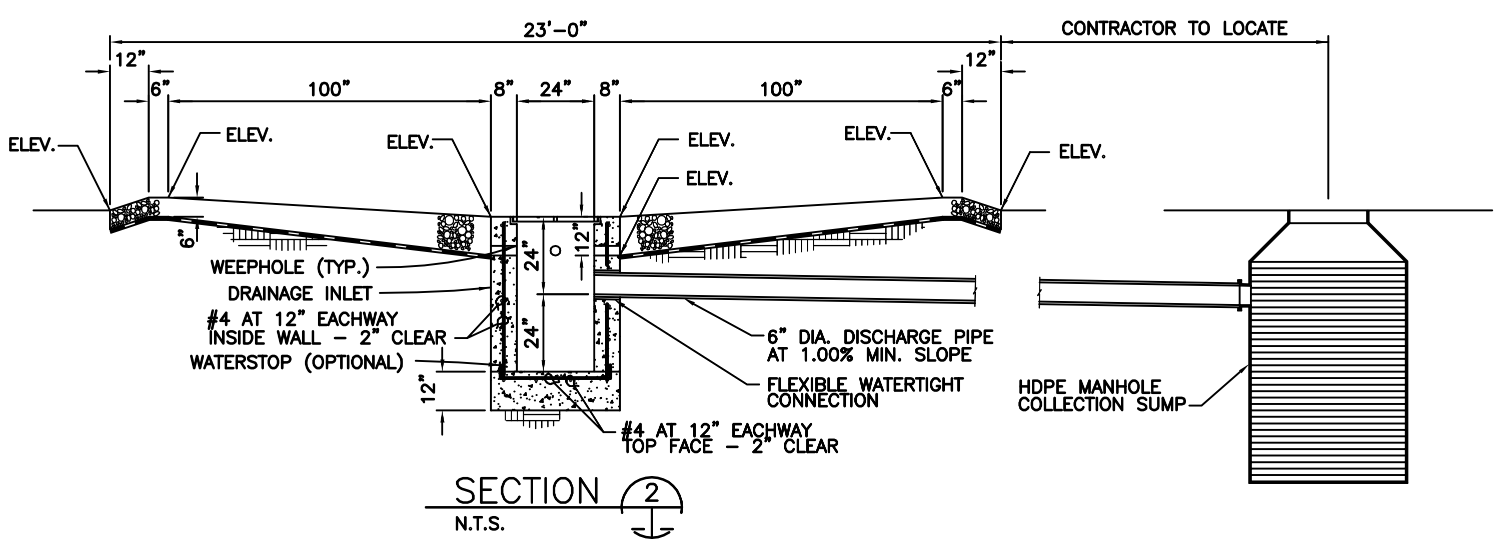
PLAN



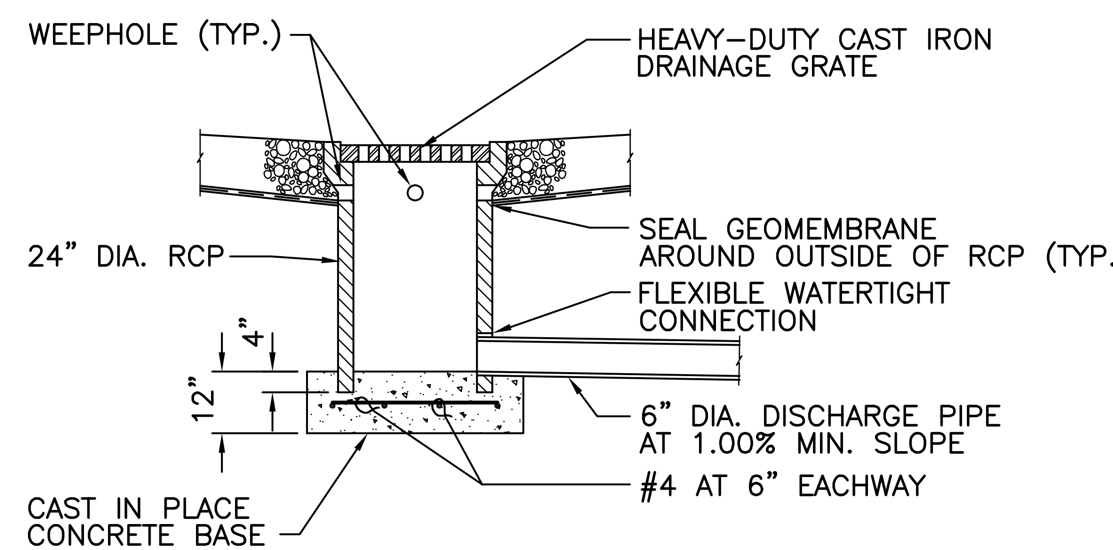
EQUIPMENT DECONTAMINATION PAD DETAILS



SECTION



OPTIONAL DECON PAD DRAINAGE INLET DETAIL

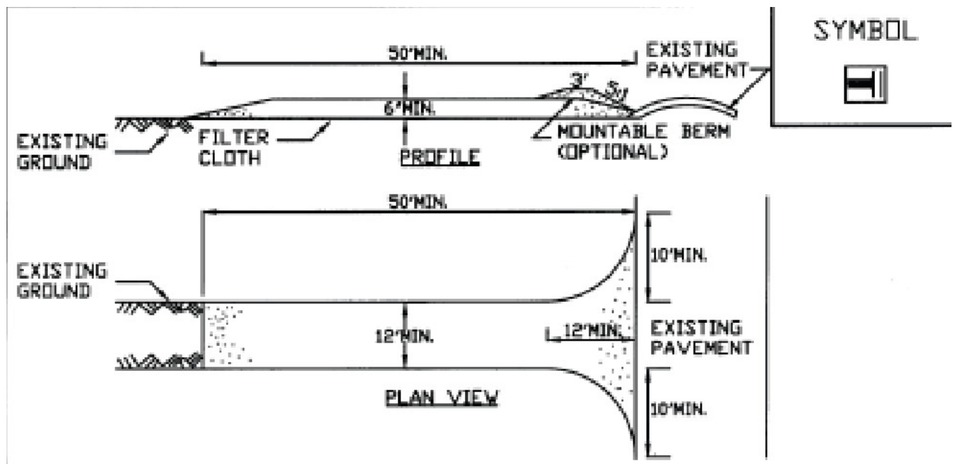


N.T.S.

DRAWING IS NOT TO SCALE DRAWING SOURCE:	Gannett Fleming 100 CROSSWAYS PARK WEST, SUITE 300 WOODBURY, NEW YORK 11797 WWW.GFNET.COM	PROJECT # 47743 DRAWN BY: DAB DATE DRAWN: MAR 2011 REVISED BY: DATE REVISED:	DECONTAMINATION PAD DETAILS FRITO-LAY, INC. 202-218 MORGAN AVENUE BROOKLYN, NEW YORK	FIGURE 6

S:\PROJECTS\47743 - Frito Lay\February Figure Revisions\Construction Details\Decon Pad 2.dwg, 3/8/2011 10:32:18 AM

STABILIZED CONSTRUCTION ENTRANCE PLAN

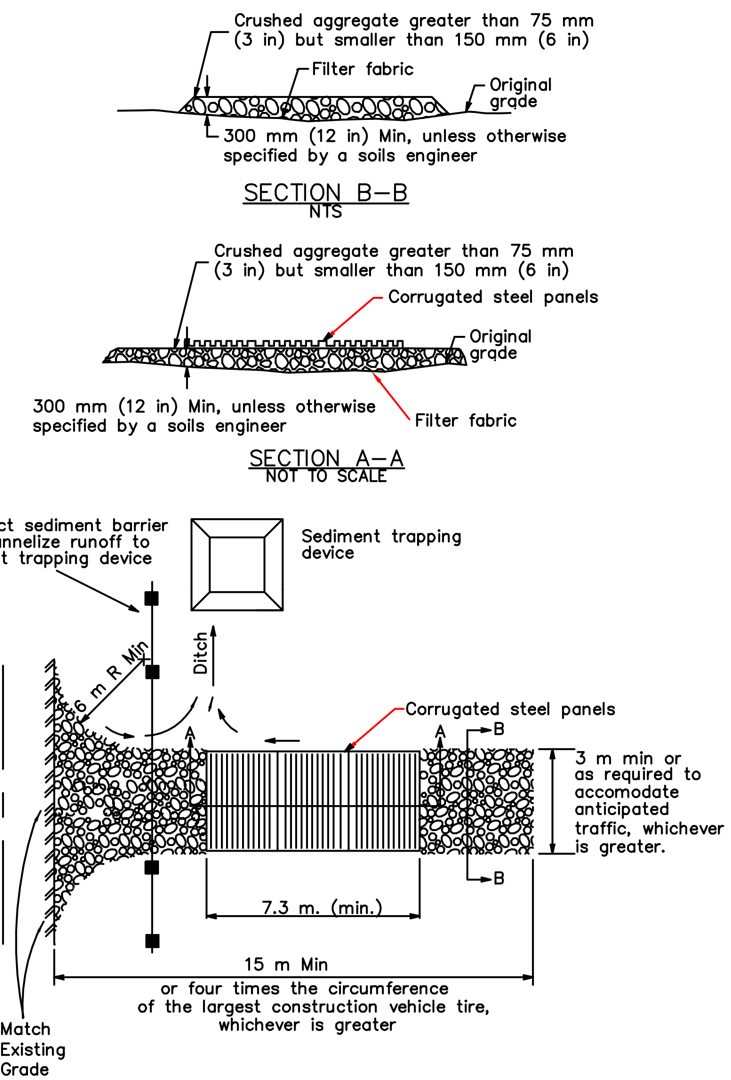


CONSTRUCTION SPECIFICATIONS

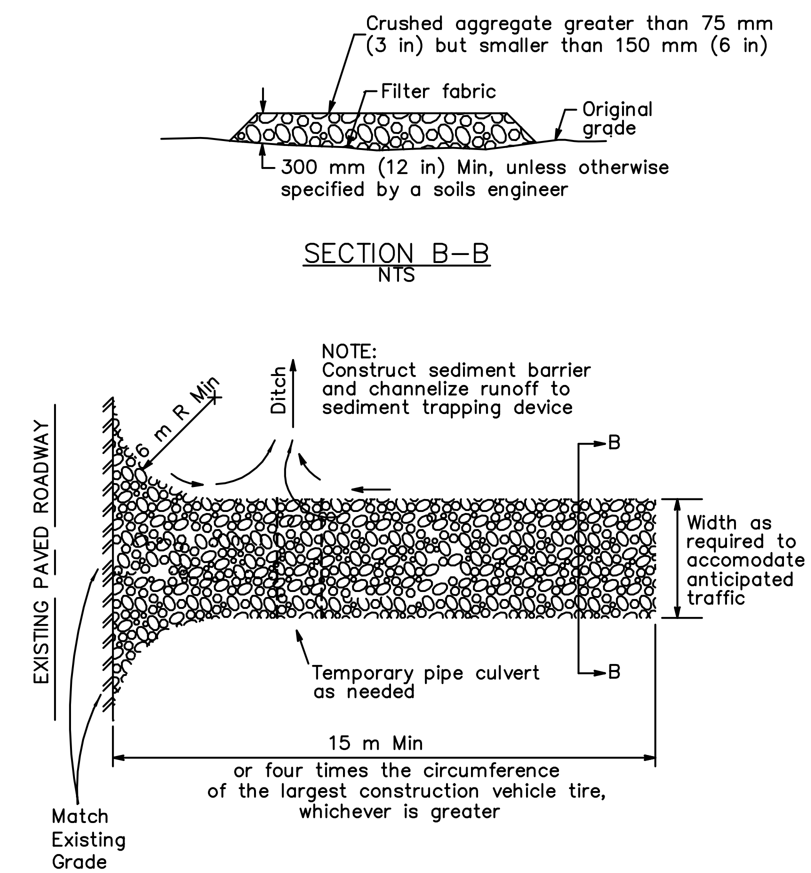
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STABILIZED CONSTRUCTION ENTRANCE

SECTION A–A



SECTION B–B



DRAWING IS NOT TO SCALE

DRAWING SOURCE:

Gannett Fleming
100 CROSSWAYS PARK WEST, SUITE 300
WOODBURY, NEW YORK 11797
WWW.GFNET.COM

PROJECT # 47743	
DRAWN BY: DAB	
DATE DRAWN: MAR 2011	
REVISED BY:	
DATE REVISED:	

CONSTRUCTION ENTRANCE DETAILS

FRITO-LAY, INC.
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

FIGURE
7

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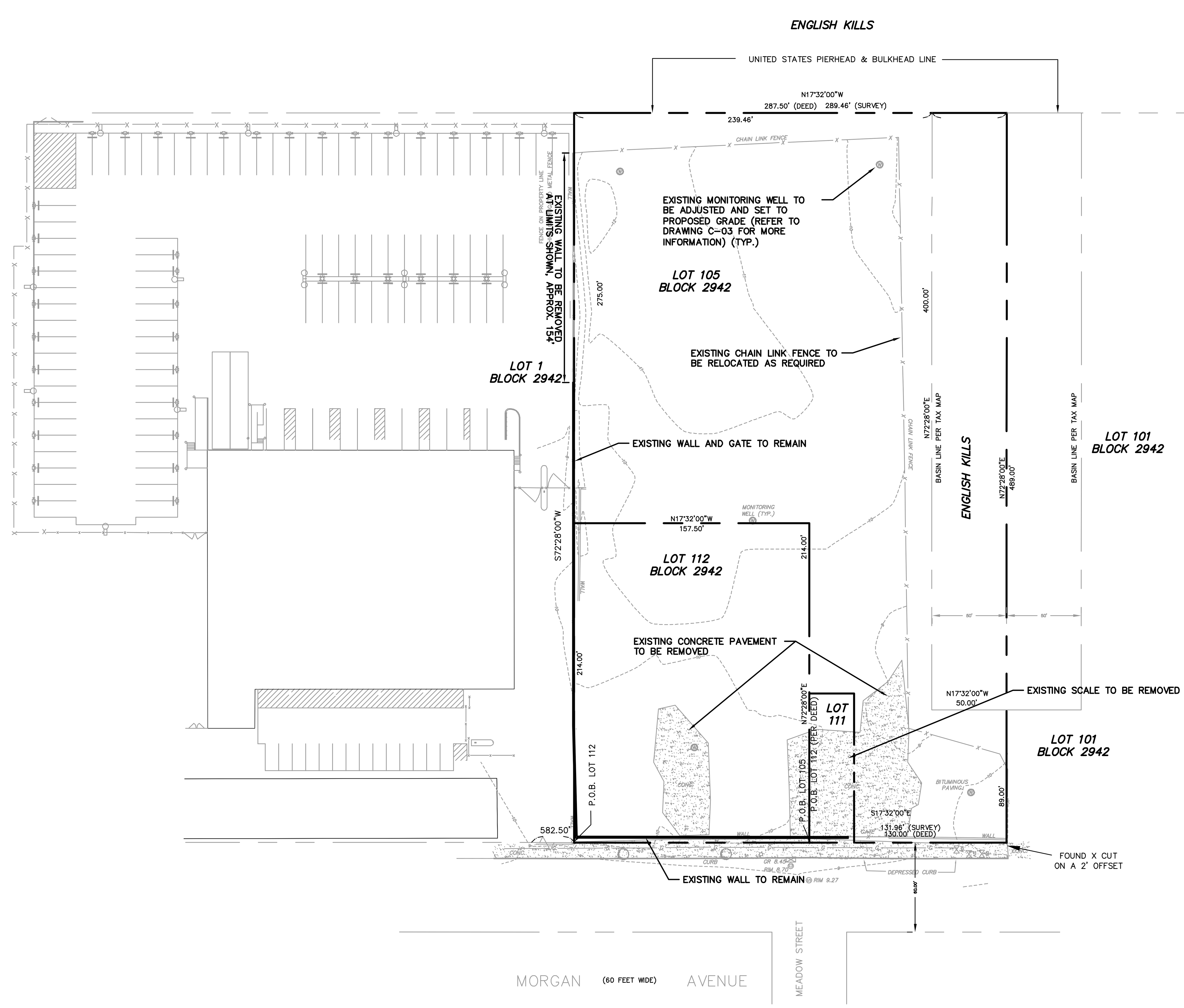


DEMOLITION PLAN LEGEND

C.L.F.	CHAIN LINK FENCE	TC 9.9	TOP OF CURB
OHW	OVERHEAD WIRES	BC 9.3	BOTTOM OF CURB
H/C RAMP	HANDICAP RAMP	GS=5.6	GROUND SHOT
	MONITORING WELL	T.W 11.6	TOP OF RETAINING WALL
	EX SANITARY MANHOLE		MINOR CONTOUR
	EX WATER MANHOLE		MAJOR CONTOUR
	EX DRAIN		BORING LOCATION
GV	EX EX GAS VALVE		EX STRUCTURE TO BE REMOVED
	EX ELECTRIC MANHOLE	OHW	EX OVER HEAD WIRES
	EX LIGHT POLE	G	EX GAS LINE
WV	EX WATER VALVE	W	EX WATER LINE
	EX HYDRANT	ST	EX STORM LINE
	EX CATCH BASIN	E	EX ELECTRIC LINE
	EX UTILITY POLE	SAN	EX SEWER LINE
	EX NUMBER OF PARKING SPACES		
	EX TREE		
	FLOOD ZONE A5		
	FLOOD ZONE B		

DEMOLITION NOTES

1. REMOVAL OF EXISTING STRUCTURES, INCLUDING BUILDINGS, VEHICLES, DEBRIS, GARBAGE, DRAINAGE SYSTEMS AND OTHER STRUCTURES, IS TO BE DONE IN CONFORMANCE WITH THE REGULATIONS OF THE NEW YORK CITY AND APPLICABLE BOROUGH, STATE AND FEDERAL AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS FOR DEMOLITION AND DISPOSAL OF EXISTING STRUCTURES AND MATERIALS.
2. ALL STRUCTURES TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO BUILDING FOUNDATIONS, SIGNS, FOOTINGS, CONCRETE SLABS, DRAINAGE STRUCTURES, CONCRETE WALKS, MANHOLES, LEACHING POOLS, FENCING, LIGHT POLES AND GUARD RAILS. ANY EXCAVATION RESULTING FROM DEMOLITION SHALL BE REPLACED WITH CLEAN, GRANULAR MATERIAL, COMPACTED TO 95% PROCTOR DENSITY.
3. THE CONTRACTOR SHALL EMPLOY APPROPRIATE MAINTENANCE AND PROTECTION OF TRAFFIC MEASURES DURING CONSTRUCTION, AS APPLICABLE. MEASURES UTILIZED DURING WORK ALONG MORGAN AVENUE SHALL BE IN ACCORDANCE WITH THE N.Y.S. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. THE CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITIES 48 HOURS BEFORE EXCAVATING, CUTTING, REMOVING OR TAPPING INTO ANY EXISTING UTILITY SERVICE.
5. THE CONTRACTOR SHALL CONFIRM THAT ALL UTILITIES HAVE BEEN DISCONNECTED BY THE APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL/ABANDONMENT.
6. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL GARBAGE, AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL CITY, BOROUGH, STATE AND FEDERAL LAWS AND APPLICABLE CODES.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROPER REMOVAL OF UNDERGROUND STORAGE TANKS, TRANSFORMERS, MATERIALS INSIDE THE TANKS, LINES AND BUILDINGS IN ACCORDANCE WITH ALL FEDERAL, STATE, COUNTY AND LOCAL LAWS AND REGULATIONS.
8. EXISTING SCALE VAULTS THAT ARE INDICATED TO BE REMOVED SHALL BE FILLED WITH INERT MATERIAL AND PAVED IN ACCORDANCE WITH DWG. C02. TOP SLABS SHALL BE REMOVED.

GENERAL NOTES

1. PROPERTY ADDRESS: 222 MORGAN AVENUE BROOKLYN, NY
2. TAX ID: BLOCK 2942 LOT 105, 111, 112
3. BASE DATA SHOWN IS TAKEN FROM SURVEY PREPARED BY PENNONI ASSOCIATES, DATED 5/15/08

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

KINGS COUNTY–BOROUGH OF BROOKLYN TAX MAP – BLOCK 2942 LOT 105, 111, 112

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

Frito Lay™ food for the fun of it!™

ANDREW L. GRUNDY, P.E.
PROFESSIONAL ENGINEER
N.Y. LICENSE 074140

SIGNATURE DATE

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
1025 OLD COUNTRY ROAD
SUITE 420
WESTBURY, NEW YORK 11590
PHONE: (516) 512-7300
FAX: (516) 512-7320

PROJECT TITLE

FRITO LAY DISTRIBUTION CENTER ADDITIONAL PARKING

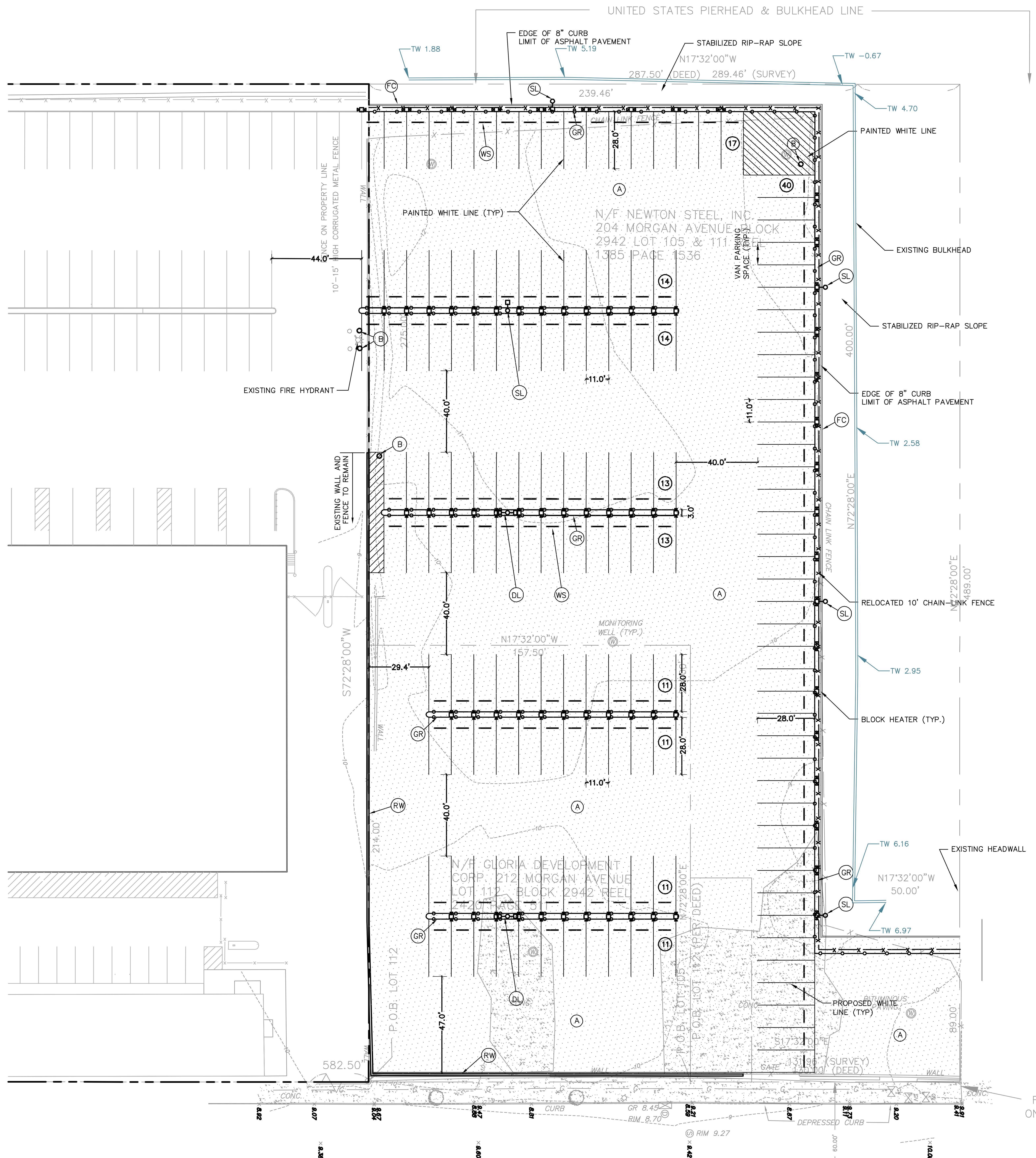
BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE

EXISTING CONDITIONS AND DEMOLITION PLAN

DATE 6/25/2010	JOB NO. 03953.001
SCALE 1"=50'	B/O
DRAWN RP	SHEET NO. C01
CHKD. ALG	

PROJECT: 02000-001 FILE NAME: P:\03953\001\Dwgs\plan sheets\02000001c-c01-me.dwg LAST EDIT: 03/08/2011 – 11:06:58 AM LOGIN: rpo... IMAGE: QUAD.tif



SITE PLAN LEGEND

A	ASPHALT PAVEMENT	
FC	FLUSH CURB	
	PAVEMENT MARKING	
B	CONCRETE SECURITY BOLLARD	
SL	LIGHT POLE WITH SINGLE LUMINAIRE (SEE ELECTRICAL DRAWINGS)	
DL	LIGHT POLE WITH DOUBLE LUMINAIRE (SEE ELECTRICAL DRAWINGS)	
RW	EXISTING RETAINING WALL	
	DOUBLE BLOCK HEATER RECEPTACLE (SEE ELECTRICAL DRAWINGS)	
	RELOCATED CHAIN LINK FENCE WITH RAZOR WIRE	
WS	CONCRETE WHEEL STOP	
GR	GUIDE RAIL	

PARKING DATA

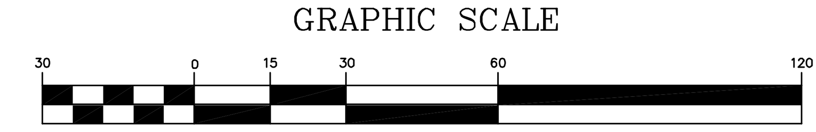
157 VAN PARKING SPACES

GENERAL NOTES

1. APPLICANT: FRITO LAY
   1867 FLUSHING AVENUE
   RIDGEWOOD, NY 11385
2. PROPERTY ADDRESS: 222 MORGAN AVENUE
   BROOKLYN, NY
3. EXISTING CONCRETE PAVEMENT SHALL BE SAW CUT ALONG ALL NEW PROPOSED IMPROVEMENTS.
4. BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE ENGINEERING DRAWINGS, EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW EQUIPMENT AND STRUCTURES WILL BE ROUTED, COORDINATING NEW WORK AND PROVIDING CLEARANCES WITH STRUCTURAL MEMBERS. THE CONTRACTOR SHALL INCLUDE ALL COSTS OF ANY KIND WHATSOEVER WHICH ARE INCURRED THROUGH LIMITATIONS OF THE NEW CONDITIONS.
5. ALL WORK SHALL BE EXECUTED ACCORDING TO THE CONTRACT DOCUMENTS, INCLUDING THE DRAWINGS, SPECIFICATIONS AND ADDENDA, IF APPLICABLE, AS PROVIDED IN THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.
6. ALL WORK SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY AND LOCAL CODES, AND ALL REGULATORY AGENCIES.
7. ALL WORK, WHETHER SHOWN OR INFERRED, UNLESS SPECIFICALLY QUESTIONED, SHALL BE CONSIDERED FULLY UNDERSTOOD IN ALL RESPECTS BY THE CONTRACTOR, AND THE CONTRACTOR SHALL THEREBY BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONSEQUENCES THEREOF FOR ALL WORK ON ALL DRAWINGS.
8. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS WHICH COULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK, PRIOR TO THE START OF ANY AND ALL WORK.
9. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS, AND NOTING ALL APPLICABLE WORK AS SHOWN OR INFERRED. ALL WORK AS SHOWN OR INFERRED SHALL BE INCLUDED IN THE COSTS, UNLESS NOTED AS AN "ALTERNATE".
10. THE CONTRACTOR SHALL FIRST COORDINATE AND THEN SUBMIT ALL SUBCONTRACTORS' SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO WORK BEING PERFORMED.
11. ALL WORK SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS AND SHALL BE OF NEW AND BEST QUALITY. NO MATERIAL SUBSTITUTIONS SHALL BE MADE, EXCEPT BY WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE IN RESPONSE TO THE CONTRACTOR'S WRITTEN REQUEST.
12. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE SUPPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY THE MANUFACTURERS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
13. THE CONTRACTOR SHALL MAKE REPAIRS USING THE SAME MATERIALS, AT THE CONTRACTOR'S COST.
14. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARDS AND APPEALS INDUSTRIAL CODE RULE 53 – "CONSTRUCTION, EXCAVATION AND, DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES" EFFECTIVE APRIL 1, 1975. THE CONTRACT WILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF INDUSTRIAL CODE 53.
15. THE CONTRACTOR SHALL PROVIDE ALL BARRICADES, SIGNS, LIGHTS, ETC., FOR MAINTENANCE AND PROTECTION OF THE SITE AND VEHICULAR TRAFFIC AS REQUIRED FOR THE DURATION OF THIS CONTRACT.
16. THE CONTRACTOR SHALL RESTORE ALL DISTURBED EXISTING FEATURES TO A CONDITION EQUAL TO OR BETTER THAN CURRENTLY EXISTED.
17. THE CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA CONFINED SPACE ENTRY REQUIREMENTS (29 CFR PART 1910)
18. THE CONTRACTOR SHALL COMPLY WITH THE LATEST REVISED OSHA SHEETING REQUIREMENTS (29 CFR PAR 1926.650,651,652)
19. ALL EXISTING VAULTS AND STRUCTURES TO BE ABANDONED SHALL BE FILLED WITH INERT MATERIAL TO THE SUBGRADE ELEVATION NECESSARY TO INSTALL THE PROPOSED PAVEMENT SECTION. ALL CONCRETE SLABS TO BE BURIED SHALL BE PUNCTURED TO PREVENT WATER RETENTION.

KINGS COUNTY–BOROUGH OF BROOKLYN TAX MAP – BLOCK 2942 LOT 105, 111, 112

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

THESE CONTRACT DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT AND CLIENT. THEY ARE NOT INTENDED FOR USE ON EXTENSIONS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.

ANDREW L. GRUNDY, P.E.
PROFESSIONAL ENGINEER
N.Y. LICENSE 074140

SIGNATURE DATE

PAULUS
SOKOLOWSKI
and SARTOR
CONSULTING ENGINEERS

1025 OLD COUNTRY ROAD
SUITE 420
WESTBURY, NEW YORK 11590
PHONE: (516) 512-7300
FAX: (516) 512-7320

PROJECT TITLE

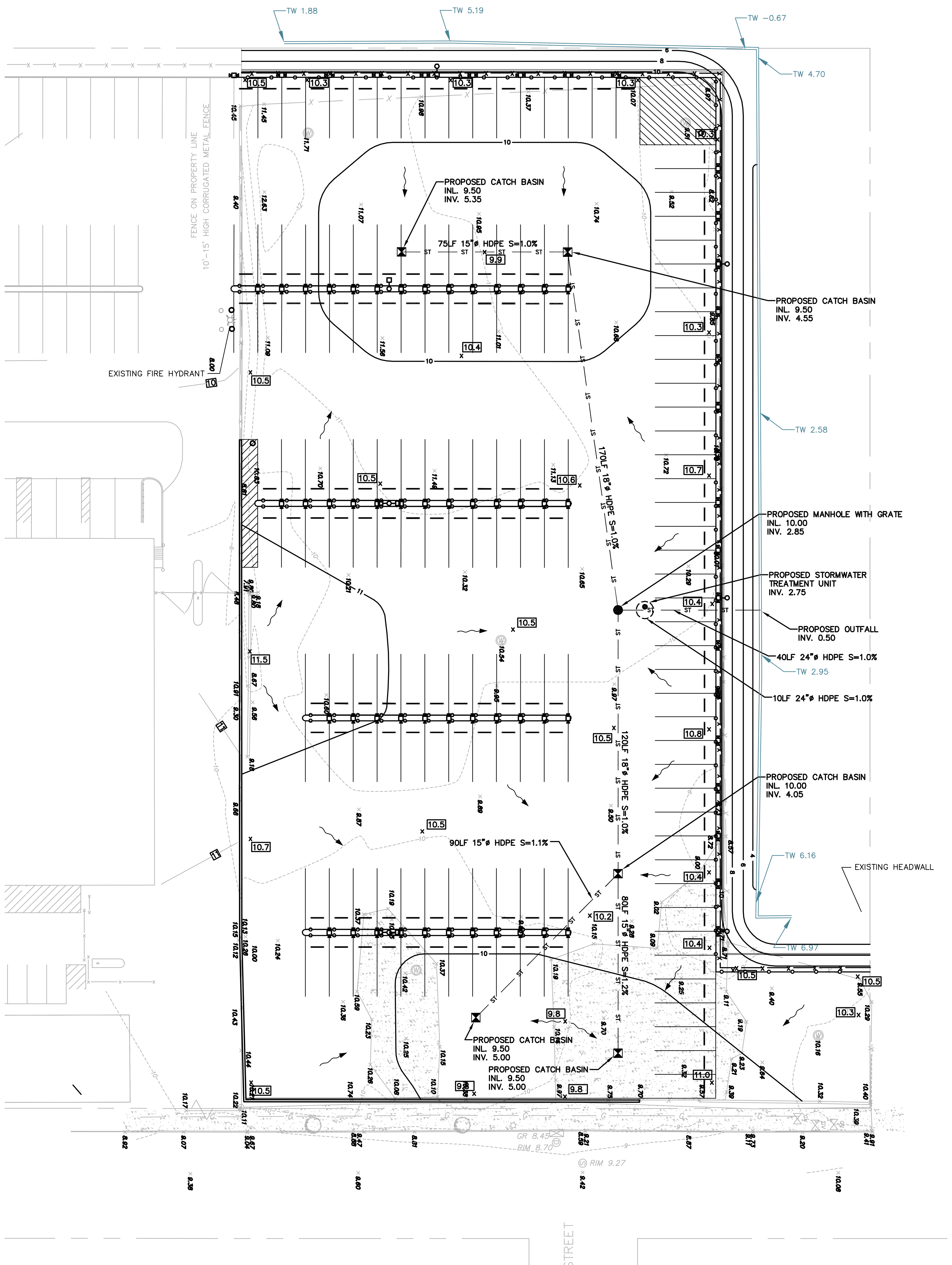
FRITO LAY
DISTRIBUTION CENTER
ADDITIONAL PARKING

BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE

ALIGNMENT AND
MATERIALS PLAN

DATE 6/25/2010	JOB NO. 03953.001
SCALE 1"=30'	B/O
DRAWN RP	SHEET NO.
CHKD. ALG	C02



GRADING PLAN LEGEND

C.L.F.	CHAIN LINK FENCE	TC 9.9	TOP OF CURB
OHW	OVERHEAD WIRES	BC 9.3	BOTTOM OF CURB
H/C RAMP	HANDICAP RAMP	GS=5.6	GROUND SHOT
	MONITORING WELL	T.W 11.6	TOP OF RETAINING WALL
	EX SANITARY MANHOLE		MINOR CONTOUR
	EX WATER MMANHOLE		MAJOR CONTOUR
	EX DRAIN		BORING LOCATION
GV	EX EX GAS VALVE		PROPOSED DRAINAGE MANHOLE
	EX ELECTRIC MANHOLE		PROPOSED CATCH BASIN
	EX LIGHT POLE	+ 100.0	PROPOSED SPOT ELEVATION
WV	EX WATER VALVE	TWL 100.00 BWL 99.50	PROPOSED TOP/BOTTOM OF WALL ELEVATION
	EX HYDRANT	100	PROPOSED CONTOUR
	EX CATCH BASIN	ST	PROPOSED STORM DRAINAGE PIPING
	EX UTILITY POLE	CPP	CORRUGATED PLASTIC PIPE
	EX NUMBER OF PARKING SPACES		PROPOSED VALVE
	EX TREE	W	PROPOSED WATER LINE
	FLOOD ZONE A5		
	FLOOD ZONE B		
OHW	EX OVER HEAD WIRES		
G	EX GAS SERVICE		
W	EX WATER SERVICE		

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

Frito Lay
food for the fun of it!™

ANDREW L. GRUNDY, P.E.
PROFESSIONAL ENGINEER
N.Y. LICENSE 074140

SIGNATURE DATE

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
1025 OLD COUNTRY ROAD
SUITE 420
WESTBURY, NEW YORK 11590
PHONE: (516) 512-7300
FAX: (516) 512-7320

PROJECT TITLE

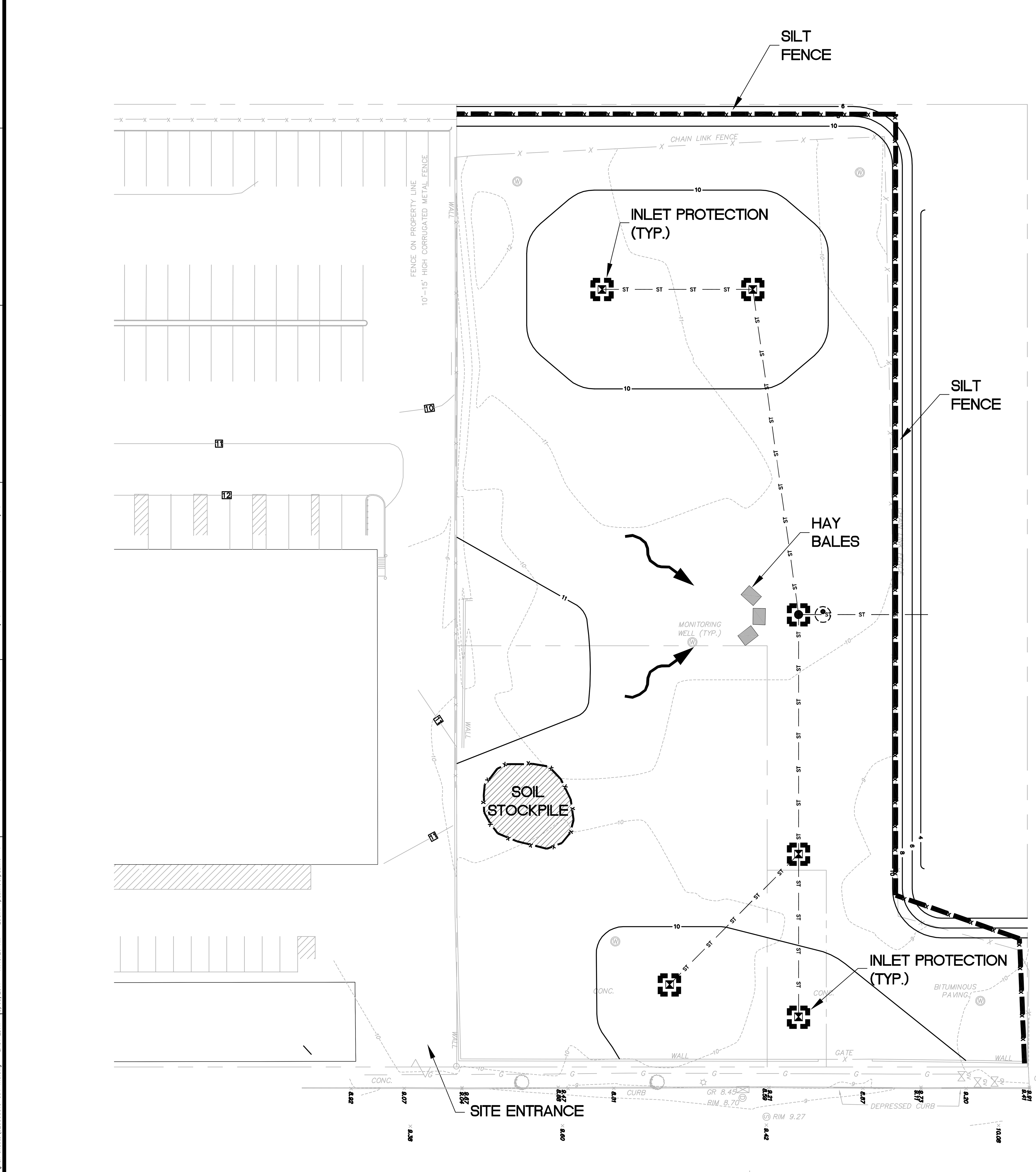
FRITO LAY
DISTRIBUTION CENTER
ADDITIONAL PARKING

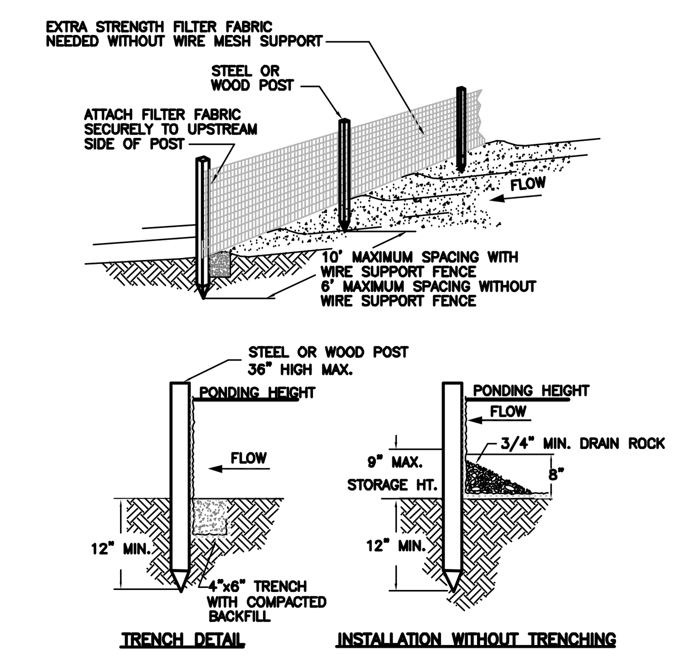
BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE

PRELIMINARY
GRADING DRAINAGE
AND UTILITY
PLAN

DATE 6/25/2010	JOB NO. 03953.001
SCALE 1"=30'	B/O
DRAWN RP	SHEET NO. C03
CHKD. ALG	

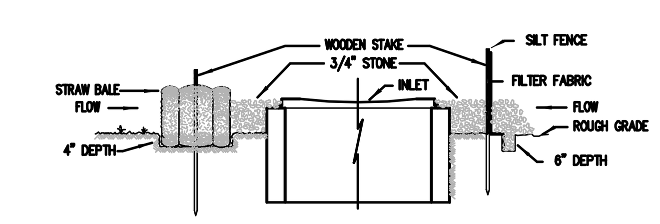




NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

SILT FENCE DETAIL
SCALE: NTS



INSTALLATION NOTES

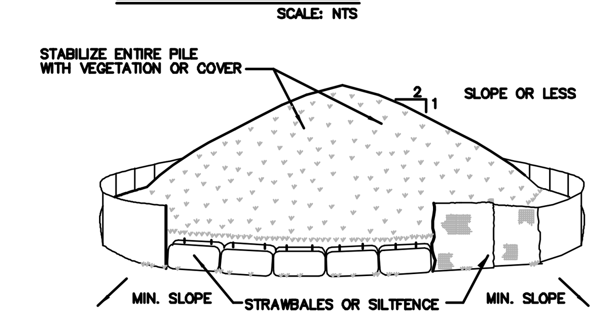
SILT FENCE

1. EXCAVATE A 6 INCH x 6 INCH TRENCH, OFFSET APPROXIMATELY 2 FEET FROM THE INLET PERIMETER.
2. UNROLL A SECTION AT A TIME AND POSITIONTHE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS APPROXIMATELY 2 INCHES FROM THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. STEEPER SLOPES REQUIRE AN INTERCEPT TRENCH.
5. JOIN SECTIONS AS SHOWN ABOVE. SUPPLEMENT WITH GRAVEL, PILED AGAINST THE FENCE.

STRAW BALES

1. PLACE BALES OF STRAW WITH ENDS TIGHTLY ABUTTING OTHER BALES TO SURROUND THE INLET. WHERE SLOPE AND SPACE PERMIT, ESTABLISH THE LINE OF BALES 2 TO 10 FEET AWAY FROM THE INLET. ANCHOR BALES IN PLACE BY DRIVING REBARS OR 2" x 2" STAKES THROUGH THE BALES. SUPPLEMENT WITH GRAVEL, PILED AGAINST THE BALES.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

INLET PROTECTION
SCALE: NTS



INSTALLATION NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE DETAIL FOR INSTALLATION OF SILTFENCE.

SOIL STOCKPILING
SCALE: NTS

EROSION CONTROL MEASURES

1. THE PROPOSED EROSION CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. ADDITIONAL EROSION CONTROL MAY BE NECESSARY, BASED UPON FIELD CONDITIONS THAT MAY DEVELOP AS CONSTRUCTION PROGRESSES AND AS MAY BE REQUIRED BY THE CITY OF NEW YORK. THE FOLLOWING GENERAL CONDITIONS SHALL BE OBSERVED.
   A. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AND REMAIN UNDISTURBED.
   B. CLEARING AND GRADING SHALL BE SCHEDULED SO AS TO MINIMIZE THE SIZE OF EXPOSED AREAS AND THE LENGTH OF TIME THAT AREAS ARE EXPOSED.
   C. THE LENGTH AND STEEPNESS OF CLEARED SLOPES SHALL BE MINIMIZED TO REDUCE RUNOFF VELOCITIES AND QUANTITIES.
   D. RUNOFF SHALL BE DIVERTED AWAY FROM CLEARED SLOPES.
   E. SEDIMENT SHALL BE TRAPPED ON THE SITE.

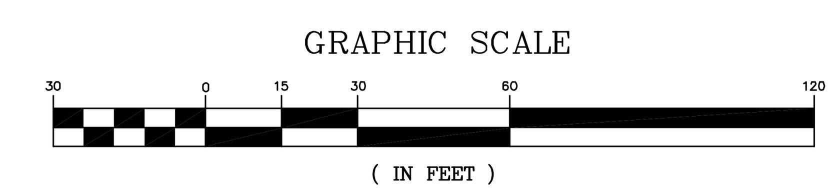
   SPECIFIC METHODS AND MATERIALS EMPLOYED IN THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES SHALL CONFORM TO THE "NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL".
2. SEDIMENT BARRIERS (SILT FENCE, HAY BALES OR APPROVED EQUAL) SHALL BE INSTALLED PRIOR TO ANY GRADING WORK ALONG THE LIMITS OF DISTURBANCES AND SHALL BE MAINTAINED FOR THE DURATION OF THE WORK. NO SEDIMENT FROM THE SITE SHALL BE PERMITTED TO WASH ONTO ADJACENT PROPERTIES, WETLANDS OR ROADS.
3. GRADED AND STRIPPED AREAS AND STOCKPILES SHALL BE KEPT STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AS REQUIRED. SEED MIXTURES SHALL BE IN ACCORDANCE WITH SOIL CONSERVATION SERVICE RECOMMEND-ATIONS.
4. DRAINAGE INLETS INSTALLED AS PART OF THE PROJECT SHALL BE PROTECTED FROM SEDIMENT BUILDUP THROUGH THE USE OF SEDIMENT BARRIERS, SEDIMENT TRAPS, ETC., AS REQUIRED.
5. PROPER MAINTENANCE OF EROSION CONTROL MEASURES IS TO BE PERFORMED AS INDICATED BY PERIODIC INSPECTION AND AFTER HEAVY OR PROLONGED STORMS. MAINTENANCE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, CLEANING OF SEDIMENT BASINS OR TRAPS, CLEANING OR REPAIR OF SEDIMENT BARRIERS, CLEANING AND REPAIR OF BERMS AND DIVERSIONS AND CLEANING AND REPAIR OF INLET PROTECTION.
6. APPROPRIATE MEANS SHALL BE USED TO CONTROL DUST DURING CONSTRUCTION.
   ON CONSTRUCTION ROADS, ACCESS PONTS, AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING WHERE OFF-SITE DAMAGE MAY OCCUR IF DUST IS NOT CONTROLLED.
   WATER QUALITY SHOULD BE CONSIDERED WHEN MATERIALS ARE SELECTED FOR DUST CONTROL.
   SPRINKLING – THE SITE MAY BE SPRAYED UNTIL THE SURFACE IS WET. THIS IS EFFECTIVE ON HAUL ROADS, ACCESS ROUTES AND SOIL STOCKPILES .
7. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT SOIL AND LOOSE DEBRIS FROM BEING TRACKED ONTO LOCAL ROADS. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.
8. SEDIMENT BARRIERS AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL UPLAND DISTURBED AREAS ARE PERMANENTLY STABILIZED (SEE GRADING NOTE NUMBER 1). AFTER PERMANENT STABILIZATION, PAVED AREAS SHALL BE CLEANED AND DRAINAGE SYSTEMS CLEANED AND FLUSHED AS NECESSARY.
9. ALL 1:2 & 1:3 SLOPE AREAS WILL BE PROTECTED AGAINST EROSION DURING CONSTRUCTION AND PERMANENT GROUND COVER SHALL BE SUCH THAT EROSION WILL BE PREVENTED. NECESSARY MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, HAY BALES, SILT FENCE, SILT TRAPS/BASINS, JUTE MESH, HYDROSEEDING, ETC. AND SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION AS WELL AS FOLLOWING THE COMPLETION OF CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED PLANTINGS HAVE BECOME ACCLIMATED/ESTABLISHED AS DETERMINED BY THE CITY OF NEW YORK.

LEGEND

SILT FENCE
STRAW BALE DIKE
INLET PROTECTION
TEMPORARY SWALE

THIS PLAN TO BE USED FOR EROSION CONTROL PURPOSES ONLY.

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

KINGS COUNTY-BOROUGH OF BROOKLYN TAX MAP – BLOCK 2942 LOT 105, 111, 112

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

Frito Lay
food for the fun of it!™

ANDREW L. GRUNDY, P.E.
PROFESSIONAL ENGINEER
N.Y. LICENSE 074140

SIGNATURE DATE

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
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SUITE 420
WESTBURY, NEW YORK 11590
PHONE: (516) 512-7300
FAX: (516) 512-7320

PROJECT TITLE
FRITO LAY
DISTRIBUTION CENTER
ADDITIONAL PARKING
BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE
EROSION AND SEDIMENT
CONTROL PLAN

DATE 6/25/2010	JOB NO. 03953.001
SCALE 1"=30'	B/0
DRAWN RP	SHEET NO. C04
CHKD. ALG	

NOTES:

1. LOCATION OF CURB SHALL BE AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. LOCATION AND ANGLE OF BASIN CONNECTION MAY BE VARIED TO SUIT FIELD CONDITIONS.
3. KEYED CONSTRUCTION JOINTS ARE REQUIRED BETWEEN ANY SUCCESSIVE POURS.
4. THE MINIMUM DROP FROM BASIN TO SEWER SHALL BE 6".
5. EXPANSION JOINTS ARE REQUIRED IN THE CONSRETE SIDEWALK AREA AT A DISTANCE OF 1'-0" AROUND THE PERIMETER OF THE BASIN.
6. CONCRETE IS TO BE CLASS 40. REBARS GRADE 60.

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

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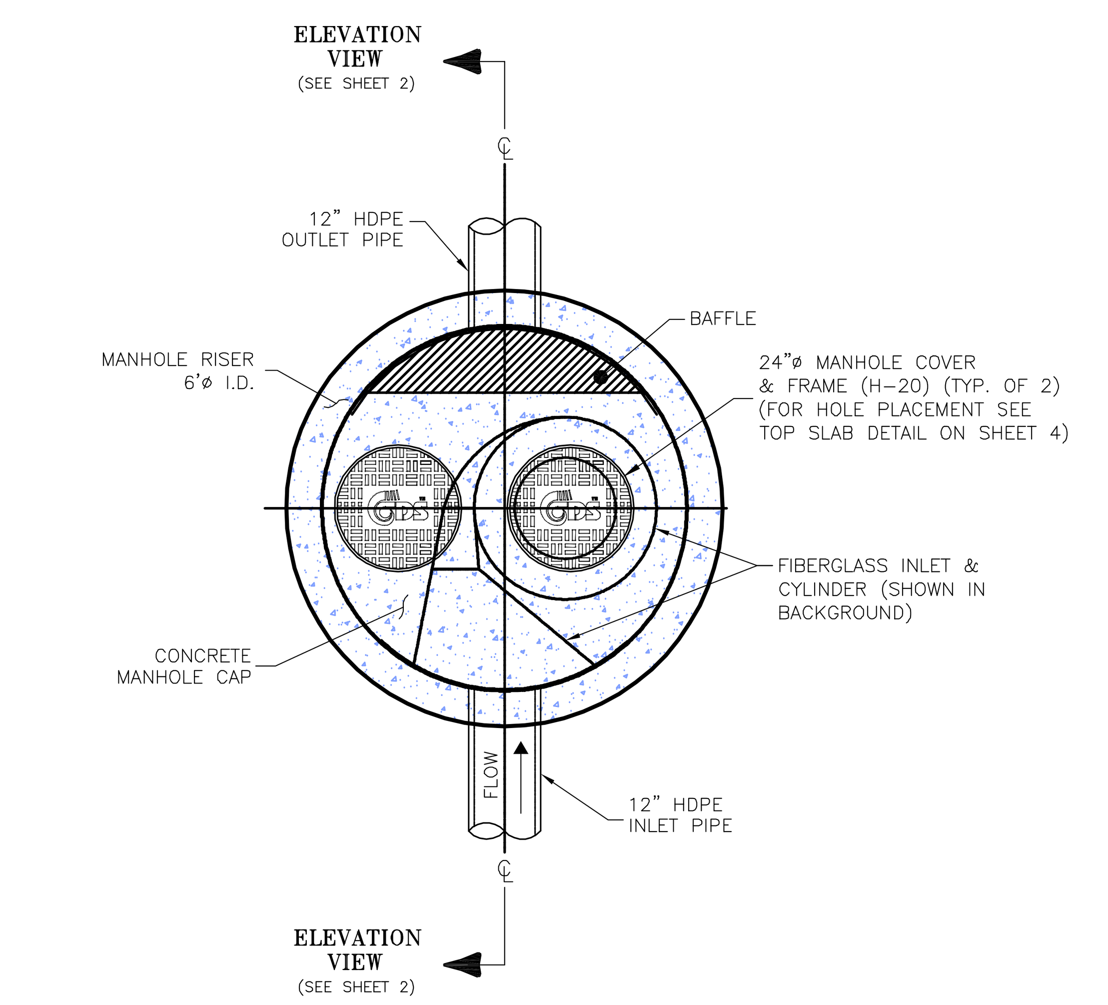
FRITO LAY
DISTRIBUTION CENTER
ADDITIONAL PARKING
BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE
SITE DETAILS

DATE	JOB NO.
6/25/2010	03953.001
SCALE: AS NOTED	B/0
DRAWN: RP	SHEET NO.
CHKD.: ALG	C05

PLAN VIEW

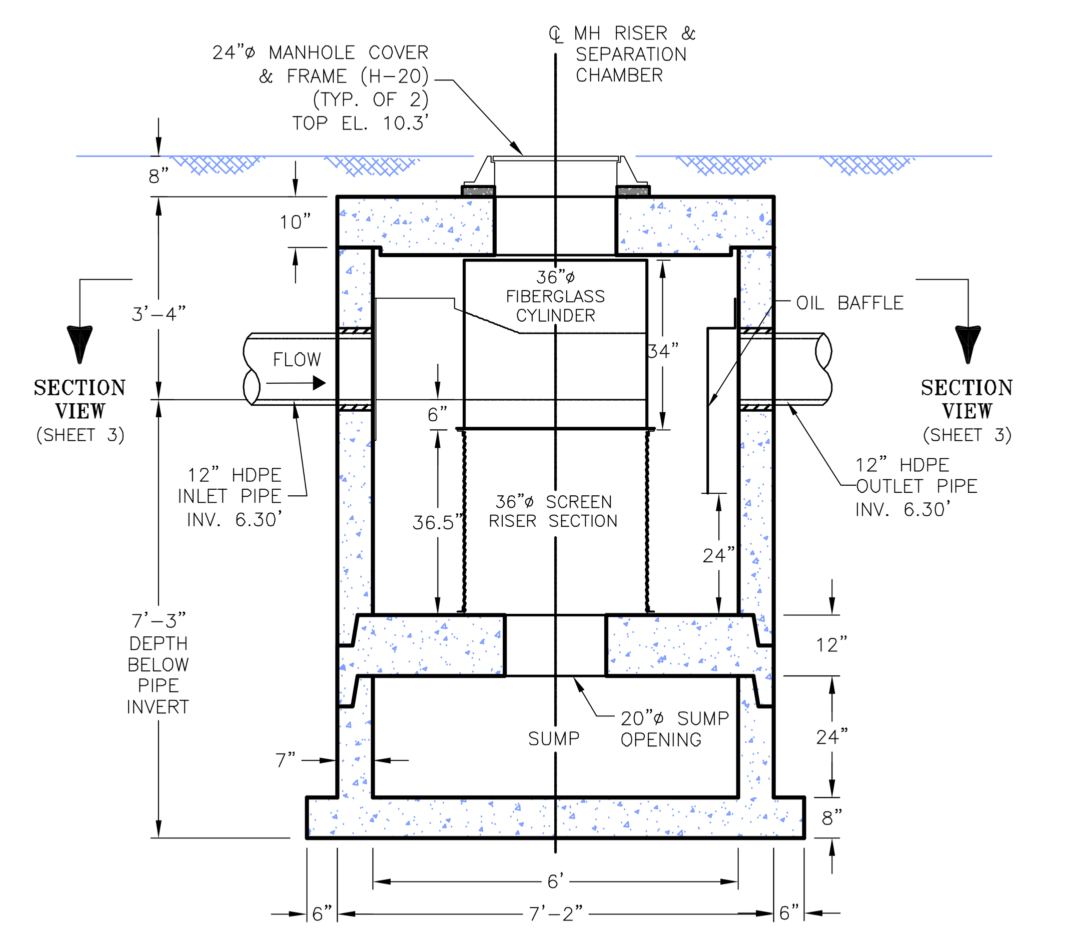


CDS MODEL PMSU30_30 3.2 CFS TREATMENT CAPACITY
STORM WATER TREATMENT UNIT
(RIGHT-HANDED CONFIGURATION)

CDS TECHNOLOGIES	FRITO-LAY BROOKLYN, NEW YORK	JOB# NY-06-022	SCALE 1" = 2.5'
		DATE 3/01/06	SHEET 1
		DRAWN PRB	
		APPROV.	

285 Loud Road, Fairport, New York 14450 (585) 223-3990 www.cdstech.com

ELEVATION VIEW



CDS MODEL PMSU30_30 3.2 CFS TREATMENT CAPACITY
STORM WATER TREATMENT UNIT
(RIGHT-HANDED CONFIGURATION)

CDS TECHNOLOGIES	FRITO-LAY BROOKLYN, NEW YORK	JOB# NY-06-022	SCALE 1" = 2.5'
		DATE 3/01/06	SHEET 2
		DRAWN PRB	
		APPROV.	

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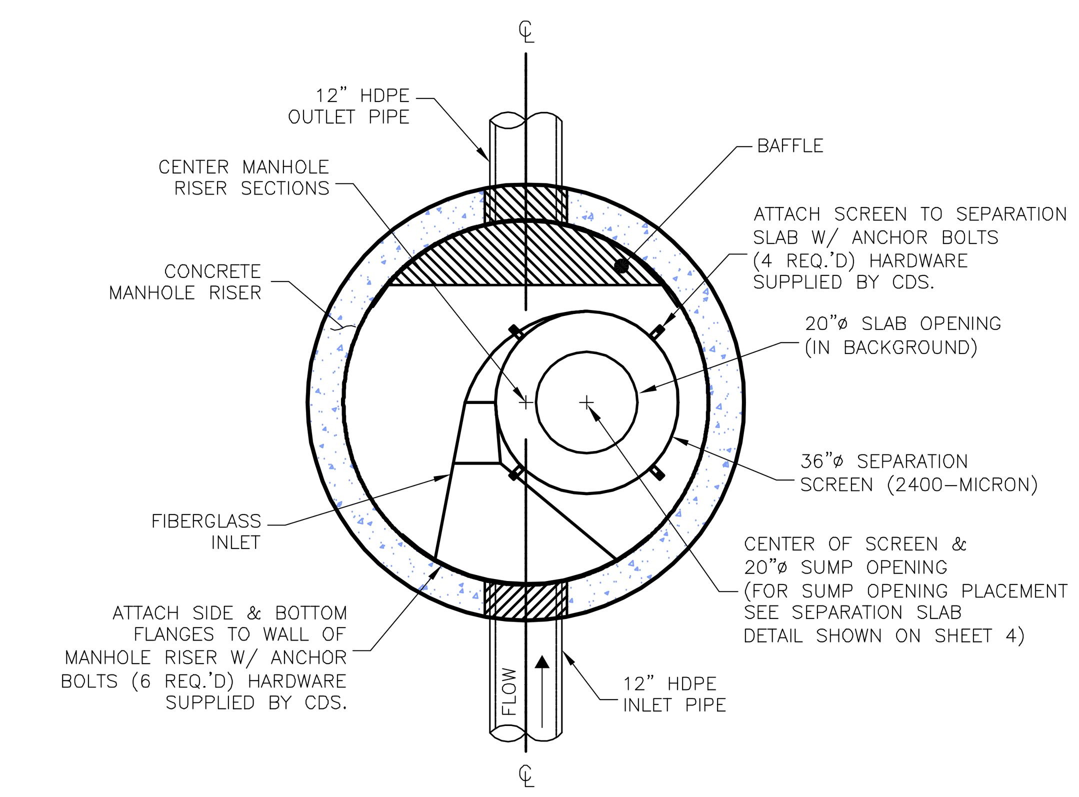
SECTION VIEW



NOTES:

1. ALL CONCRETE COMPONENTS SHALL BE CONSTRUCTED PER ASTM C-478.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.

CDS MODEL PMSU30_30 3.2 CFS TREATMENT CAPACITY
STORM WATER TREATMENT UNIT
(RIGHT-HANDED CONFIGURATION)

CDS TECHNOLOGIES	FRITO-LAY BROOKLYN, NEW YORK	JOB# NY-06-022	SCALE 1" = 2.5'
		DATE 3/01/06	SHEET 3
		DRAWN PRB	
		APPROV.	

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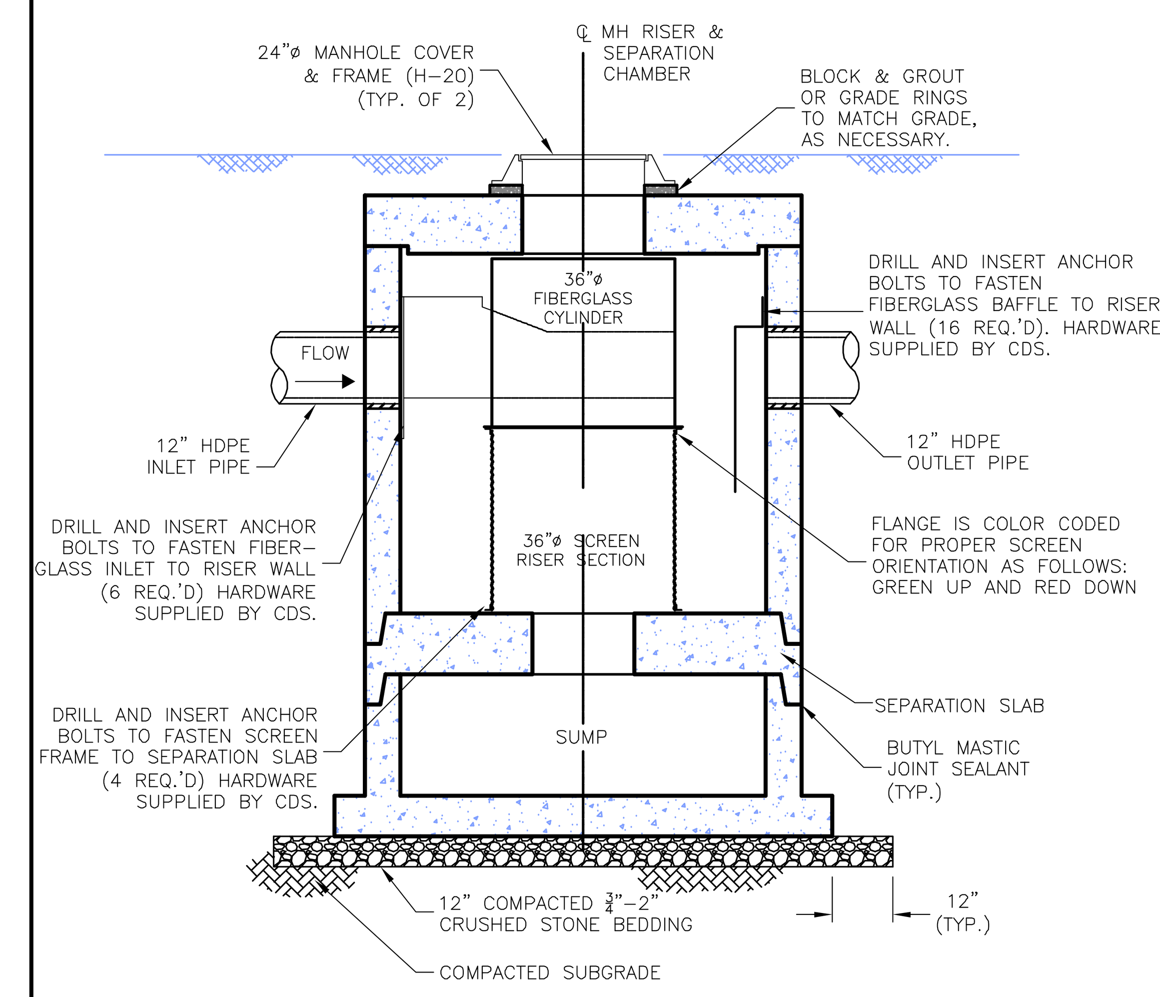
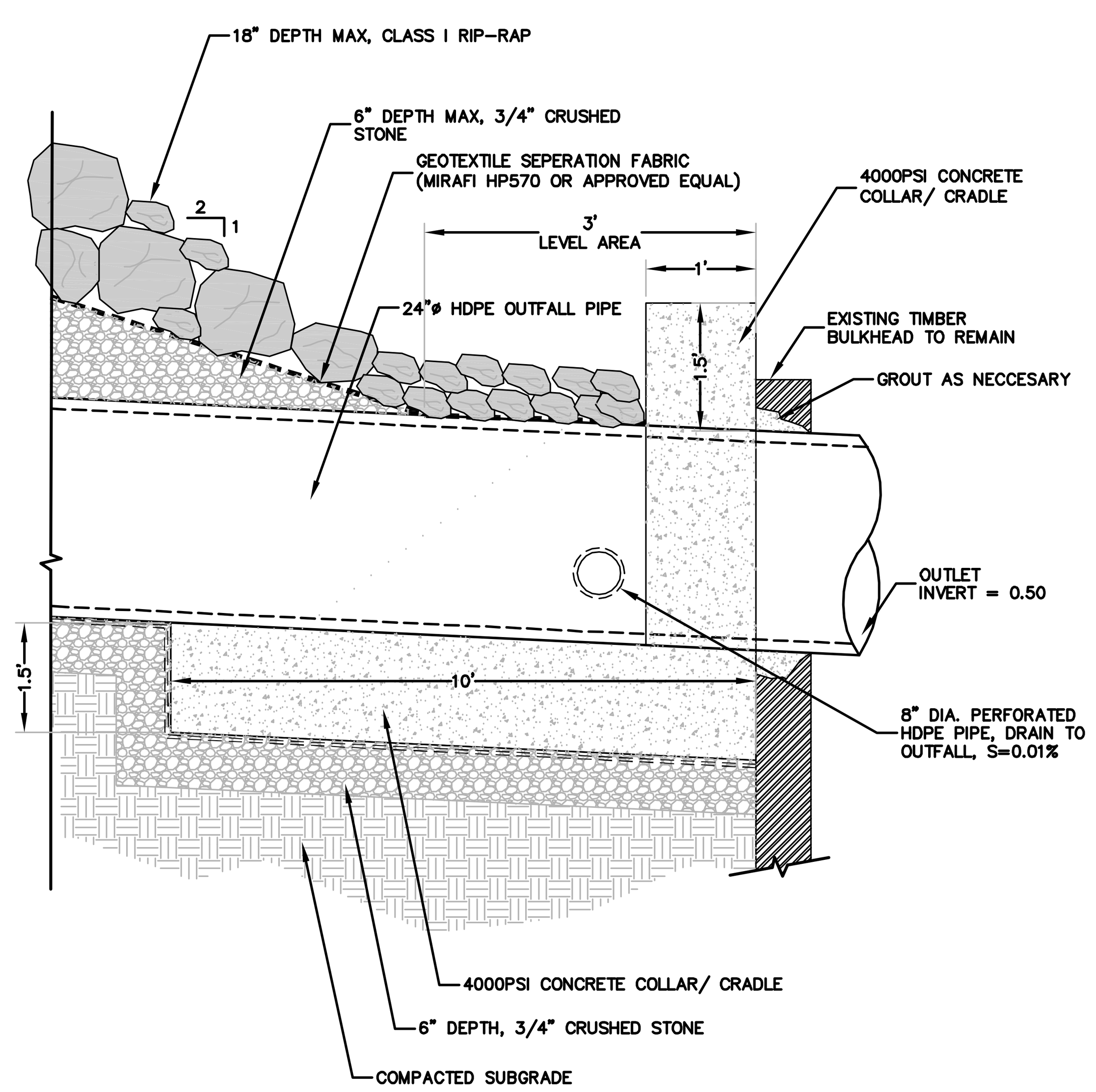
CONSTRUCTION NOTES



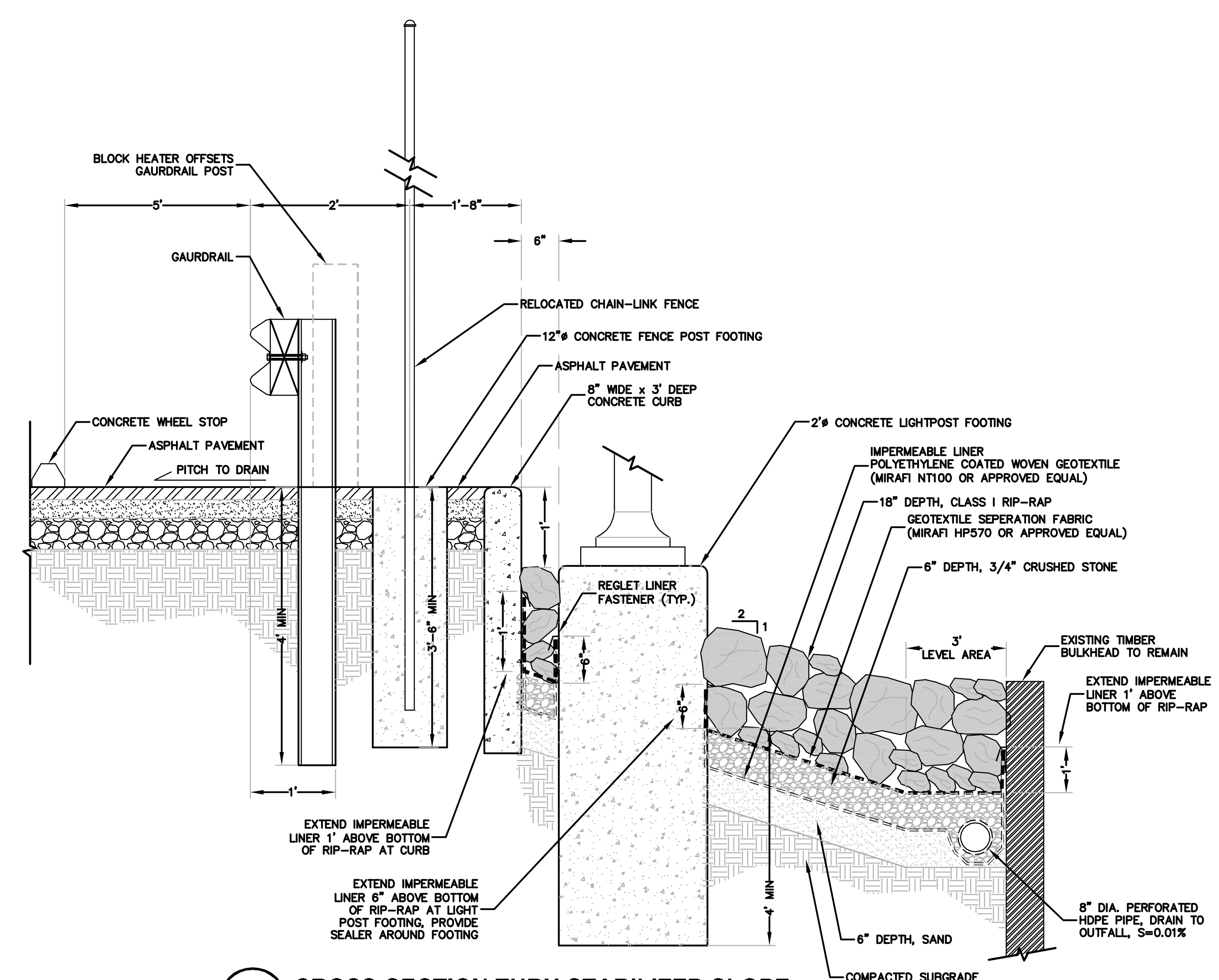
CDS MODEL PMSU30_30 3.2 CFS TREATMENT CAPACITY
STORM WATER TREATMENT UNIT
(RIGHT-HANDED CONFIGURATION)

CDS TECHNOLOGIES	FRITO-LAY BROOKLYN, NEW YORK	JOB# NY-06-022	SCALE 1" = 2.5'
		DATE 3/01/06	SHEET 5
		DRAWN PRB	
		APPROV.	

285 Loud Road, Fairport, New York 14450 (585) 223-3990 www.cdstech.com



1 CROSS-SECTION THRU OUTFALL PIPE
NTS



2 CROSS-SECTION THRU STABILIZED SLOPE
NTS

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION	NO.	DATE	BY	CHK	DESCRIPTION

APPLICANT

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PROJECT TITLE

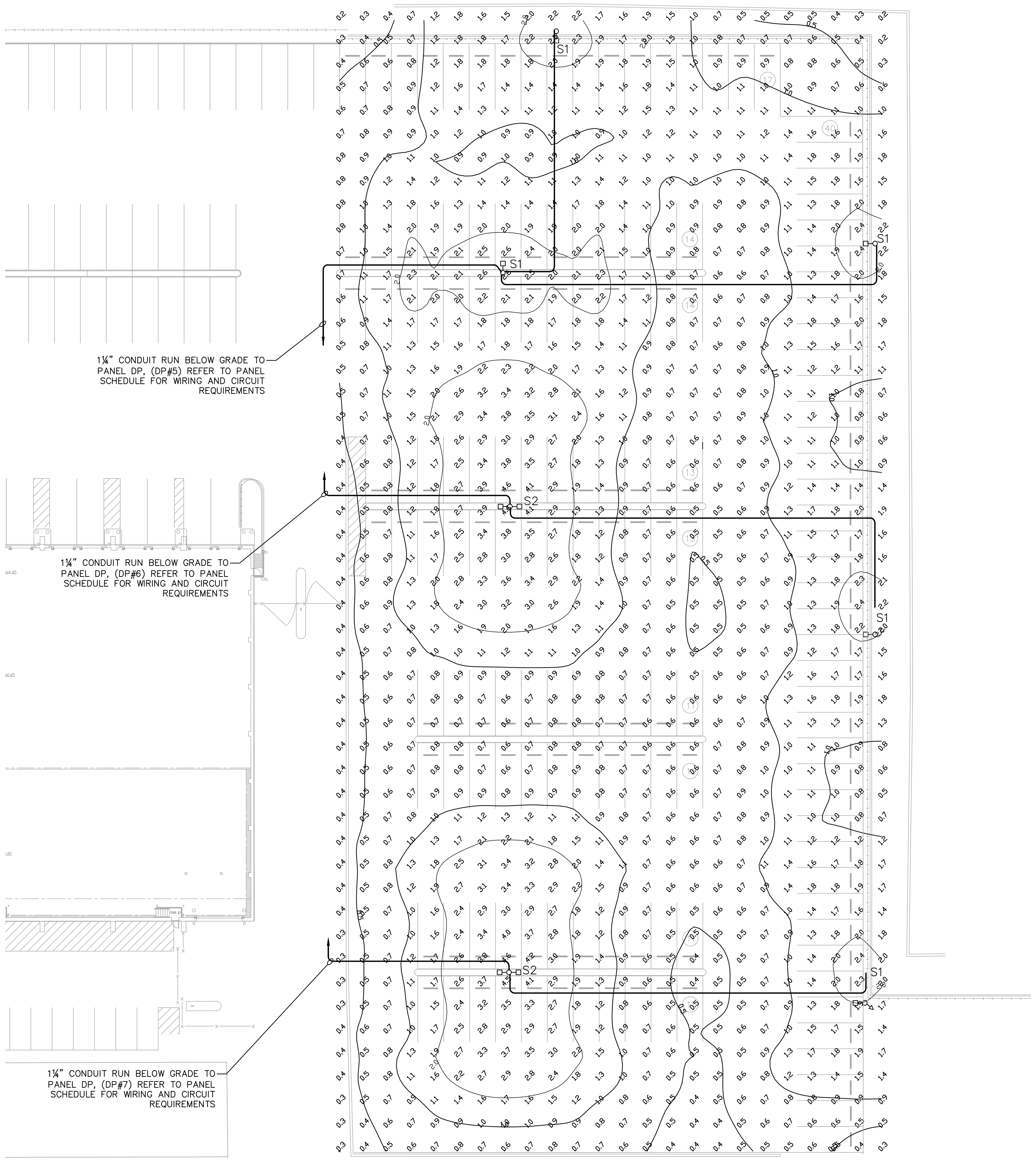
FRITO LAY
DISTRIBUTION CENTER
ADDITIONAL PARKING

BOROUGH OF BROOKLYN ,KINGS COUNTY, NY 11237

SHEET TITLE

SITE DETAILS

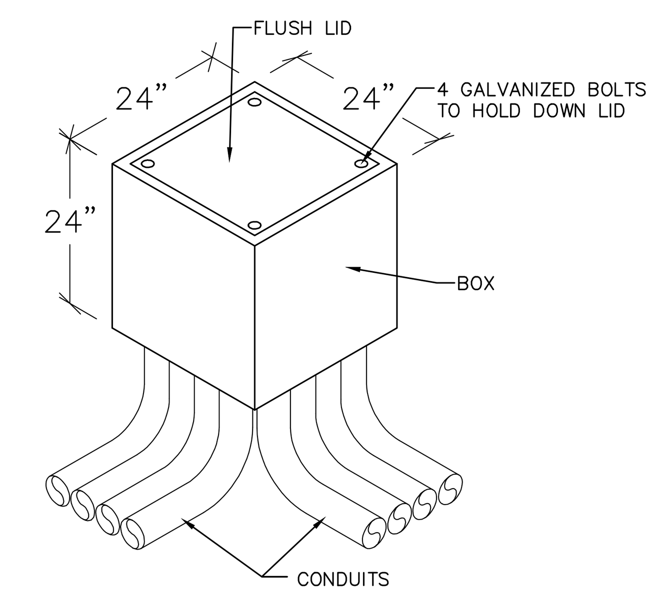
DATE 6/25/2010	JOB NO. 03953.001
SCALE AS NOTED	B/0
DRAWN RP	SHEET NO. C06
CHKD. ALG	



1 SITE PLAN
1/30" = 1'-0"

SITE LIGHTING PHOTOMETRIC SUMMARY

AVERAGE –	1.22 FC
MAXIMUM –	4.64 FC
MINIMUM –	0.16 FC
MAX/MIN –	28.23 FC
AVG/MIN –	7.62 FC



2 SITE JUNCTION BOX DETAIL
NTS

SITE LIGHTING NOTES
1. ALL SITE LIGHTING FIXTURES SHALL BE AS SPECIFIED.
2. ALL WIRING FOR SITE LIGHTING CIRCUITS SHALL BE RUN WITH GROUND, RUN IN 1" PVC 24" MINIMUM BELOW FINAL GRADE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, TRENCHING AND PATCHING OF EXISTING SURFACES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIXTURES, POLES, AND BASES.
5. CONTRACTOR SHALL ENSURE ALL POLE MOUNTED AREA LIGHTING FIXTURE VOLTAGES ARE RATED 208V +/– 10% WITH INDIVIDUAL FUSES.
6. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
7. PROVIDE INTERMEDIATE SITE JUNCTION BOXES, AS REQUIRED. CONTRACTOR TO LOCATE IN FIELD.

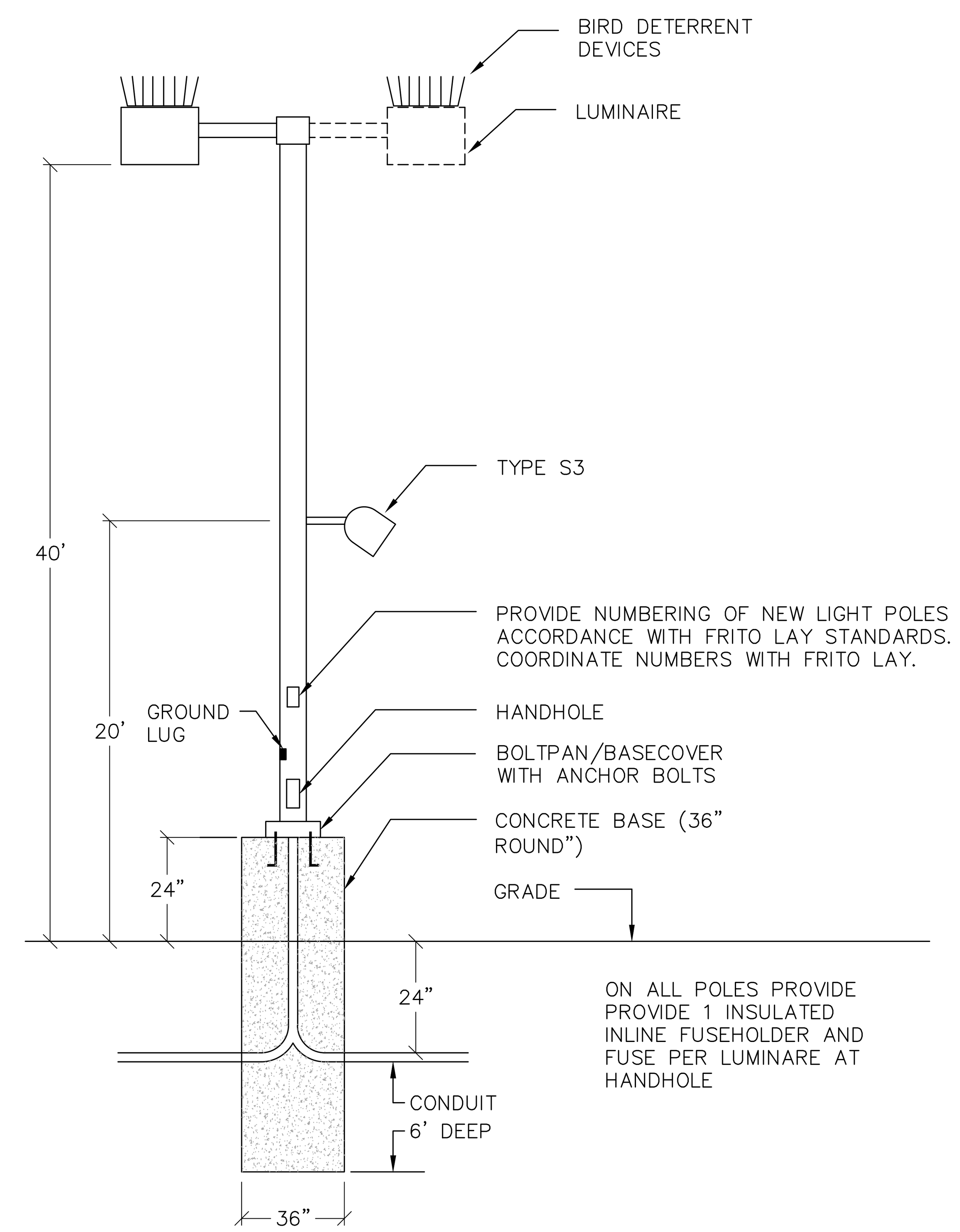
SITE CIRCUITRY TESTING

CONTRACTOR SHALL PROVIDE TEMPORARY POWER SOURCE TO TEST ALL SITE LIGHTING AND RECEPTACLE CIRCUITS & FIXTURES. CONNECTION OF TEMP. POWER SOURCE SHALL BE AT JUNCTION BOXES. CONTRACTOR SHALL PROVIDE CERTIFIED TEST REPORTS FOR CIRCUITS TESTED. CONTRACTOR SHALL CORRECT ALL SHORTS, DAMAGED OR NON–WORKING COMPONENTS. EACH CIRCUIT, SITE LIGHTING SHALL BE ENERGIZED FOR MINIMUM OF TEN (10) HOURS EACH.

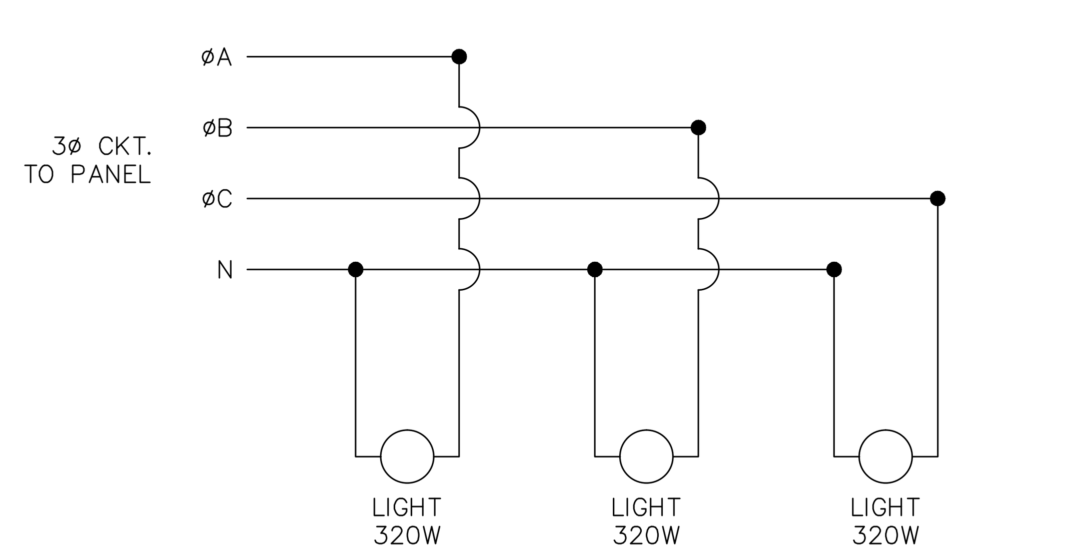
SITE LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	DESCRIPTION	CATALOG NUMBER	LAMPS					REMARKS
				VOLTS	TYPE	#	WATTS	MODEL/COMMENTS	
S1	GARDCO	(1) POLE MOUNTED FIXTURE	EH19–1–VS–320PSMH–208V–BRP	120	PS MH	1	320	BT/ED/E–18	40' ROUND POLE ALUMINUM
S2	GARDCO	(2) POLE MOUNTED FIXTURE	EH19–2–VS–320PSMH–208V–BRP	120	PS MH	1	320	BT/ED/E–18	40' ROUND POLE ALUMINUM
S3	GARDCO	POLE MOUNTED FLOOD LIGHT	EH19–2–VS–320PSMH–208V–BRP	120	PS MH	1	100		MOUNTED @ 20' ON POLE

NOTES
1. FIXTURES, SPECIFICALLY TYPE S1 WHICH ARE LOCATED ALONG THE PERIMETER SHALL BE PROVIDED WITH HOUSE SIDE SHIELDS.
2. ALL FIXTURES SHALL BE PROVIDED WITH BIRD DETERRENT/PROTECTION ON TOP OF FIXTURES.



3 SITE LIGHTING POLE DETAIL
NTS



4 SITE LIGHTING WIRING SCHEMATIC
NTS

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Brian W. Pasechnick, PE
NJ #48111 PA #PE078527
Milton A. Azous, PE
NJ #21057 NY #48388 PA #PE021148E
CT #10684 FL #44942

03.24.11 FINAL REVIEW

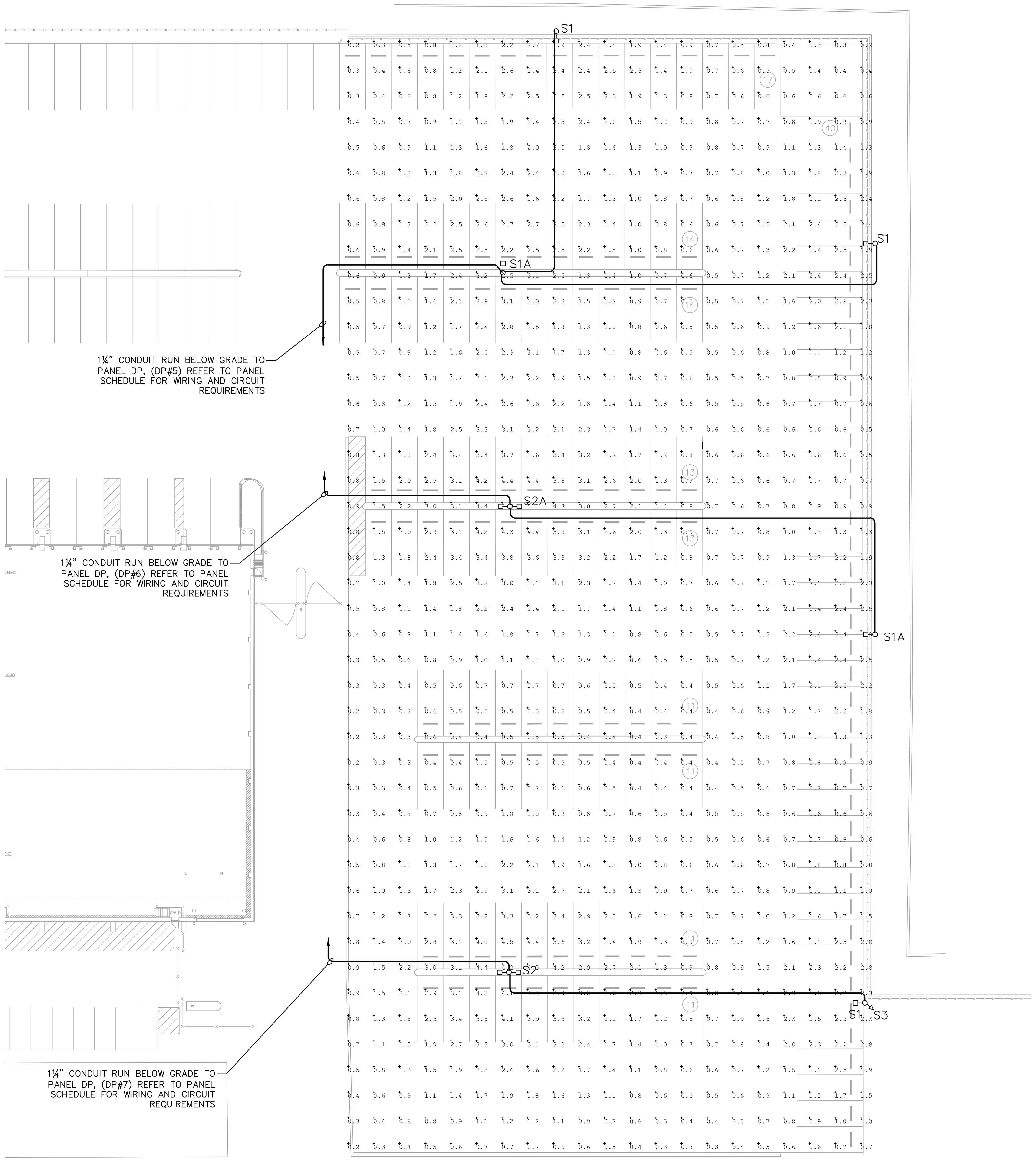
PARKING AREA EXPANSION
FRITO LAY DISTRIBUTION CENTER
222 MORGAN AVENUE BROOKLYN, NY

arcari + iovino ARCHITECTS PC
ONE KATHERINE STREET
LITTLE FERRY, NJ 07643
201 641 0600, FAX 201 641 0626
WWW.AIARCHS.COM
EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

ELECTRICAL
PHOTOMETRIC PLAN AND DETAILS

SCALE: 1/30"=1'-0"
DATE: 03.24.11
FILE:
E.100

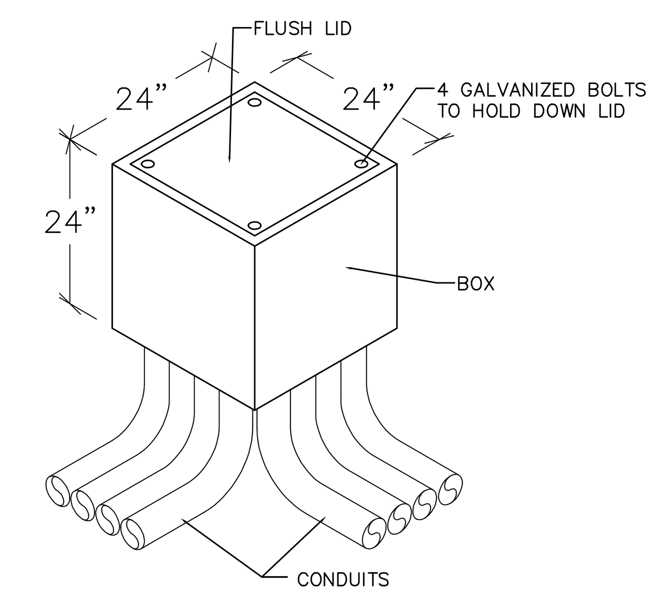
E2011 arcari & iovino ARCHITECTS PC



1 SITE PLAN
1/30" = 1'-0"

SITE LIGHTING PHOTOMETRIC SUMMARY

AVERAGE –	1.40 FC
MAXIMUM –	4.50 FC
MINIMUM –	0.20 FC
MAX/MIN –	7.00 FC
AVG/MIN –	22.5 FC



2 SITE JUNCTION BOX DETAIL
NTS

SITE LIGHTING NOTES

1. ALL SITE LIGHTING FIXTURES SHALL BE AS SPECIFIED.
2. ALL WIRING FOR SITE LIGHTING CIRCUITS SHALL BE RUN WITH GROUND, RUN IN 1" PVC 24" MINIMUM BELOW FINAL GRADE.
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4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIXTURES, POLES, AND BASES.
5. CONTRACTOR SHALL ENSURE ALL POLE MOUNTED AREA LIGHTING FIXTURE VOLTAGES ARE RATED 208V +/– 10% WITH INDIVIDUAL FUSES.
6. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
7. PROVIDE INTERMEDIATE SITE JUNCTION BOXES, AS REQUIRED. CONTRACTOR TO LOCATE IN FIELD.

SITE CIRCUITRY TESTING

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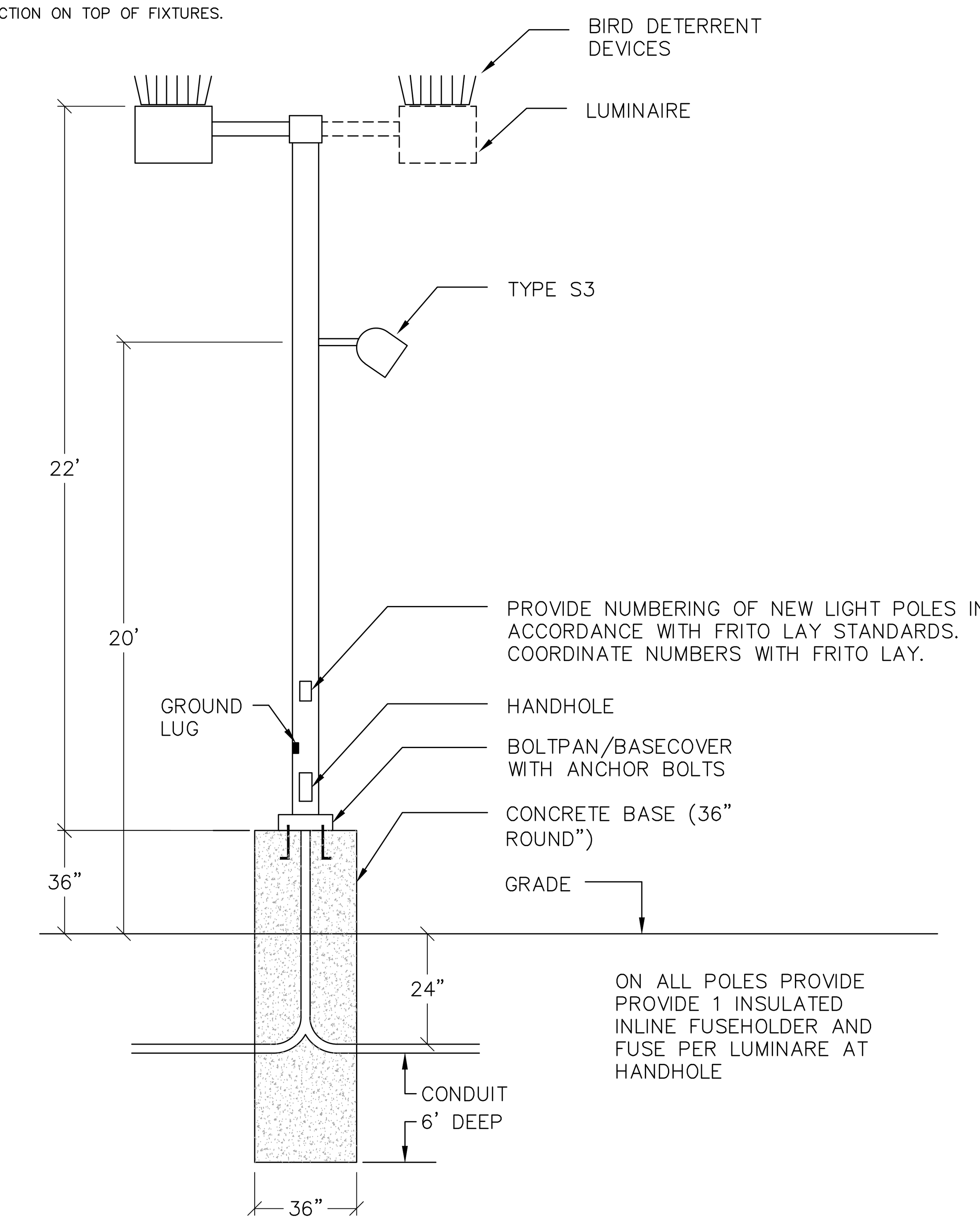
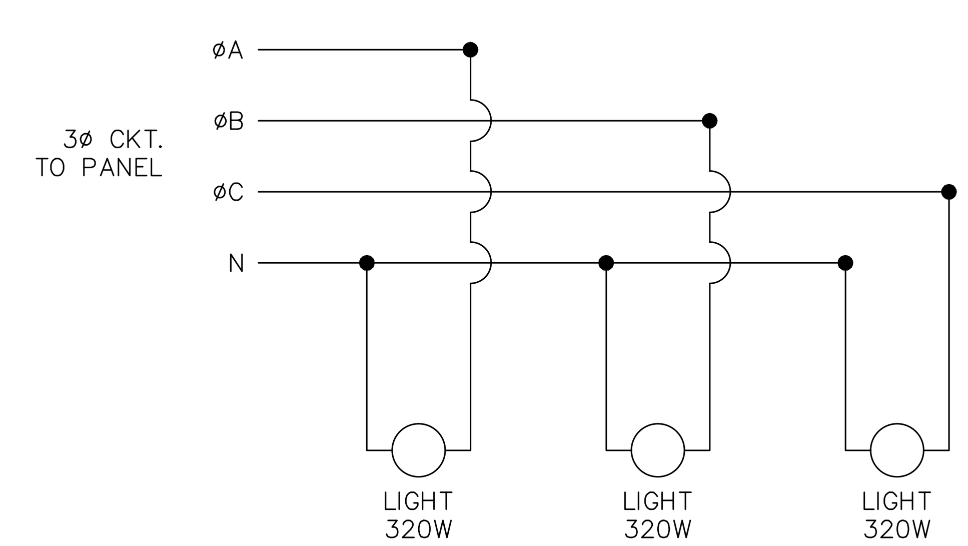
SITE LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	DESCRIPTION	CATALOG NUMBER	LAMPS					REMARKS
				VOLTS	TYPE	#	WATTS	MODEL/COMMENTS	
S1	BETALED	(1) POLE MOUNTED FIXTURE	ARE EDG DA 24 C UL BZ	120V	LED	120	140	6000'K LEDS	22' SQUARE POLE STEEL
S1A	BETALED	(1) POLE MOUNTED FIXTURE INTEGRAL SENSOR	ARE EDG DA 24 C UL BZ TL3	120V	LED	120	140	6000'K LEDS	22' SQUARE POLE STEEL
S2	BETALED	(2) POLE MOUNTED FIXTURE	STR-LWY-5M-HT-12-D-UL-SV-700 (120LED)	120V	LED	120	140	6000'K LEDS	22' SQUARE POLE STEEL
S2A	BETALED	(2) POLE MOUNTED FIXTURE INTEGRAL SENSOR	STR-LWY-5M-HT-12-D-UL-SV-700 (120LED)-TL3	120V	LED	120	140	6000'K LEDS	22' SQUARE POLE STEEL
S3	BETALED	POLE MOUNTED FLOOD LIGHT		120	LED			6000'K LEDS	MOUNTED @ 20' ON POLE

NOTES
1. FIXTURES, SPECIFICALLY TYPE S1 WHICH ARE LOCATED ALONG THE PERIMETER SHALL BE PROVIDED WITH HOUSE SIDE SHIELDS.
2. ALL FIXTURES SHALL BE PROVIDED WITH BIRD DETERRENT/PROTECTION ON TOP OF FIXTURES.



3 SITE LIGHTING POLE DETAIL
NTS



4 SITE LIGHTING WIRING SCHEMATIC
NTS

Frito Lay
food for the fun of it!

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Milton A. Azous, PE
NJ #21057 NY #48388 PA #PE021148E
CT #10684 FL #44942

03.24.11 FINAL REVIEW

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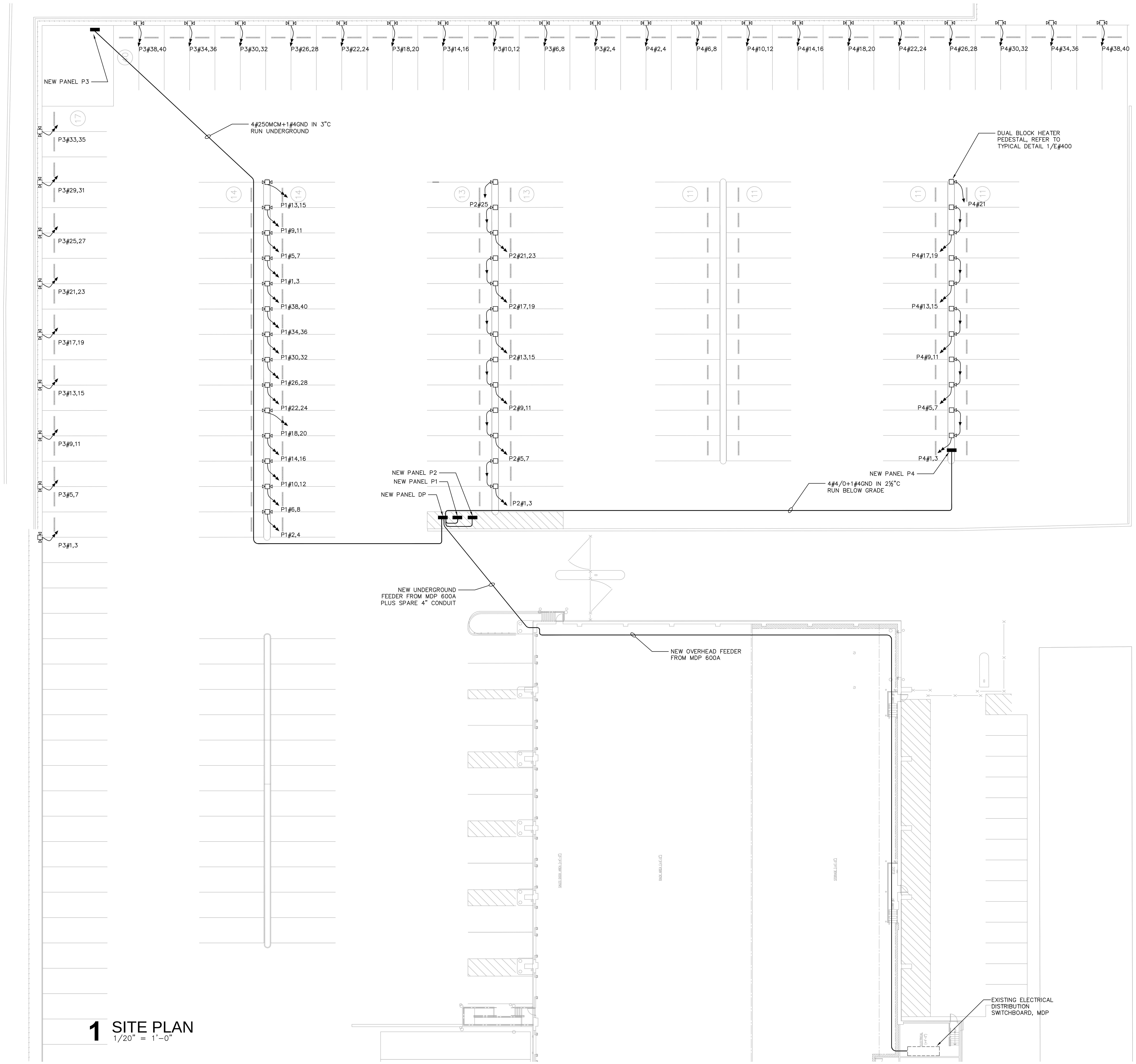
WWW.AIARCHS.COM
EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

ELECTRICAL
PHOTOMETRIC PLAN AND DETAILS
LED ALTERNATE

SCALE: 1/30"=1'-0"
DATE: 03.24.11
FILE:
E-100 ALT



1 SITE PLAN
1/20" = 1'-0"

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WWW.AIARCHS.COM

EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

ELECTRICAL
SITE RECEPTACLE PLAN

SCALE: AS SHOWN
DATE: 03.24.11
FILE:

E.200

E2011 arcari & iovino ARCHITECTS PC

EXISTING PANEL MDP

120 / 208 VOLTS 3 ø 4 WIRE	SWITCH BOARD MOUNTING	3000 AMP 3 POLE ☐ MCB ■ MLO	INTEGRATED EQUIPMENT RATING EXIST. A. SYM.			
CKT No.	LOAD SERVED	POLES	FRAME	TRIP	LOAD	FEEDER
1	BH2	3	225A	175A	EXIST.	EXIST.
2	BH3	3	225A	175A	EXIST.	EXIST.
3	BH1	3	225A	175A	EXIST.	EXIST.
4	PANEL PPF	3	225A	150A	EXIST.	EXIST.
5	SPARE	3	225A	150A	–	–
6	PANEL PPB	3	225A	225A	EXIST.	EXIST.
7	PANEL LPA	3	400A	400A	EXIST.	EXIST.
8	PANEL PPA	3	400A	400A	EXIST.	EXIST.
9	LARGE TRAILER	3	400A	200A	EXIST.	EXIST.
10	BLANK	3	400A	–	–	–
11	PANEL F	3	100A	100A	EXIST.	EXIST.
12	BATHROOM PANEL	2	100A	100A	EXIST.	EXIST.
13	SMALL TRAILER 1	2	100A	100A	EXIST.	EXIST.
14	SMALL TRAILER 2	2	100A	100A	EXIST.	EXIST.
15	NEW LOT OUTLETS	3	600A	600A	204KVA	(2) SETS OF 4#350MCM + 1#1GND – 3 1/2"C

NEW PANEL DP

120 / 208 VOLTS 3 ø 4 WIRE	NEMA 3R MOUNTING	600 AMP 3 POLE ☐ MCB ■ MLO	INTEGRATED EQUIPMENT RATING 22,000 A. SYM.			
CKT No.	LOAD SERVED	POLES	FRAME	TRIP	LOAD	FEEDER
1	PANEL P1	3	225A	200A	32KVA	4#3/0+1#6GND–2"C
2	PANEL P2	3	225A	200A	15KVA	4#3/0+1#6GND–2"C
3	PANLE P3	3	225A	200A	43KVA	4#250MCM+1#4GND–3"C
4	PANEL P4	3	225A	200A	35KVA	4#4/0+1#4GND–2½"C
5	LIGHTING	3	100A	20A	1.2KVA	4#8+1#8GND–1¼"C
6	LIGHTING	3	100A	20A	1.2KVA	4#8+1#8GND–1¼"C
7	LIGHTING	3	100A	20A	1.2KVA	4#8+1#8GND–1¼"C
8	SPARE	3	225A	200A	–	–

LOAD CALC.
PEDESTAL HEATERS – 125KVA
LIGHTING – 4KVA
FUTURE CHARGERS (5@15KVA) – 75KVA
TOTAL 204KVA

PANEL P1

120 / 208 VOLTS 3 ø 4 WIRE+GND | NEMA 3R MOUNTING | 200 AMP 3 POLE ☐ MCB ■ MLO | INTEGRATED EQUIPMENT RATING 22,000 A. SYM.

KVA	LOAD SERVED	NO.	OCP	øA øB øC	OCP	NO.	LOAD SERVED	KVA
1.4	PEDESTAL OUTLET	1	20A		20A	2	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	3	20A		20A	4	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	5	20A		20A	6	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	7	20A		20A	8	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	9	20A		20A	10	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	11	20A		20A	12	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	13	20A		20A	14	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	15	20A		20A	16	PEDESTAL OUTLET	1.4
–	SPARE	17	20A		20A	18	PEDESTAL OUTLET	1.4
–	SPARE	19	20A		20A	20	PEDESTAL OUTLET	1.4
–	SPARE	21	20A		20A	22	PEDESTAL OUTLET	1.4
–	SPARE	23	20A		20A	24	PEDESTAL OUTLET	1.4
–	SPARE	25	20A		20A	26	PEDESTAL OUTLET	1.4
–	SPARE	27	20A		20A	28	PEDESTAL OUTLET	1.4
–	SPARE	29	20A		20A	30	PEDESTAL OUTLET	1.4
–	SPARE	31	20A		20A	32	PEDESTAL OUTLET	1.4
–	SPARE	33	20A		20A	34	PEDESTAL OUTLET	1.4
–	SPARE	35	20A		20A	36	PEDESTAL OUTLET	1.4
–	SPARE	37	20A		20A	38	PEDESTAL OUTLET	1.4
–	SPARE	39	20A		20A	40	PEDESTAL OUTLET	1.4
–	SPARE	41	20A		20A	42	SPARE	–

LOAD CALCULATION
PEDESTAL HEATERS 28 x 1.4KVA = 40KVA x 80% = 32KVA

PANEL P2

120 / 208 VOLTS 3 ø 4 WIRE+GND | NEMA 3R MOUNTING | 200 AMP 3 POLE ☐ MCB ■ MLO | INTEGRATED EQUIPMENT RATING 22,000 A. SYM.

KVA	LOAD SERVED	NO.	OCP	øA øB øC	OCP	NO.	LOAD SERVED	KVA
1.4	PEDESTAL OUTLET	1	20A		20A	2	SPARE	–
1.4	PEDESTAL OUTLET	3	20A		20A	4	SPARE	–
1.4	PEDESTAL OUTLET	5	20A		20A	6	SPARE	–
1.4	PEDESTAL OUTLET	7	20A		20A	8	SPARE	–
1.4	PEDESTAL OUTLET	9	20A		20A	10	SPARE	–
1.4	PEDESTAL OUTLET	11	20A		20A	12	SPARE	–
1.4	PEDESTAL OUTLET	13	20A		20A	14	SPARE	–
1.4	PEDESTAL OUTLET	15	20A		20A	16	SPARE	–
1.4	PEDESTAL OUTLET	17	20A		20A	18	SPARE	–
1.4	PEDESTAL OUTLET	19	20A		20A	20	SPARE	–
1.4	PEDESTAL OUTLET	21	20A		20A	22	SPARE	–
1.4	PEDESTAL OUTLET	23	20A		20A	24	SPARE	–
1.4	PEDESTAL OUTLET	25	20A		20A	26	SPARE	–
–	SPARE	27	20A		20A	28	SPARE	–
–	SPARE	29	20A		20A	30	SPARE	–
–	SPARE	31	20A		20A	32	SPARE	–
–	SPARE	33	20A		20A	34	SPARE	–
–	SPARE	35	20A		20A	36	SPARE	–
–	SPARE	37	20A		20A	38	SPARE	–
–	SPARE	39	20A		20A	40	SPARE	–
–	SPARE	41	20A		20A	42	SPARE	–

LOAD CALCULATION
PEDESTAL HEATERS 13 x 1.4KVA = 19KVA x 80% = 15KVA

PANEL P3

120 / 208 VOLTS 3 ø 4 WIRE+GND | NEMA 3R MOUNTING | 200 AMP 3 POLE ☐ MCB ■ MLO | INTEGRATED EQUIPMENT RATING 22,000 A. SYM.

KVA	LOAD SERVED	NO.	OCP	øA øB øC	OCP	NO.	LOAD SERVED	KVA
1.4	PEDESTAL OUTLET	1	20A		20A	2	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	3	20A		20A	4	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	5	20A		20A	6	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	7	20A		20A	8	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	9	20A		20A	10	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	11	20A		20A	12	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	13	20A		20A	14	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	15	20A		20A	16	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	17	20A		20A	18	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	19	20A		20A	20	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	21	20A		20A	22	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	23	20A		20A	24	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	25	20A		20A	26	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	27	20A		20A	28	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	29	20A		20A	30	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	31	20A		20A	32	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	33	20A		20A	34	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	35	20A		20A	36	PEDESTAL OUTLET	1.4
–	SPARE	37	20A		20A	38	PEDESTAL OUTLET	1.4
–	SPARE	39	20A		20A	40	PEDESTAL OUTLET	1.4
–	SPARE	41	20A		20A	42	SPARE	–

LOAD CALCULATION
PEDESTAL HEATERS 38 x 1.4KVA = 53KVA x 80% = 43KVA

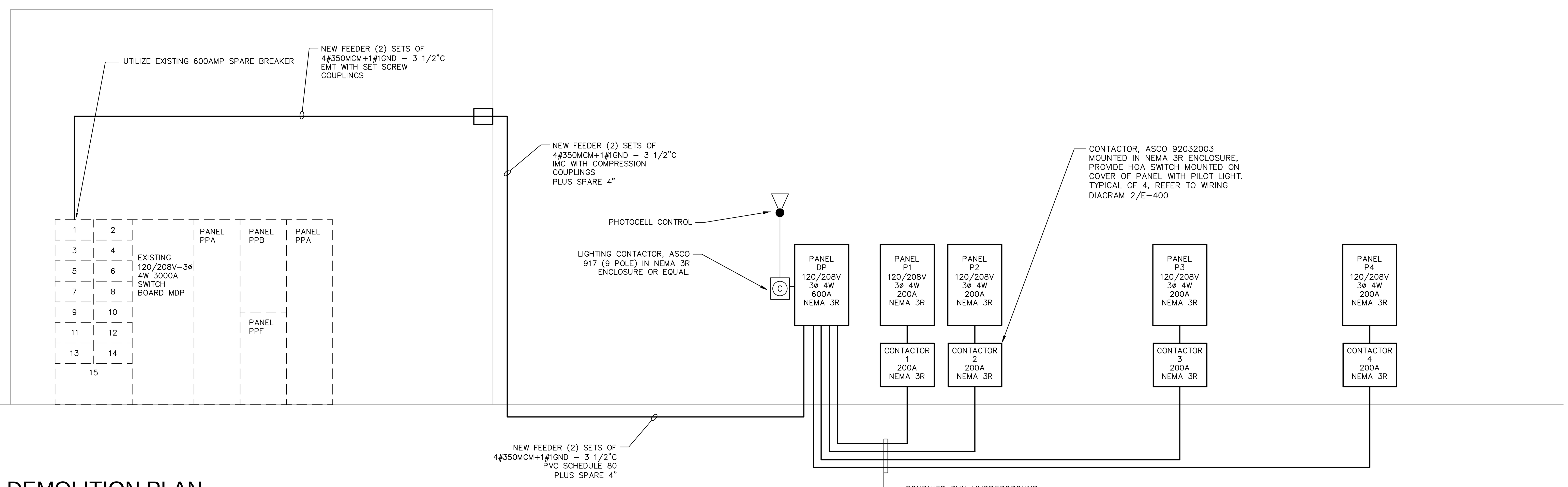
PANEL P4

120 / 208 VOLTS 3 ø 4 WIRE+GND | NEMA 3R MOUNTING | 200 AMP 3 POLE ☐ MCB ■ MLO | INTEGRATED EQUIPMENT RATING 22,000 A. SYM.

KVA	LOAD SERVED	NO.	OCP	øA øB øC	OCP	NO.	LOAD SERVED	KVA
1.4	PEDESTAL OUTLET	1	20A		20A	2	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	3	20A		20A	4	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	5	20A		20A	6	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	7	20A		20A	8	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	9	20A		20A	10	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	11	20A		20A	12	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	13	20A		20A	14	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	15	20A		20A	16	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	17	20A		20A	18	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	19	20A		20A	20	PEDESTAL OUTLET	1.4
1.4	PEDESTAL OUTLET	21	20A		20A	22	PEDESTAL OUTLET	1.4
–	SPARE	23	20A		20A	24	PEDESTAL OUTLET	1.4
–	SPARE	25	20A		20A	26	PEDESTAL OUTLET	1.4
–	SPARE	27	20A		20A	28	PEDESTAL OUTLET	1.4
–	SPARE	29	20A		20A	30	PEDESTAL OUTLET	1.4
–	SPARE	31	20A		20A	32	PEDESTAL OUTLET	1.4
–	SPARE	33	20A		20A	34	PEDESTAL OUTLET	1.4
–	SPARE	35	20A		20A	36	PEDESTAL OUTLET	1.4
–	SPARE	37	20A		20A	38	PEDESTAL OUTLET	1.4
–	SPARE	39	20A		20A	40	PEDESTAL OUTLET	1.4
–	SPARE	41	20A		20A	42	SPARE	–

LOAD CALCULATION
PEDESTAL HEATERS 31 x 1.4KVA = 44KVA x 80% = 355KVA

NOTE: ALL PEDESTAL OUTLETS SHALL BE RUN WITH SEPARATE NEUTRAL CONDUCTORS.



1 DEMOLITION PLAN
1"=30'–0"

RISER DIAGRAM
N.T.S.

Frito Lay
food for the fun of it!

Omdex Incorporated Consulting Engineers
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NJ #21057 NY #48388 PA #PE021148E
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03.24.11 FINAL REVIEW

PARKING AREA EXPANSION
FRITO LAY DISTRIBUTION CENTER
222 MORGAN AVENUE BROOKLYN, NY

arcari + iovino ARCHITECTS PC
ONE KATHERINE STREET
LITTLE FERRY, NJ 07643
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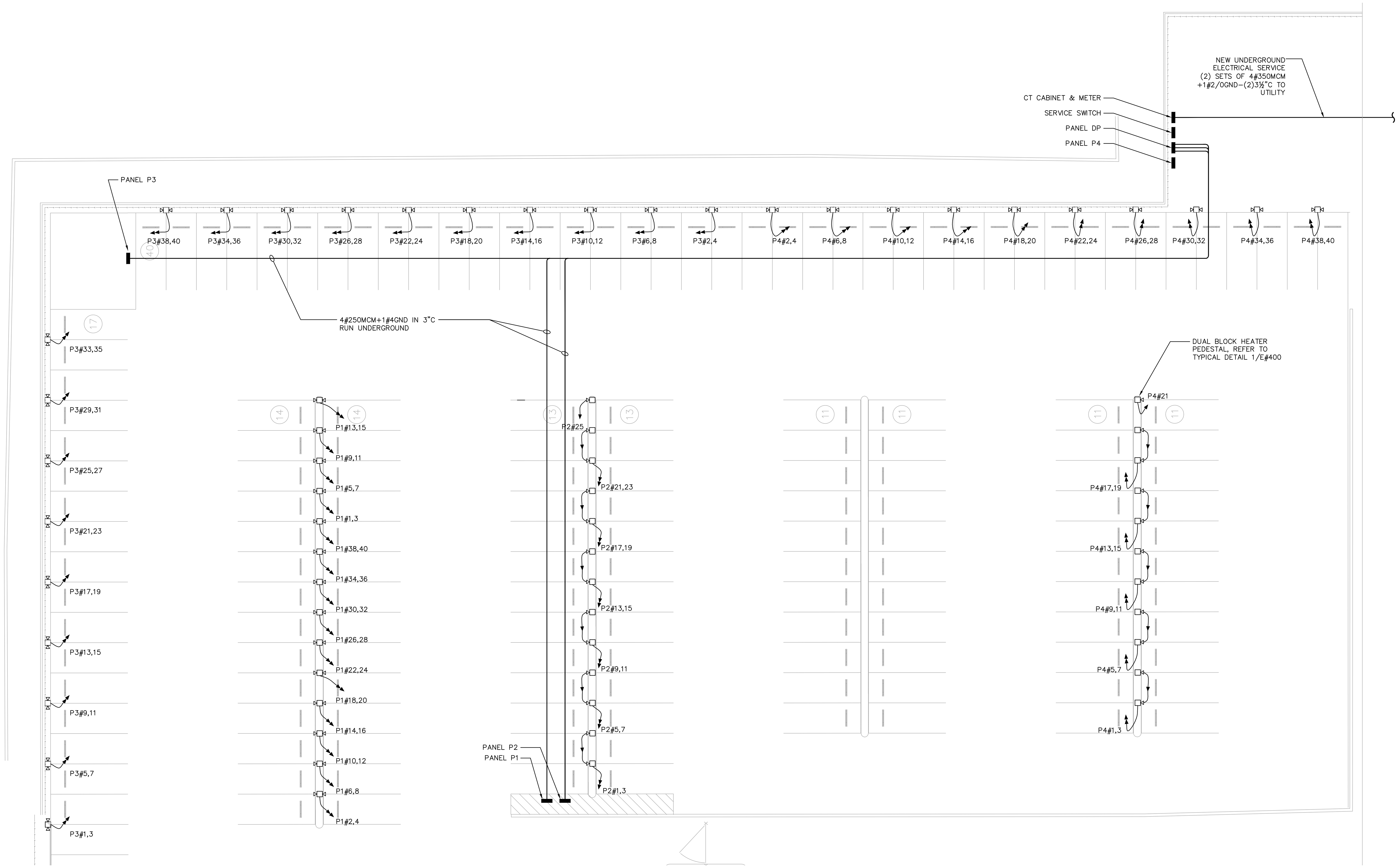
WWW.AIARCHS.COM

EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

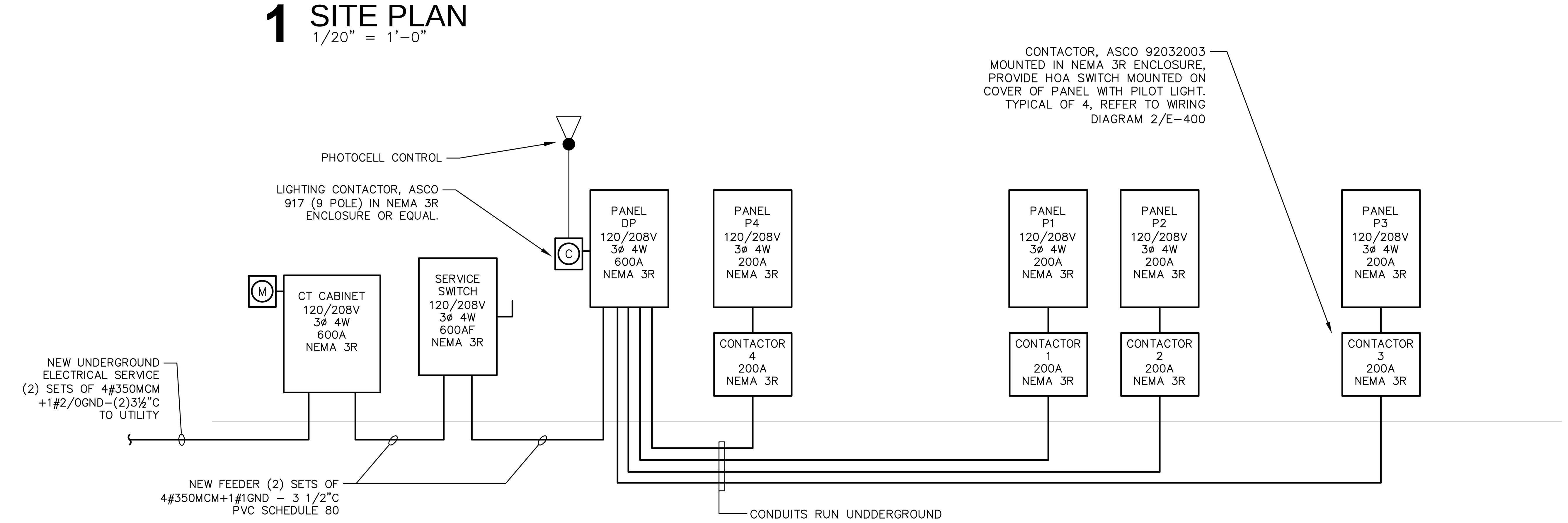
ELECTRICAL
RISER DIAGRAM AND
PANEL SCHEDULES

SCALE: NONE	E.300
DATE: 03.24.11	
FILE:	

É2011 arcari & iovino ARCHITECTS PC



1 SITE PLAN
1/20" = 1'-0"



RISER DIAGRAM
N.T.S.

NEW PANEL DP (ALT)

120 / 208 VOLTS 3 ø 4 WIRE | NEMA 3R MOUNTING | 600 AMP 3 POLE ☐ MCB ■ MLO | INTEGRATED EQUIPMENT RATING 22,000 A. SYM.

CKT No.	LOAD SERVED	POLES	FRAME	TRIP	LOAD	FEEDER
1	PANEL P1	3	225A	200A	32KVA	4#250MCM+1#4GND-3"C
2	PANEL P2	3	225A	200A	15KVA	4#250MCM+1#4GND-3"C
3	PANLE P3	3	225A	200A	43KVA	4#250MCM+1#4GND-3"C
4	PANEL P4	3	225A	200A	35KVA	4#3/0+1#6GND-2"C
5	LIGHTING	3	225A	20A	1.2KVA	4#8+1#8GND-1¼"C
6	LIGHTING	3	225A	20A	1.2KVA	4#8+1#8GND-1¼"C
7	LIGHTING	3	225A	20A	1.2KVA	4#8+1#8GND-1¼"C
8	SPARE	3	225A	225A	–	–

LOAD CALC.
PEDESTAL HEATERS – 125KVA
LIGHTING – 4KVA
FUTURE CHARGERS (5@15KVA) – 75KVA
TOTAL 204KVA

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03.24.11 FINAL REVIEW

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FRITO LAY DISTRIBUTION CENTER

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arcari + iovino ARCHITECTS PC
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EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

ELECTRICAL (ALTERNATE)
RISER DIAGRAM AND
SITE PLAN

SCALE: AS NOTED
DATE: 03.24.11
FILE:

E.300 ALT

E2011 arcari & iovino ARCHITECTS PC

SITE LIGHTING ELECTRICAL WORK

4.01 GENERAL

A. Sitework includes providing of all material and labor for underground conduit and wire complete. Accepting delivery of light poles, luminaires and lamps, storing, protecting, installing, connection, lamping, testing, adjusting and repairing all poles and luminaires.

B. Manholes, handholes and light pole bases and similar underground structures are included as well as all necessary coordination with all other utilities.

C. Provide all required work, hardware, excavation and backfill associated with site electrical work.

4.02 SITE LIGHTING

A. Provide complete underground conduit, cable and associated structures, and make all final connections.

B. Furnish and install all lighting equipment, accept delivery rejecting all damaged or faulty equipment. Unload, store and protect all undamaged items, making good any later damaged and/or stolen parts. Contractor shall furnish, install and coordinate location of pole bases and anchor bolts. Base bolt covers and all exposed hardware will be pre–painted with enamel. Obtain matching paint from supplier of poles. Contractor is responsible for touch–up painting of any marred, surfaces, particularly after rigging into place.

C. Provide anchor bolts, bolt template and orientation information, (and checking of same), and concrete base. Verify bolt height information as well. Note orientation shown on site electrical plan.

D. Contractor shall lamp and pretest to insure operation, rig into place and install within 1" of plumb, at top, in both directions. Make all final connections, final tests, repairs, adjustments etc. and guarantee installation.

E. Install 300# test nylon rope in all empty conduit.

F. Provide anchor bolts, splice boxes, and conduits to cast in place concrete Contractor. Coordinate in detail to assure proper installation and fit with light poles.

4.03 UNDERGROUND CONDUIT WORK

A. Trenches for ducts may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of road patrols or graders shall not be used to excavate the trench. The Contractor shall ascertain the type of soil to be excavated before bidding.

B. Unless otherwise shown, PVC ducts for direct burial shall be installed so that tops of ducts are 24 inches below grade unless concrete encased. Minimum Schedule 40 rating. Where ducts pass through embankment in pavement areas, the embankment shall first be constructed to its full depth, and then re–excavated as required for the installation of the duct, and compacted to original densities without the use of heavy grading equipment.

C. Trenches for non–encased PVC duct lines shall be not less than 6 inches nor more than 12 inches wide, and the trench for 2 or more ducts installed at the same level shall be proportionately wider. Trench bottoms for ducts without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the duct along its entire length. PVC conduit, without concrete encasements, is permitted where installed 24" or more below grade.

D. A layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the duct. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4–inch sieve. The bedding material shall be tamped until firm.

E. When two or more ducts are installed in the same trench without concrete encasement, they shall be spaced not less than 2 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Separators shall be placed 5'–0" on centers, and shall be saddle type, non–corrosive, specifically manufactured for the purpose.

F. Trenches shall be opened the complete length before duct is installed so that if any obstructions are encountered, proper provisions can be made to avoid them.

G. Trenches shall not be excessively wet and shall not contain pools of water during backfilling operations. The electrical Contractor is responsible for all draining and pumping of his excavation.

H. The trench shall be completely backfilled and tamped level with the adjacent surface, except that, when sod or topsoil is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, or topsoil layer, with proper allowance for settlement.

I. For ducts without concrete envelope, 8 inches of sand, soft earth, or other fine fill (Loose measurement) shall be placed around the ducts and carefully tamped around and over them with hand tampers. The remaining trench may be filled with regular run of excavated material and thoroughly tamped to original densities without the use of heavy grading equipment.

J. Where trenches cross existing paved or other finished areas, disturbed or damaged existing surfaces shall be restored to their original condition with new pavement or other finish of equivalent characteristics and thickness as the existing surfaces. In general however, the affected surfaces are in an area which will be replaced by new construction under other sections of these specifications.

4.04 CONDUIT AND RACEWAY SYSTEMS – GENERAL

A. Furnish and install all conduits and other raceways, fittings, boxes, and other component parts of the conduit systems indicated on the drawing, herein specified or required for the completion and proper operation of the systems specified or indicated.

B. All alterations, additions, removals, replacements, etc., of conduits and other related equipment of the conduit systems shall be made by this Contractor in accordance with the drawings and the specifications.

C. Where this Contractor selects and installs an item of equipment which requires either additional conduit, boxes, fittings, etc., or a modification of the conduit system indicated on the drawings, such additional modifications shall be performed by this Contractor as part of this Contract without extra compensation. All modifications to conduit systems must be authorized before installation.

D. This Contractor shall at all times coordinate his work with that of the all other trades so that the completed installation will present a finished appearance.

E. UNDERGROUND CONDUITS: Conduits for Lighting shall be standard PVC schedule 40.

F. CONDUIT SIZES: The sizes of conduits indicated on the drawings are the minimum acceptable. Where drawings do not indicate a size, conduits shall be not less than 1" size (normal diameter) or of such larger size as required by the National Electric Code for the number of conductors specified or indicated on the drawings.

G. COUPLINGS AND ELBOWS:
1. PVC conduit shall utilize pre–manufactured elbows only.
2. PVC couplings shall be glued with PVC adhesive.

H. PVC joints shall be fully inserted with adhesive applied inside and out. Adhesive to be as recommended by conduit manufacturer.

I. CONNECTIONS TO BOXES: Wherever conduits are connected to boxes and to other electrical equipment, a single locknut shall be employed on the outside of the box, or equipment and a bushing and a locknut on the inside of the box. Locknuts and bushings shall be of galvanized steel: die cast aluminum bushings and locknuts are not acceptable.

J. PULL OR JUNCTION BOXES:
1. Pull or junction boxes shall be installed at locations indicated on the drawings and wherever required for convenience of installation of conductors. Location of boxes shall be subject to Architect's approval.
2. All boxes shall be flush in grade or concrete, installed in an authorized manner.
3. Hardware in roadway shall be Flockhart Foundry, Campbell or authorized equal.
4. Boxes shall be precast concrete handholes of construction suited to load and burial depth, having cast iron cover at grade in paving or cast concrete cover with marker stanchion in turf. Such boxes shall have conduits turned up into bottom of box to maintain burial depth. Traffic areas shall all have roadway covers and precast concrete construction to suit roadway classification.
5. Precast boxes shall include reinforcing and wall dimensions for service to which applied, Elm–Cap or equal. Submit shop drawings of all boxes for approval.

4.05 CONDUCTORS

A. Install copper conductors indicated on the drawings, herein specified, or required by code and for the proper operation of the various systems. All connections shall be made complete, and all systems shall be energized and in proper operating condition 4 weeks before the date set for completion of project.

B. In certain electrical systems, the equipment furnished by one authorized manufacturer may require different wiring than the equipment furnished by another manufacturer. The drawings indicate the wiring required for the installation and proper operation of one of the systems specified. If Owner chooses to install an authorized system requiring different wiring, any additional material or labor required to perform the wiring of the new system shall be furnished by this Contractor as part of this contract without extra cost.

C. All conductors shall be copper of 98% conductivity, stranded, free from defects, and except as otherwise specified, shall be type THHN insulated. All conductors shall meet the requirements of the Underwriters' Laboratories, IPCEA and the National Electrical Code.

D. SPLICES:
1. The conductivity and physical strength of splices shall be equal to that of the unspliced conductor.
2. Splices shall be covered by the number of half lapped servings of rubber tape which are sufficient to produce an insulation resistance equal to or greater than the insulation resistance of the insulated conductor. Over the rubber tape, plastic tape shall be applied.
3. Splices shall be made with mechanical splices using pressure tool (with pressure connectors, insulators and locking rings), such as Buchanan splice caps Cat. No. 2007 and No. 2014 nylon insulators are authorized for operating temperature to 105° C and for use in ballasted fixtures.
4. Mechanical splices of Dycap Catalog No. 1218 using a pressure tool, Dycap No. SCC12, will be acceptable for branch circuit and fixture wiring connections only.
5. Mechanical splices, made with insulated connectors not requiring a pressure tool as manufactured by Minnesota Mining and Manufacturing Company, "Scotchlok", and Ideal "Wing–Nut" or Super–Nut" pressure types will also be acceptable for splicing of branch circuit conductors only.
6. All splices in inground boxes or devices shall be sealed watertight with epoxy molded casing as manufactured by 3M, "Scotchcast" or heat shrink sleeves.

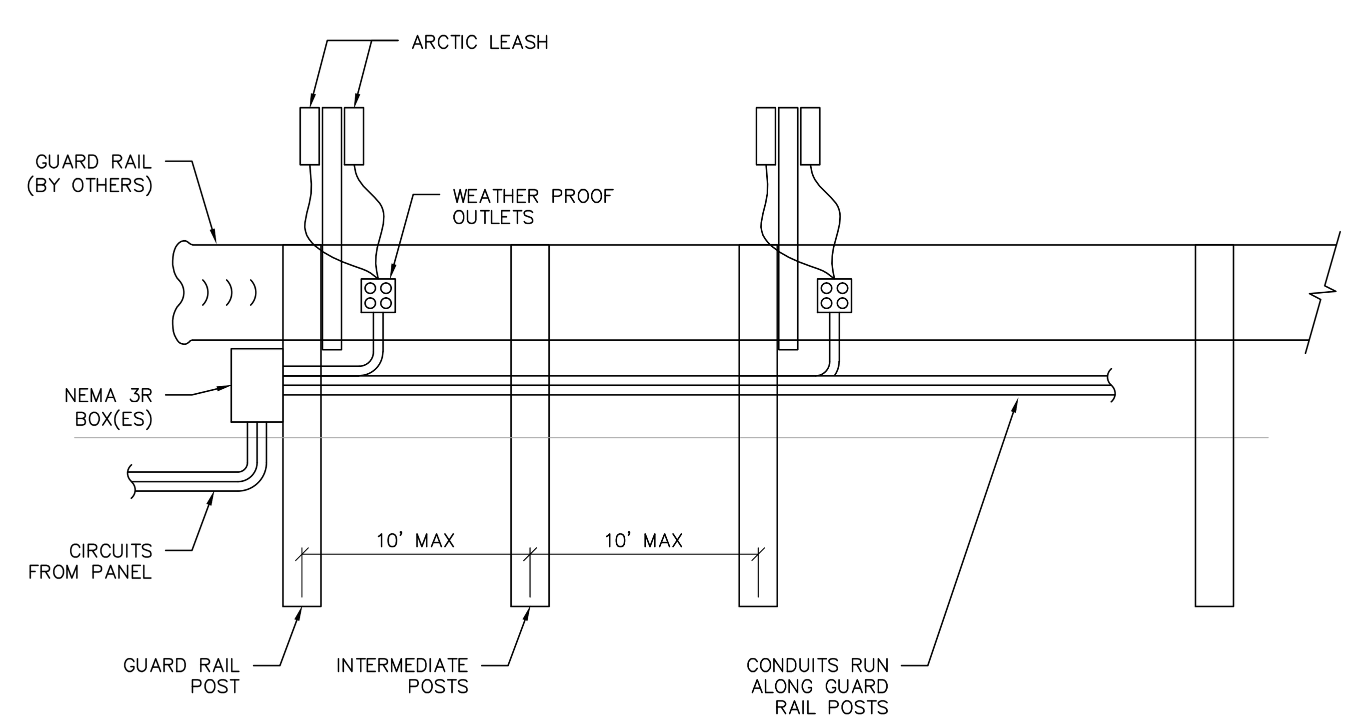
E. TAPES:
1. Rubber tape: Rubber tape shall comply with the latest specifications of the ASTM and shall be so marked on each box. Tape shall be 3/4" wide, 0.030" thick.
2. Plastic Tape: Plastic tape shall be 3/4" wide, 0.007" thick, the authorized equal of Minnesota Mining and Manufacturing Co., "Scotch" No. 33 electrical tape.
3. Authorized tapes: Tapes meeting the above specifications as made by Paranite, E.E., Plymouth, U.S. Rubber, Clifton, Okonite, Manson, or equal will be authorized.

F. FEEDERS:
1. All feeder conductors that are installed in conduits buried in the earth, or in concrete slabs contiguous to the earth, or outside the building shall be Underwriters approved type USE with neoprene sheath.

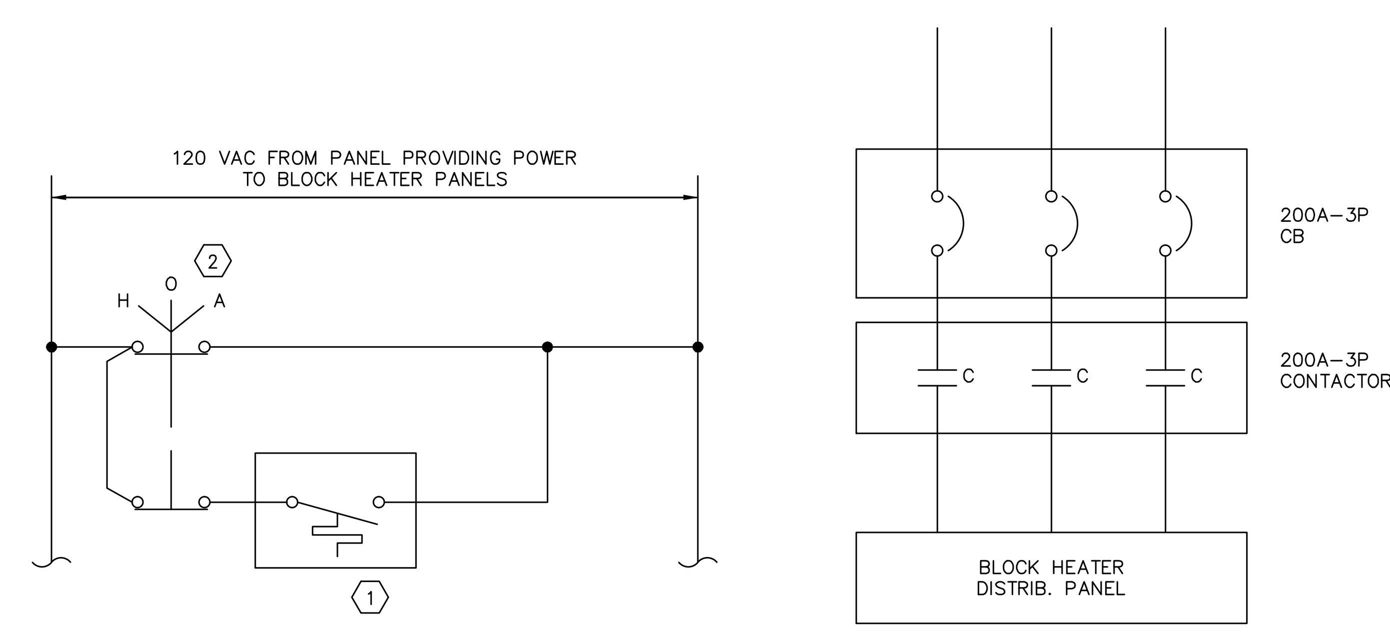
G. BRANCH CIRCUITS:
1. Coordinate carefully with Contractor for interior work to insure that power is locked "off", and so secured when performing circuit work.
2. Branch circuits shall consist of single conductors of size No. 8 unless otherwise indicated on drawings or specifications. The number of conductors in each conduit shall be per code for supply and control on the drawings or in the specifications.
3. Circuit conductors shall be connected at the panelboards so that numbers adjacent to "home runs" on the drawings correspond to numbered buttons on switches or circuit breakers. Modification may be made to obtain phase balance of loads. Coordinate work with Contractor for interior work.

H. At each splice, pole base, termination and box, provide "Brady", "Seton" or T & B, markers on each conductor coinciding with panel circuit information.

END OF SECTION



1 BLOCK HEATER DETAIL
SCALE: NTS



NOTES:

1 PROVIDE NEMA 4X LINE VOLTAGE THERMOSTAT. SET THERMOSTAT TO CLOSE CONTACT WHEN TEMPERATURE IS BELOWW 45 DEG. F.

2 HOA SELECTOR SWITCH ON CONTACTOR ENCLOSURE DOOR.

2 BLOCK HEATER WIRING DIAGRAMS
SCALE: NTS

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Brian W. Pasechnick, PE
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NJ #21057 NY #48388 PA #PE021148E
CT #10684 FL #44942

03.24.11 FINAL REVIEW

PARKING AREA EXPANSION
FRITO LAY DISTRIBUTION CENTER

222 MORGAN AVENUE BROOKLYN, NY

arcari + iovino
ARCHITECTS PC
ONE KATHERINE STREET
LITTLE FERRY, NJ 07643
201 641 0600, FAX 201 641 0626
WWW.AIARCHS.COM

EDWARD ARCARI NY#020765 ANTHONY IOVINO NY#023349

ELECTRICAL
SPECIFICATIONS

SCALE: NONE
DATE: 03.24.11
FILE:

E.400

SpectraPave4 PRO™
Paved Road Application
*** Design Analysis Report ***

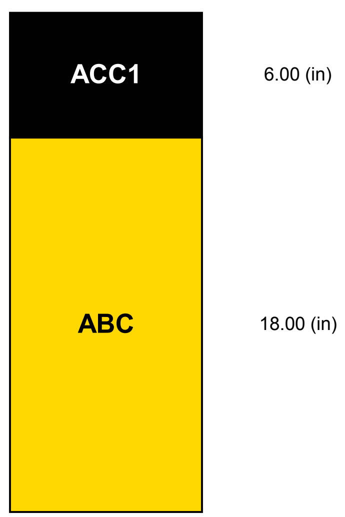
Table 1a) Material Properties

Layer	Description	Cost ($/CY)	Layer coefficient	Drainage factor
ACC1	Asphalt Wearing Course	0	0.42	N/A
ACC2	Dense-graded Asphalt Course	0	0.40	N/A
ABC	Aggregate Base Course	0	0.14	1.0
SBC	Subbase Course	0	0.08	1.0

Table 1b) Input Parameters for AASHTO (1993) Equation

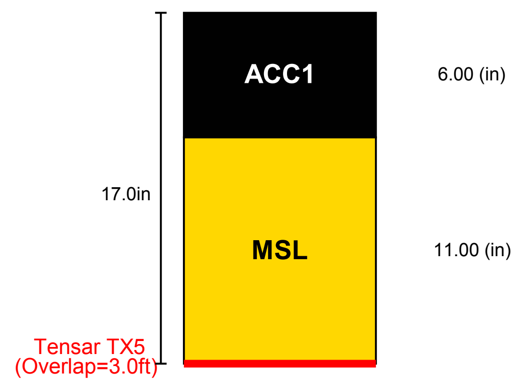
Parameter	Value
Reliability (%)	95
Standard Normal Deviate	-1.645
Standard Deviation	0.49
Initial Serviceability	4.2
Terminal Serviceability	2.0
Change in Serviceability	2.2

Unreinforced Pavement



Subgrade Modulus = 1,500 (psi)
Structural Number = 5.04
Calculated Traffic (ESALs) = 265,000

Reinforced Pavement



Subgrade Modulus = 1,500 (psi)
Structural Number = 5.13
Calculated Traffic (ESALs) = 303,000

LIMITATIONS OF THE REPORT

The designs, illustrations, information and other content included in this report are necessarily general and conceptual in nature, and do not constitute engineering advice or any design intended for actual construction. Specific design recommendations can be provided as the project develops.

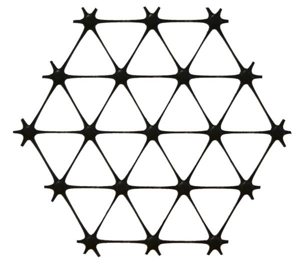
Project Name	Frito Lay - Morgan Ave		
Company Name	Haskell		
Designer	REN	Date	4-11-2011

THE COMPANY
YOU CAN BUILD ON®

Product Specification - TriAx® TX5 Geogrid

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the person specifying the use of this product and of the purchaser to ensure that product specifications relied upon for design or procurement purposes are current and that the product is suitable for its intended use in each instance.

Tensar TriAx® Geogrid



General

1. The geogrid is manufactured from a punched polypropylene sheet, which is then oriented in three substantially equilateral directions so that the resulting ribs shall have a high degree of molecular orientation, which continues at least in part through the mass of the integral node.

2. The properties contributing to the performance of a mechanically stabilized layer include the following:

Index Properties	Longitudinal	Diagonal	Transverse	General
▪ Rib pitch[1], mm (in)	40 (1.60)	40 (1.60)	-	
▪ Mid-rib depth[1], mm (in)	-	1.3 (0.05)	1.2 (0.05)	
▪ Mid-rib width[1], mm (in)	-	0.9 (0.04)	1.2 (0.05)	
▪ Rib shape				rectangular
▪ Aperture shape				triangular

Dimensions and Delivery

The TX geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 3.0 meters (9.8 feet) and/or 4.0 meters (13.1feet) in width and 75 meters (246 feet) in length.

Notes

1. Nominal dimensions.

Tensar International Corporation
2500 Northwinds Parkway, Suite 500
Alpharetta, Georgia 30009

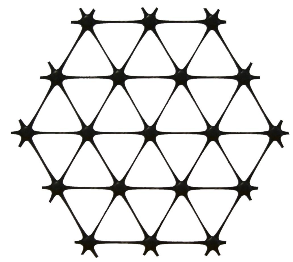
Phone: 800-TENSAR-1
www.tensar-international.com

Tensar. THE COMPANY YOU CAN BUILD ON®

Product Specification - TriAx® TX7 Geogrid

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the person specifying the use of this product and of the purchaser to ensure that product specifications relied upon for design or procurement purposes are current and that the product is suitable for its intended use in each instance.

Tensar TriAx® Geogrid



General

1. The geogrid is manufactured from a punched polypropylene sheet, which is then oriented in three substantially equilateral directions so that the resulting ribs shall have a high degree of molecular orientation, which continues at least in part through the mass of the integral node.

2. The properties contributing to the performance of a mechanically stabilized layer include the following:

Index Properties	Longitudinal	Diagonal	Transverse	General
▪ Rib pitch[(1)], mm (in)	40 (1.60)	40 (1.60)	-	
▪ Mid-rib depth[(1)], mm (in)	-	2.0 (0.08)	1.6 (0.06)	
▪ Mid-rib width[(1)], mm (in)	-	1.0 (0.04)	1.3 (0.05)	
▪ Rib shape				rectangular
▪ Aperture shape				triangular

Dimensions and Delivery

The TX geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 3.0 meters (9.8 feet) and/or 4.0 meters (13.1feet) in width and 50 meters (164 feet) in length.

Notes

1. Nominal dimensions.

Tensar International Corporation
2500 Northwinds Parkway, Suite 500
Alpharetta, Georgia 30009

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APPENDIX E
SPECIFICATIONS

TABLE OF CONTENTS

SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section provides a comprehensive summary of the various elements of this Work. This summary shall be read in conjunction with the Construction Drawings and the other Specifications and attachments. This section does not provide the all technical detail of the Work activities, but provides an overall perspective of the separate tasks. This section shall be used in conjunction with all other sections to establish the total requirements of the Work.

B. The Work shall be performed in accordance with, but not limited to Contract Documents, Construction Drawings and Specifications, municipal ordinances and approvals, regulatory approval and permits, and all easement agreements.

C. The Work is divided into several construction activities as outlined below. The referenced sections for each Work category represent the principal, not all, construction elements of that Work activity.

1. Site Preparation
   a. Mobilization
   b. Temporary site facilities and utilities
   c. Environmental protection
   d. Site clearing
   e. Soil Erosion and Sedimentation Control
   f. Storage of Materials
   g. Equipment and Material Decontamination
   h. Traffic Control
2. Earth Work
   a. Excavation, handling, and off-site disposal of PCB contaminated soil with concentrations exceeding 50 milligrams per kilogram [mg/kg]). These contaminated soils are regulated by the Toxic Substances Control Act (TSCA) and must be disposed at a facility that is permitted to accept this type of waste.
   b. Excavation, handling, and off-site disposal of arsenic contaminated soil with concentrations exceeding the site-specific Remedial Action Objective (RAO) of 100 mg/kg, lead contaminated soil with concentrations exceeding the site-specific RAO of 10,000 mg/kg, and mercury contaminated soil with concentrations exceeding the site-specific RAO of 15 mg/kg and must be disposed at a facility that is permitted to accept this type of waste.
   c. Excavation, handling, and off-site disposal of PCB contaminated soil with concentrations exceeding 25 mg/kg and exceeding 10 mg/kg within the proposed warehouse expansion area and must be disposed at a facility that is permitted to accept this type of waste.
   d. Collection of endpoint samples to confirm excavation limits for the contaminants/concentrations listed in 2a through 2c.
   e. Placement and grading of imported certified clean soil.
   f. Waste Handling and Management

3. Project Close-out
    a. Site Restoration
    b. Demobilization

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01066 - Equipment and Material Decontamination

D. Section 01110 - Environmental Protection Requirements

E. Section 01740 - Project Closeout and Demobilization

F. Section 02100 - Mobilization and Site Preparation

1.03 WORK COVERED BY THE CONTRACT DOCUMENTS:

A. Complying with the requirements of all permits, and providing all services, utilities, manpower, equipment, and facilities required to perform the Work activities in accordance with these Specifications and the Construction Drawings.

B. Submittal of a detailed Project Implementation Plan (PIP) for review and acceptance by Gannett Fleming, which contains at a minimum:
1. A detailed Construction Schedule indicating the estimated duration and start and finish dates for all activities from award of contract through demobilization. The schedule shall identify each task along with critical paths and milestones.
2. Proposed sequence, equipment, approach and methods for the performance of site preparation and environmental protection (e.g., temporary site facilities and utilities; soil erosion and sediment control requirements; etc.).
3. A scaled Site Plan clearly depicting the construction entrance, site access egresse(s), support zone, exclusion zone, decontamination area/pad temporary facilities and utilities, and layout and locations of all stockpiling and storage areas.
4. Documentation of pre-construction utilities and plans to protect and relocate pre-construction utilities within the area of disturbance, if needed.
5. Proposed sequence, equipment, approach and methods for site clearing.
6. Proposed sequence, equipment, approach and methods for selective demolition, if necessary. The PIP shall include discussion of segregation, decontamination, and on-site handling of the demolished, removed and decontaminated wastes.
7. Proposed methods of handling, sorting, segregation, stockpiling, management, transportation, and disposal of excavated debris and other non-hazardous materials deemed unusable for on-site applications.
8. Proposed methods of handling, sorting, segregation, stockpiling, management, transportation, and disposal of hazardous soil.
9. Proposed methods of handling, sorting, segregation, stockpiling, management, transportation, and disposal of non-hazardous soil.

10. Detailed approach and methods of all waste disposal. The PIP shall include the list of all projected waste streams and corresponding disposal facilities with their addresses.
11. A list and qualifications for of all subcontractors.
12. Proposed sequence, equipment, approach and methods for groundwater monitoring wells protection.
13. Proposed method(s) of site restoration.
14. A detailed list of all assumptions and exceptions to the Bidding Documents on a separate page with a separate heading. Assumptions, qualifications and exceptions not listed on a separate page shall **not** be considered valid.

C. Site preparation activities shall include furnishing all labor, materials and equipment to provide the following:
   1. Necessary utilities (power, water, and telephone service).
   2. Procurement of all necessary permits to perform the Work.
   3. Site support facilities (temporary trailers, temporary sanitary facilities and utilities, security, parking, etc.).
   4. Establishing equipment and materials staging areas.
   5. Installation of temporary fencing, if necessary.
   6. Personnel decontamination and hygiene facilities.
   7. Establishment of exclusion zone.
   8. Temporary barriers around the Work zone(s).
   9. Access control to the Site and construction areas.
   10. Establishing traffic control.
   11. Establishing site security.

1.04 SOIL EROSION AND SEDIMENT CONTROL:

A. Construction activities shall be carried out in accordance with the New York City Building Code and the Soil Erosion and Sediment Control Act of 1975 as amended, so as to minimize erosion and sedimentation in accordance with Section 02370 – Soil Erosion and Sedimentation Control.

B. Soil erosion and sediment controls shall be installed and maintained for the duration of site activities as detailed in the Soil Erosion and Sediment Control Plan.

1.05 SITE CLEARING:

A. All applicable areas of the Site shall be cleared as needed by the Contractor to conduct the Work as specified in Section 02110 – Site Clearing. The Work shall include all labor, equipment, and materials to perform removal and on-site management and off-site disposal of vegetative matter and miscellaneous debris.

1.06 SELECTIVE DEMOLITION, REMOVAL, DECONTAMINATION, AND DISPOSAL:

A. This Work covers selective removal and disposal/storage of all objects, and miscellaneous debris, at or above grade, as needed to perform the Work.

1.07 EARTHWORK:

A. This Work covers excavating soil from the designated soil contamination (hazardous and non-hazardous) areas requiring proper management of the excavated soil; importing, grading, and compacting at areas depicted on Construction Drawings.

1.08 RESTORATION AND DEMOBILIZATION:

A. This Work covers final site cleaning; removal of all temporary and support facilities and utilities; and decontamination and demobilization of all personnel, equipment and materials after restoration activities are complete.

1.09 WORK SEQUENCE:

The Work shall be planned, scheduled, and performed in stages in order to complete the Work within the requirements of this Contract Document, Specifications, and the requirements of appropriate regulatory agencies and local officials and ordinances.

A. Stage 1 - Project Startup

Project startup shall include, but not limited to the following activities, which are not necessarily in sequential order:

1. Necessary utilities (power, water, and telephone service).
2. Develop and submit all required pre-construction submittals for review and acceptance.
3. Provide HAZWOPER (29 CFR 1910.120) documentation, including 40-hour and 8-hour paperwork, for each worker.
4. Develop health and safety plan, acceptable and approved by the Engineer, for Contractors employees and Contractors subcontractor(s).
5. Site support facilities (temporary trailers, temporary sanitary facilities and utilities, security, parking, etc.).
6. Provide personnel areas and hygiene facilities.
7. Install barrier fencing, gates and signs as necessary to establish Work zones and restrict access to the Site and the Work zones.
8. Construct administration area:
    - Safety equipment and supply storage.
    - Full service offices for the Contractor.
    - Site security.
9. Provide and install materials and equipment for decontamination operations.
10. Install decontamination pad.
11. Install temporary fencing and gates, if necessary.
12. Implement soil erosion and sediment control measures in accordance with the requirements of Section 02370 – Soil Erosion and Sedimentation Control.
13. Establish the exclusion zone, the contaminant reduction zone and the safe zone (or “clean zone”) prior to initiating intrusive activities.
14. Implement site security measures.
15. Implement Work and property protection measures.
16. Protect all monitoring wells not scheduled for decommissioning that may be subject to damage by construction equipment and construction vehicles.

B. Stage 2 - Construction

1. Stake the Work to clearly mark the limits and extents of the Work and all required areas of the Work as specified on the Contract Drawings.
2. Clear, consolidate, and remove any miscellaneous oversized debris located within the limit of disturbance, and stage on-site pending further management/disposal.
3. Implement excavation of the contamination areas as depicted on Construction Drawings and manage soil in accordance with the project-specific Waste Management Plan.
4. Collection of endpoint samples to confirm excavation limits for the contaminants/concentrations listed in Part 1, Section 1.01, 2a through 2c.
5. Import, place, grade, and compact the common borrow material and topsoil to achieve the proposed final grades.

C. Stage 3 - Demobilization

1. Decontaminate and remove from the Site all construction equipment and facilities as specified in Section 01740 – Project Closeout and Demobilization.
2. Dispose of all wastes generated during the course of site preparation and construction.
3. Dispose of all contaminated materials that may have been generated during or after construction for which decontamination is inappropriate, at approved facilities.

D. Stage 4 – Site Restoration

1. Restore Site conditions to preconstruction lines and grades.
2. Replace and/or repair any structures within the Work area(s) or any adjacent land that may have been removed or damaged during the performance of the Work.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 CONTRACTOR:

A. The Contractor is advised that the Work will be performed on a Site that contains contaminated materials (e.g., hazardous and non-hazardous soil, and groundwater). The Contractor is responsible for complying with the Contractor's site-specific HASP and 29 CFR 1910.120. The Contractor shall implement this plan taking precautions as necessary to protect the public and work force personnel from potential hazards. The Contractor shall utilize personnel with approved hazardous waste training as specified in Section 01065 - Health and Safety Requirements.

B. For any Work performed in close proximity to residences, public and private right of ways, easements, businesses, utilities or other parties, the Contractor shall utilize every precaution to protect the property, utility lines, trees, walls and other structures from damage. Any damage that the Contractor may inflict shall be repaired or replaced in a prompt manner as directed by the Engineer at no additional cost to the Frito-Lay or the Owner of the damaged property.

C. The Contractor shall take all measures required to minimize adverse impacts from execution of the Work on residences and businesses adjacent to the Site and shall not interfere with their operations. The Contractor shall submit a Traffic Control Plan to the Engineer for approval and the appropriate local authority, as required.

3.02 CONTRACTOR'S USE OF PREMISES

A. The Contractor shall use designated areas of the Site for storage. Storage and lay down areas are to be agreed upon and accepted by the Engineer.

B. The Contractor shall assume full responsibility for the protection and safe keeping of products under this Contract that are stored on-site during the construction activities.

3.03 OTHER REQUIREMENTS

A. It is the responsibility of the Contractor to notify the Engineer, and owners, and operators of underground utilities when construction, demolition, excavation or other Work may affect such utilities in accordance with all Local, State, and Federal regulations.

B. It is the responsibility of the Contractor to notify the Borough of Brooklyn or the appropriate local authority, when construction, excavation, or other Work may affect roadways, sidewalks, or the public right-of-way. The Contractor shall inform the Engineer of any such notifications prior to contacting the Borough of Brooklyn or the appropriate local authority.

C. The Contractor is responsible for using special care and or special considerations which may be necessary for proper execution of the Work, but which may not be specifically identified in this section. The Contractor shall comply with the entire requirements of the Contract Documents and shall exercise special care wherever required for proper execution of the intended Work of this contract.

D. The Contractor shall comply with the requirements of all associated permits and/or approvals, which have been obtained, or applied for, by either the Engineer or the Contractor. No permits have been obtained for the Work by the Engineer for inclusion in the Contract Documents. The Contractor is responsible for obtaining all permits necessary for the completion of the Work.

3.04 COMPENSATION

A. Compensation for execution of the intended Work as defined by the Contract Documents is specified in Section 01025 - Measurement and Payment.

END OF SECTION

SECTION 01056
PROTECTION OF WORK AND PROPERTY

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section includes precautions and programs to protect the Work and all public property, private property, existing utilities, easements, right-of-ways, and/or on-site facilities from damage prior to and during construction operations.

B. The Contractor is advised that the Work will be performed on a site that contains contaminated soil and groundwater above the most stringent clean up criteria established by the NYSDEC. Polychlorinated biphenyls (PCBs) soil concentrations exceed the Toxic Substance Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) for hazardous waste at several locations designated for excavation and off-site disposal which must be disposed at a facility that is permitted to accept this type of waste.

C. The Contractor is advised that excavation, handling, and off-site disposal will also be required for arsenic contaminated soil with concentrations exceeding the site-specific Remedial Action Objective (RAO) of 100 mg/kg, lead contaminated soil with concentrations exceeding the site-specific RAO of 10,000 mg/kg, mercury contaminated soil with concentrations exceeding the site specific RAO of 15 mg/kg, and PCB contaminated soil with concentrations exceeding 25 mg/kg and exceeding 10 mg/kg within the proposed warehouse expansion area which must be disposed at a facility that is permitted to accept this type of waste.

D. The Contractor shall abide by the Contractor’s Site-Specific Health and Safety Plan and taking precautions as necessary to protect the public and work force personnel from potential hazards. The Contractor shall utilize personnel with approved hazardous waste training as specified in Section 01065 - Health and Safety Requirements.

E. The Contractor shall identify and perform a field mark-out of all existing structures, including but not limited to, above and below ground utility lines, monitoring wells, etc., to remain in-place during and after construction.

F. For any Work performed in close proximity to properties of businesses, utilities or other parties, the Contractor shall utilize every precaution to protect the property, utility lines, walls and other structures from damage. Any damage that the Contractor may inflict shall be repaired or replaced in a prompt manner as directed by the Engineer and paid for by the Contractor at no additional cost to the Owner of the damaged property.

G. The Contractor shall take all measures required to minimize adverse impacts from execution of the Work on businesses adjacent to the Site and shall not interfere with their operations. The Contractor shall coordinate traffic control plans in accordance with Section 01513 - Traffic Control, as necessary, with the Engineer.

1.02 RELATED SECTIONS:

A. Section 01010 – Summary of Work

B. Section 01065 - Health and Safety Requirements

C. Section 01110 - Environmental Protection Requirements

D. Section 01513 - Traffic Control Plan

E. Section 02100 - Mobilization and Site Preparation

F. Section 02290 - Groundwater Monitoring Wells, Preservation, Renovation, Repair, and Replacement

G. Section 02370 - Soil Erosion and Sedimentation Control

1.03 CONTRACTOR'S USE OF PREMISES:

A. The Contractor shall propose area(s) of the Site for storage. Storage and lay-down areas shall be illustrated on Drawings provided by the Contractor. Any changes to the storage and lay-down areas shall be approved by the Engineer.

B. The Contractor shall assume full responsibility for the protection and safe keeping of products under this Contract that are stored on-site during construction activities.

1.04 OTHER REQUIREMENTS:

A. It is the responsibility of the Contractor to notify the Engineer, owners and operators of underground and overhead utilities when construction excavation activities or other Work activities may affect such utilities.

B. The Contractor shall review the geophysical survey of the Site within the limits of proposed soil disturbance. The purpose of this survey shall be to inform the Contractor of the presence of underground anomalies indicative of potential underground utilities or other objects that may be encountered or damaged during the planned construction activities.

C. The Contractor is responsible for using special care and/or special considerations which may be necessary for proper execution of the Work, but which may not be specifically identified in this section. The Contractor shall comply with the entire requirements of the Contract Documents and shall exercise special care wherever required for proper execution of the intended Work of this contract.

D. The Contractor shall comply with all the permit requirements and conditions as required for the excavation, handling, transportation, and off-site disposal of PCB contaminated soil which exceeds TSCA threshold concentrations of 50 mg/kg for hazardous waste.

1.05 SCOPE OF WORK:

A. Prior to intrusive activities, the Contractor shall identify and field mark-out all existing structures.

B. The Contractor shall repair any damage to protected structures during construction operations in accordance with applicable regulations.

C. A minimum of three (3) full business days prior to invasive construction activities, the Contractor shall contact the call Dig Safely New York at 811 or 1-800-962-7962 for a mark-out of the utilities. The Contractor shall re-call Dig Safely New York if the invasive activities do not commence within ten (10) days of the initial call. The Contractor shall present any utility mark-out tickets issued by Dig Safely New York to the Engineer or Frito Lay upon receipt.

D. No weekend Work is permitted, unless prior approval is received from the Owner and Engineer.

1.06 SUBMITTALS:

A. The Contractor shall submit for review Project Implementation Plan (PIP) listing all methods to provide required protection of Work and property as detailed in this section. The PIP shall also list all procedures that deviate from those outlined in, or are required pursuant to this Section and Section 01010 – Summary of Work.

1.07 PROTECTION OF WORK:

A. In order to prevent damage, injury, or loss, the Contractor's actions shall include, but not be limited to, the following:
   1. Store apparatuses, materials, supplies, and any equipment in an orderly, safe manner that will not unduly interfere with the progress of the Work or the Work of any other Contractor or utility service company.
   2. Provide suitable storage facilities for all materials that are subject to damage by exposure to weather, theft, and breakage or otherwise.
   3. Clean up daily at a minimum all refuse, rubbish, scrap materials, and debris caused by construction operations, so that at all times the area of the Work shall present a safe, orderly and workmanlike appearance.
   4. Provide barricades and fences around openings, excavations, and other hazardous areas in accordance with applicable requirements, including the Contractor's site-specific Health and Safety Plan.

B. The Contractor shall not, except after consent from the proper parties including the Engineer, enter or occupy with people, tools, materials or equipment, privately owned land.

C. The Contractor shall assume full responsibility for the preservation of all public and private storage or facilities on or adjacent to the Site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Work by the Contractor, it shall be restored by the Contractor, at his expense, to a condition equal to that existing before the damage occurred.

D. Following completion of the Work, damages to driveways, light poles, overhead and subsurface utilities, or other property caused by the Contractor, shall be repaired at the Contractor's expense in a manner acceptable to the Engineer. The Contractor shall take photographs to document damage which existed prior to construction. Such photographs shall be submitted to the Engineer prior to construction.

E. The Contractor shall submit to the Engineer lists and representative photographs of damages to property that exist prior to construction or construction-related activity. The lists shall be submitted in the sequence with the construction progress and shall be submitted sufficiently in advance for the Engineer to verify the damages. The lists shall include the following information:
1. Location of damage;
2. Nature of damage; and,
3. Extent of damage.

F. The Contractor shall immediately notify the Engineer of any and all claims and complaints arising as a result of the Work. A file shall be maintained to log all claims and complaints and shall include the date and time, name of person filing the claim or complaint, nature and extent of the claim or complaint, and its resolution. Contractor shall advise the Engineer within two days in writing of all such claims and complaints received by him including the status of each.

G. The Contractor shall pay for all costs to handle and resolve any claims or complaints as a result of Work under this Contract. If within 90 days of receipt of a complaint, the Contractor fails to settle or secure any claim or complaint, as determined by the Engineer, the Engineer may retain such amounts of money from payments that would otherwise be due the Contractor as, in the opinion of the Engineer, may be required to settle all claims filed with the Engineer.

1.08 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 BARRICADES AND WARNING SIGNALS:

A. Where Work is performed on or adjacent to any roadway, right-of-way, or public location, the Contractor shall furnish and erect barricades, fences, lights, warning signs, and danger signals, and shall take other precautionary measures for the protection of persons or property and of the Work. The Contractor shall utilize construction fencing as needed. Barricades and any other precautionary measures shall be painted or installed to be visible at night where required.

3.02 PROTECTION OF EXISTING STRUCTURES:

A. Underground Structures:
1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, any other subsurface piping, manholes, chambers, sumps, underground telephone or communication lines, electrical conduits, shaft/tunnel and other existing subsurface Work located within or adjacent to the Work area.
2. Underground structures are not known to be located within the limits of the Work, but may be present within the limits of excavation.
3. Contractor shall investigate prior to the excavation work, and shall uncover all obstructing underground structures sufficiently to determine their location, use and type of underground structure. The Engineer will inspect uncovered underground structures prior to removal or other action by the Contractor. If the underground structure is an active utility, the Contractor shall support and protect the utility to prevent damage and to prevent interruption to the services which such structures provide. If the Contractor damages an underground structure, he shall restore it to original condition at no cost to Frito-Lay.
4. Necessary changes in the location of the Work will not be made by the Engineer to avoid unanticipated underground structures. The Contractor will be required to work around the underground utility to comply with the proposed soil excavation.
5. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, the Engineer will direct the Contractor in writing regarding performance the Work and payment structure.
6. The Contractor shall coordinate with the owner of each utility during the performance of the Work to determine which electrical, water, gas lines or other utilities are active and which may be abandoned.

B. Surface Structures:
1. Surface structures are defined as all existing structures and other facilities at or above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, groundwater monitoring wells, light poles, posts (bollards), utility poles (including anchors and support cables), fire hydrants, parking meters, sidewalks, curbs, fencing, buildings, slabs, foundations, and all other facilities that are visible at or above the ground surface.

C. Protection of Subsurface and Surface Structures:

1. The Contractor shall identify and determine the location of any subsurface utilities (active or inactive) and surface structures within or adjacent to the areas to be excavated. The Contractor shall sustain in their places and protect from direct or indirect damage all underground and surface structures located in areas adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the Work of sustaining and supporting such structure, the Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning or operating the utility or structure.
2. The Contractor shall assume all risks estimating the presence or proximity of all subsurface and surface structures within or adjacent to the limits to the Work. A physical buffer shall be established around each groundwater monitoring well to prevent any damages to the well. No excavation shall be permitted within a 10' radius of each groundwater monitoring well, unless authorized by the Engineer. All groundwater monitoring wells requiring removal due to soil excavation activities must be decommissioned in accordance with NYSDEC requirements, and by a well driller licensed in the State of New York. All decommissioned groundwater monitoring wells must be replaced and of the same size, depth, screen length, etc. Aquifer Drilling and Testing is the Well Drilling Contractor for this Site and shall be used for all monitoring well decommissioning activities. The Contractor shall be responsible for all damage and expense for direct or indirect damage caused by his Work to any structure. The Contractor shall repair immediately all damage caused by his Work, to the satisfaction of and at no cost to Frito-Lay.
3. The Contractor shall flag, barricade or otherwise suitably protect existing buildings, above and below ground facilities, groundwater monitoring wells, driveways and public roadways during construction operations. The Contractor shall provide the Engineer with a detailed description of means and methods to protect the existing groundwater monitoring well network.
4. The Contractor shall prevent interruption of existing utility service to occupied or active facilities, except when authorized in writing by authorities having jurisdiction.
5. The Contractor shall maintain a utility mark-out plan and shall mark-out all identified utilities at the Site.
6. The Contractor shall perform periodic inspections, at a minimum once per work day, to ensure that all markers are in place and maintained throughout the duration of the Work.

D. All other existing surface facilities, including but not limited, fencing, posts, guard cables, signs, poles, markers, and light posts which are temporarily removed to facilitate the performance of the Work, shall be replaced and restored to their original condition at the Contractor's expense.

E. If permanent relocation of an underground or aboveground structure is required and is not otherwise provided for in the Contract Documents, the Engineer may direct the Contractor in writing to perform the Work, which shall be paid for under the provisions of the General Terms and Conditions of the existing Contract. Before proceeding with relocating the utility, the Contractor shall demonstrate to the Engineer that the methods and procedures to be used have been approved by the party owning or operating the utility or structure.

F. The Contractor shall prevent interruption of existing utility service to occupied or active facilities, except when authorized in writing by authorities having jurisdiction.

END OF SECTION

SECTION 01065
HEALTH AND SAFETY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Contractor shall provide procedures in which worker's health and safety shall be protected as it relates to the proposed construction activities when performed in the presence of contaminated soil defined as hazardous by OSHA, Resource Conservation and Recovery Act (RCRA) Hazardous Wastes, New York State Regulated Wastes, Toxic Substance Control Act (TSCA) Wastes.

B. It is the sole responsibility of the Contractor to completely address worker health and safety and potential risks of exposure to site-specific hazards.

C. It is the sole responsibility of the Contractor to be responsible for the adherence to a site-specific Health and Safety Plan (HASP) throughout the duration of the Work.

D. No physical aspect of the Work shall begin until the HASP is submitted and accepted by Engineer or Frito-Lay.

E. All construction related activities performed by the Contractor shall be performed in accordance with Title 29 of the Code of Federal Regulations, Part 1926 (29 CFR 1926), Safety and Health Regulations for Construction, 29 CFR 1910, Safety and Health Regulations for General Industry, and 29 CFR 1910.120, Hazardous Waste Site Operations and Emergency Response (HAZWOPER).

F. The Contractor is advised that the Work will be performed on a site that contains contaminated soil and groundwater above the most stringent clean up criteria established by the NYSDEC. Polychlorinated biphenyls (PCBs) soil concentrations exceed the Toxic Substance Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) for hazardous waste at several locations designated for excavation and off-site disposal. The Contractor is advised that excavation, handling, and off-site disposal will also be required for arsenic contaminated soil with concentrations exceeding the site-specific Remedial Action Objective (RAO) of 100 mg/kg, lead contaminated soil with concentrations exceeding the site-specific RAO of 10,000 mg/kg, mercury contaminated soil with concentrations exceeding the site specific RAO of 15 mg/kg, and PCB contaminated soil with concentrations exceeding 25 mg/kg and exceeding 10 mg/kg within the proposed warehouse expansion area.

1.02 RELATED SECTIONS:

A. Section 01100 - Construction and Demolition and Solid Waste Management

B. Section 01110 - Environmental Protection Requirements

C. Section 02120 - Off-Site Transportation and Disposal

D. Section 02150 - Sheeting and Bracing

E. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

F. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

G. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARDS AND REGULATIONS:

A. Title 40, Code of Federal Regulations (CFR):
1. 40 CFR 260-270: Hazardous Waste Requirements.
2. 40 CFR 761.61: PCB Remediation Waste
3. 40 CFR Part 761.79: Decontamination Standards and Procedures
4. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces

B. United States Department of Labor (USDOL), Occupational Safety and Health Administration (OSHA), Title 29, Code of Federal Regulations (CFR):
1. 29 CFR 1904: Recording and Reporting Occupational Safety and Health Standards.
2. 29 CFR 1910: Occupational Safety and Health Standards.
3. 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response.
4. 29 CFR 1926: Safety and Health Regulations for Construction.
5. 29 CFR 1926.59: Hazard Communication Standard.
6. 29 CFR 1926.65: Hazardous Waste Operations and Emergency Response.
7. 29 CFR 1926.103: Respiratory Protection Standard.

C. Transportation - Research and Special Programs Administration, Department of Transportation (DOT). Title 49, Code of Federal Regulations (CFR):
1. 49 CFR 172: (1993) Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements.

D. American Conference of Governmental Industrial Hygienists (ACGIH):
1. ACGIH-02: (1993-1994) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.

E. American National Standards Institute (ANSI):
1. ANSI 2358.1: (1990) Emergency Eyewash and Shower Equipment.

F. National Institute of Occupational Safety and Health (NIOSH):
1. NIOSH/OSHA/EPA Occupational Safety and Health Guidance (OSHG) Manual Hazardous Site Activities, October 1985, Department of Health and Human Services (DHHS) NIOSH Publication No. 85-115.

G. New York Standards – New York Codes, Rules, and Regulations (NYCRR):
1. 6 NYCRR Part 371 - Identification and Listing of Hazardous Waste.
2. 6 NYCRR Part 374 - Management of Specific Types of Hazardous Wastes

1.04 SUBMITTALS:

A. Within 30 days after Notice of Award, and in any event before commencing any physical work performed at the Site, the Contractor shall submit its Certified Industrial Hygienist (CIH)-approved HASP to the Engineer for review and approval. Irrespective of the issuance of the Notice to Proceed, physical work at the Site shall not commence until the Contractor's HASP is approved in writing by the Engineer or Frito-Lay.

B. Within 30 days after the Notice of Award, and in any event before commencing any physical work performed on the Site, the Contractor shall submit a resume documenting qualifications of its proposed Health and Safety Officer (HSO). The resume must show a minimum of five years experience as a HSO including a description of the duties, responsibilities, accomplishments, and safety record of preceding assignments from which the candidate has gained safety-engineering experience.

1.05 RESTRICTIONS AND QUALITY CONTROL:

A. Verify compliance and regulations with all applicable agencies and standards.

B. Provide a statement to Frito-Lay and the Engineer that the “Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (July 2010), “Supplemental Remedial Investigation and Second Supplemental Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (April 2011), and the “Remedial Work Plan for 202-218 Morgan Avenue, Brooklyn, New York” (July 2011) prepared by Gannett Fleming Engineers and Architects, P.C. (GF) have been obtained and reviewed by the Contractor.

C. The Contractor shall maintain duplicate records of safety inspections, logs, reports, accident/incident reports, medical certifications, medical surveillance, records, training logs, and monitoring results. All exposure and medical records are to be maintained according to 29 CFR 1910 and 29 CFR 1926.

D. The Contractor shall maintain evidence of current valid permits, licenses, and certifications including, as a minimum, training certificates of all workers to be engaged in Work at the Site.

E. The Contractor shall immediately notify the Engineer or Frito-Lay of any accident/incident. Within two working days of any reportable accident/incident, the Contractor shall complete and submit to the Engineer an accident/incident report.

1.06 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

None Used

PART 3 - EXECUTION

3.01 SAFETY-GENERAL REQUIREMENTS:

The Contractor's written Safety Program shall address each aspect of the Work. In addition, the following minimum requirements shall be included in, and made part of, the Contractor's Safety Program:

A. Personal Protective Equipment:
   1. Safety Hats: OSHA approved head protection shall be worn by all personnel while on the Site.
   2. Safety Shoes: OSHA approved safety shoes shall be worn by all personnel while on the Site.
   3. Safety Vests: reflective orange or green safety vests shall be worn by all personnel while on the Site.
   4. Eye Protection: OSHA approved eye protection shall be worn by all personnel while cutting, drilling, and grinding. Full goggle or full face protection shall be worn when required.
   5. Ear Protection: OSHA approved ear protection shall be worn by all personnel as required.
   6. Respirators: OSHA approved respirators shall be worn by personnel while exposed to hazardous concentrations of fumes, mists, or dusts.

B. First Aid: First-aid kits shall be readily available at the Site. At a minimum, basic medical assistance shall be available at the Site. Telephone numbers of local ambulance services and hospitals shall be posted near each telephone.

C. Excavations: The work area shall be investigated for underground utilities and facilities prior to performing the required remedial excavations. Immediately notify the Engineer of the discovery of utilities and facilities that were not shown on the contract drawings.

D. Scaffolding and Manlifts: Scaffolding and manlifts shall conform to OSHA standards and shall be used in accordance with the manufacturer's instructions, but are not anticipated for performance of the Work.

E. Construction Equipment: Construction equipment shall be in proper operating condition, and operated in accordance with the manufacturer's instruction and OSHA standards. Unsafe construction equipment shall be locked-out, red tagged, and promptly repaired; or removed from the Site.

F. Demolition and Dismantling: demolition and dismantling shall be performed in accordance with OSHA standards.

G. Visitors: Visitors to the Site shall be escorted by the Contractor at all times, shall wear hard hats and safety vests while in Work areas.

H. Safety Awareness: Instruct each person in the recognition and avoidance of unsafe conditions as well as the regulations applicable to the person's work. Instruct each person in the safe handling and use of flammable liquids, gases, and toxic materials prior to their handling and use.

I. Tool Box Safety Meetings: Daily tool box safety meetings are required daily to discuss safety issues and heighten safety awareness.

J. Housekeeping: The Work site shall be kept free of debris, rubbish, trash, and scraps.

3.02 HEALTH AND SAFETY PLAN (HASP):

A. The Contractor shall develop and maintain a site specific HASP (conforming to the requirements of OSHA 29 CFR 1910.120 (d)(4) to protect the lives and health of all persons, prevent damage to property and materials, and to avoid work interruptions due to accidents and to identify policies, procedures and contacts in the event that there is a spill of hazardous materials during the Work.

B. The HASP shall conform to the requirements of OSHA 29 CFR 1910.120(d)(4) including but not limited to, the following.

1. Cover page with name of Contractor, title of Contract, and Contract number. Include plan revision number, date of revision, name and signature of a (CIH).
2. Table of contents listing each section and exhibit that clearly identifies the revision number and date of each section and exhibit.
3. Safety policy statement signed by all affected personnel.
4. Organization chart of the Contractor and subcontractor personnel responsible for implementing the HASP and their duties and responsibilities. The chart shall show the reporting relationship and integration of the HSO with all personnel, including top-level managers, responsible for implementing the HASP.
5. Description of HSO's and Safety Supervisor's duties and responsibilities.
6. A site inspection procedure to ensure that a walk-through of the Site is conducted daily for each work shift and recorded in a Daily Safety Report.
7. An accident investigation procedure including a decision chart for identifying root causes.
8. A plan for safe and effective response to medical emergencies for the Contractor and subcontractor personnel. Emergency medical services shall include first aid treatment including all necessary qualified personnel and supplies, and ambulance service or other standing arrangement for the immediate transport of injured workers to medical treatment. Include a map of local routes to medical treatment facilities.
9. An Evacuation Plan that designates one or more assembly areas for personnel and ensures that each person is accounted for in case of fire or other such emergency.
10. A list of emergency telephone numbers that identify the proper numbers to call for all emergencies including fire, police, medical (hospital, clinic, ambulance), and the release of contaminants into the environment. Identify the location of telephones to be used for emergency notification. Describe emergency equipment to be made available on-site, such as portable extinguishers, first aid kits, and eye wash stations.
11. Address levels of personal protection to be employed during Work, setting forth specific criteria for choices of protective clothing and equipment.
12. Designate work area exclusion zone(s) and decontamination zone(s) as defined by OSHA. Describe how zone(s) will be marked and/or barricaded

and made known to all persons at this Site.
13. Provide action levels based on air monitoring to upgrade personal protection against airborne contaminants.
14. Set forth procedures for decontamination of personnel, materials, and equipment.
15. Provide procedures for treatment of heat and cold stress.
16. A detailed safety orientation plan for Contractor and subcontractor personnel.
17. Outline general safety rules and procedures for the performance of the Work. Contractor shall ensure that all applicable safety regulations are addressed and included in this section.
18. Outline of site-specific safety rules and procedures for the performance of the Work.
19. A plan for site security including prevention of unauthorized entry onto the Site and prevention of vandalism.
20. Any other related safety information.

C. The following special requirements shall also be met by the Contractor:
1. The Contractor shall have the HASP developed under the direction of a qualified person designated by the Contractor. A qualified person shall be a CIH, Certified Hazardous Material Manager (CHMM), or a certified Safety Professional (CSP). The designated qualified person shall be identified as the Health and Safety Manager (HSM) and shall have review and approval authority over the HASP.
2. At all times, the Contractor shall provide a designated HSO on-site who is capable of identifying existing and potential hazards in the work surroundings and who has authorization to take prompt corrective measures to eliminate or control them.

D. The qualifications of the HSO shall include:
1. Completion of the OSHA 40 hour HAZWOPER training and 8-hour HAZWOPER refresher training;
2. A minimum of one year of working experience at hazardous waste sites;
3. A working knowledge of Federal and State safety regulations;
4. Specialized training or documented experience (one year minimum) in personal and respiratory protective equipment program implementation, the proper use of air monitoring instruments, air sampling methods and procedure; and,
5. Certification training in first aid and cardiopulmonary resuscitation (CPR) by a recognized approved organization such as the American Red Cross.

E. The Contractor's HSO responsibilities shall be detailed in the HASP and shall include, but not be limited to the following:
1. Implementation of the HASP at the Site;
2. Ensuring that all workers are adequately trained in the procedures to recognize and avoid unsafe conditions as outlined in the HASP; and,
3. Authorization to stop work upon the determination of a health and safety concern.

3.03 WORK AREA CONDITIONS:

A. Provide and maintain temporary utility services and lighting for the duration of the Work.

B. A HSO shall be present at the Site at all times during the handling and management of hazardous and non-hazardous soil.

C. Display or have available at all times at the Site a copy of the approved HASP.

D. First-aid kits shall be readily available at the Site. At a minimum, basic medical assistance shall be available at the Site. Telephone numbers of local ambulance services and hospitals shall be posted near each telephone.

E. OSHA approved respirators shall be worn by personnel while exposed to hazardous concentrations of fumes, mists, or dusts.

END OF SECTION

SECTION 01066
EQUIPMENT AND MATERIAL DECONTAMINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This Section specifies the requirements for the decontamination (decon) of all equipment, machinery, vehicles, excavated objects, and materials utilized within the Exclusion Zone.

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01110 - Environmental Protection Requirements

D. Section 02370 - Soil Erosion and Sedimentation Control

1.03 REGULATORY REQUIREMENTS:

A. The Contractor shall observe and comply with all applicable Federal, State, and local laws, resolutions, ordinances and regulations that will in any way affect the Work. The Work performed under this section shall meet the specifications and regulations set forth in the following:
   1. Title 40, Code of Federal Regulations (CFR):
      a. 40 CFR Part 761.61: PCB Remediation Waste
      b. 40 CFR Part 761.79: Decontamination Standards and Procedures
      c. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces

1.04 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 STEAM CLEANING:

A. Any steam cleaning equipment utilized by the Contractor shall be a high-pressure, low-volume unit from an industry-recognized manufacturer.

B. Miscellaneous tools such as shovels, brooms and brushes shall be available.

C. Cleaning agents such as non-phosphate detergents shall also be available for use, as needed.

D. The Contractor shall use only materials and cleaning agents that will preclude creating hazards to human health, safety, and the environment.

E. The Contractor shall use each type of cleaning and decontamination material on only those surfaces recommended by the cleaning material manufacturer and in accordance with 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces.

2.02 DECONTAMINATION PAD MATERIAL:

A. The decontamination pad shall consist of a crushed stone area underlain with geotextile fabric conforming to the requirements and location specified here within or proposed by the Contractor and approved by the Engineer.

PART 3 - EXECUTION

3.01 DECONTAMINATION PAD:

A. The Contractor shall construct a decontamination pad and place it within the limits of the disturbance area. The pad shall be constructed so that rinsate water drains can be collected for classification and off-site disposal.

B. The decontamination pad shall be constructed by modifying an area of ground surface to accommodate the anticipated construction equipment at an appropriate location. The area shall be regraded, as necessary, upon completion of the Work. The Contractor may be required to relocate the decontamination pad during the course of the project as conditions warrant. This shall be done at no additional cost to Frito-Lay.

C. The decontamination pad shall provide complete secondary containment, be constructed by considering the balance between sump pump removal rates and the amount of fluid generated, be lined with double layer of geotextile fabric and with a thickness greater than 8 mil, drain in one general direction for sump pump collection, and covered with crushed stone in a manner that allows the rinsate water to be collected for classification and off-site disposal.

D. The decontamination pad shall be graded for easy entrance and exit for vehicles and equipment.

E. The decontamination pad shall be located near power and water, if possible.

F. Wood planks may be placed over the crushed stone at the Contractor's discretion to provide a traveling surface for vehicle wheels and equipment tracks.

G. The decontamination pad shall be of sufficient size to handle the largest piece of Contractor's equipment or any other item scheduled for handling at the decontamination pad. The Contractor shall prevent overspray outside the limits of the pad and the Exclusion Zone.

H. Maintenance of the decontamination pad to minimize dust and mud accumulation shall be performed by the Contractor.

I. For small equipment and personnel protective equipment (PPE) decontamination a smaller station shall be established in the contaminant Reduction Zone, between the Exclusion Zone and Buffer Zone.

3.02 DECONTAMINATION AND WASTE MANAGEMENT:

A. All equipment and material decontamination procedures shall be carried out on the decontamination pad only.

B. All soil erosion and sediment control measures shall be in-place throughout the entire duration of cleaning and decontamination activities.

C. Decontamination procedures shall include the removal of contaminated soil and debris from all construction equipment and tools utilized within the Exclusion Zone. All construction equipment shall be steam cleaned before leaving the Exclusion Zone.

D. Underground debris encountered during the execution of the Work (concrete, masonry, wood, or metal debris) shall be decontaminated, segregated and staged on-site within a designated area in preparation for off-site disposal or recycling, unless approved by the Engineer or Frito-Lay representatives for placement beneath the ground surface.

E. The Contractor shall include the following procedures, at a minimum, in decontamination operations before any construction equipment leaves the Exclusion Zone and before imported clean materials are placed after machinery has been in contact with contaminated materials:
   1. Mechanically remove soil or other material particles.
   2. Wash with a low-volume high-pressure power washer to remove all residual soil and chemicals to the satisfaction of Engineer.
   3. Collect and containerize all decontamination fluids for classification and off-site disposal.

F. The Contractor shall include the decontamination procedures referenced in 40 CFR 761.79 and Subpart S – Double Wash/Rinse methods for Decontaminating Non-Porous Surfaces, at a minimum, in decontamination operations before any construction or sampling equipment leaves the Exclusion Zone and before imported clean materials are placed after machinery has been in contact with PCB contaminated materials.

G. Special attention shall be paid to removal of contaminated soils and materials from the undercarriages of all equipment. Industrial grade, non-phosphate detergents may be utilized.

H. All wash water generated during the decontamination procedures shall be collected for classification and off-site disposal and not allowed to pool or runoff to adjacent properties, roadways, and surface water bodies.

3.03 DECONTAMINATION WASTE MANAGEMENT:

A. All equipment and materials used for decontamination must be decontaminated or disposed of properly at an appropriate disposal facility.

B. Collect sampling equipment, decontamination, decontamination pad, and heavy equipment decontamination liquid and waste and store in appropriate drum or container.

1. Liquid waste will be generated during equipment decontamination. Package wastewater in DOT-approved 55-gallon containers or other suitable containers for sample collection and shipment to an appropriate disposal facility.
2. The decontamination liquid will be sampled at the frequency specified by the disposal facility and for the parameters required for waste acceptance at the facility.

C. Collect decontamination pad and heavy equipment decontamination solid waste and store in appropriate drum or container.

1. Package solid waste from decontamination heavy equipment procedures in DOT-approved 55-gallon containers or other suitable containers for sample collection and shipment to an appropriate disposal facility.
2. The decontamination solid waste will be sampled at the frequency specified by the disposal facility and for the parameters required for waste acceptance at the facility.
3. The decontamination solid waste will be sampled at the frequency specified by the disposal facility and for the parameters required for waste acceptance at the facility.

D. Once contaminated soils excavation activities at the Site have been completed, the decontamination pad will be disassembled, each component handled properly sampled for disposal purposes, dismantled, and disposed of at an appropriate disposal facility.

1. The stone base will be tested to determine the most appropriate end use or disposal method. The liner will be pressure washed. The geotextile will be properly disposed at a lined landfill. It is anticipated that these materials will be disposed in a lined landfill.

E. PPE, disposal sampling equipment, gloves, and plastic sheeting (soil stockpile covers and liners) that are generated throughout remediation activities shall be placed in plastic garbage bags. If the solid that was being handled is characterized as hazardous waste, then the corresponding PPE should also be disposed as hazardous waste. If not, all PPE should be disposed as non-hazardous waste in the designated on-site landfill.

1. PPE, disposal sampling equipment, gloves, and plastic sheeting shall be placed in trash bags and place into drums designated for non-hazardous or hazardous waste disposal.

F. Discarded materials, waste materials, field equipment and supplies will be handled to preclude the potential for spreading contamination. Potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed with appropriate labeling affixed as regulated, and disposed of and shipped with other hazardous materials. Non-contaminated materials shall be collected, bagged, and disposed of as simple non-hazardous solid waste.

G. Solid, liquid, or PPE waste generated during investigation activities that are classified as nonhazardous or “characterization pending analysis” should be disposed of as soon as possible. Until disposal, such containers should be inventoried, stored as securely as possible, and inspected regularly, as a general good practice.

H. Solid, liquid, or PPE waste generated during remediation activities that are classified as hazardous shall not be accumulated on-site longer than 90 days.

3.04 INSPECTION AND DOCUMENTATION:

A. The Engineer shall oversee all decontamination operations.

END OF SECTION

SECTION 01100
CONSTRUCTION, DEMOLITION, AND SOLID WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for managing construction and demolition and other solid waste.

1.02 RELATED SECTIONS

A. Section 01065 - Health and Safety Requirements

B. Section 01110 - Environmental Protection Requirements

C. Section 02120 - Off Site Transportation and Disposal

D. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

E. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

F. Section 02370 - Soil Erosion and Sedimentation Control

1.03 DEFINITIONS:

A. Construction and Demolition (C&D) Debris: Uncontaminated solid wastes such waste includes but is not limited to bricks, concrete, rebar, asphalt, wood, glass, metal, gypsum wallboard, roofing, insulation, rock, soil, etc. (as defined in NYCRR 360 regulations).

B. Diversion from Landfill: To be removed from the site for recycling, reuse or salvage; material that would otherwise be sent to a landfill.

C. Recyclable: A product or material recovered from the waste stream and remanufactured into a new product.

D. Recycle: To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture or useful products.

E. Salvage: To redirect a waste material from the project site for acceptable resale or reuse.

F. Waste: Discarded material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable and reusable material.

G. Contaminated Soil: Soil which contains hazardous and/or non-hazardous concentrations of specific chemicals/compounds which exceed New York State

Department of Environmental Conservation (NYSDEC) Part 375 Soil Cleanup Objectives (SCOs) (Unrestricted Use SCOs, Restricted Use – Commercial SCOs, and Restricted Use – Industrial SCOs) or United States Environmental Protection Agency (EPA) High Occupancy Area (HOA) or Low Occupancy Area (LOA) criteria for polychlorinated biphenyls (PCBs).

H. Decontamination Materials: Soil or wastewater that is generated during the decontamination of personnel, contaminated personnel protective equipment, decontamination fluids, etc. that was generated during the course of contaminated soil excavation and decontamination activities.

I. Waste Management Plan: A project related management and tracking plan for the collection, storage, transportation, and disposal of waste generated at the Site. The purpose of the plan is to manage and track the disposal and reuse of waste generated during the Work and ultimately reduce the amount of material disposed of in landfills.

1.04 SUBMITTALS:

A. Waste Management Plan:
   1. The Contractor shall be responsible for the development and implementation of a Waste Management Plan for the project.
   2. Prior to any waste removal, the Contractor shall furnish the Waste Management Plan by which he proposes to implement the requirements of this section for acceptance by Engineer and the Frito-Lay.
   3. The Waste Management Plan shall contain the following:
      a. Estimated types and quantities by weight, of construction and demolition, other wastes, and contaminated soil expected to be generated by the project.
      b. Material handling procedures. A description of the means by which waste materials and contaminated soil will be gathered, stored and managed on site and transported for final disposition.
      c. Identify vendors providing transportation of waste materials and contaminated soil, and facilities accepting these waste materials and contaminated soils. The Contractor shall submit a list of proposed vendors to be used for pre-approved by the Engineer. Provide names, addresses, and telephone numbers of vendors to contact.

B. Waste Management Report:
   1. The Waste Management Report shall contain the following:
      a. The Contractor shall submit a record of the type and quantity, by weight, of each material/soil disposed.
      b. Submit weekly progress and final reports that detail materials, quantities, disposal methods and handling procedures used to manage C&D, other waste materials, and contaminated soil. This report shall be coordinated with the Waste Tracking Reports prepared to document the management of all other wastes/contaminated soil generated during the work.
      c. Disposal Receipts. A copy of receipts issued by a disposal facility for the acceptance of waste disposed in a landfill.

d. A copy of receipts issued by an approved recycling facility. For salvaged materials, provide receipts for materials salvaged for reuse on site, sold, or donated to a third party.

1.05 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 - Measurement and Payment.

PART 2 - PRODUCTS

None Used

PART 3 - EXECUTION

3.01 GENERAL:

A. The Contractor shall ensure that the least possible amount of waste is generated during the Work.

B. The Contractor shall efficiently manage processes that ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, spills, mishandling, contamination or other factors.

C. The Contractor shall use alternative techniques of waste disposal such as recycling, salvage and/or reuse that minimizes the amount of waste generated during the demolition/construction process and disposed of in landfills, if practical.

D. Provide the appropriate containers for waste that is to be recycled clearly labeled as such with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials recycled at the receiving material recovery facility or recycling processor.

E. Provide clearly labeled containers for waste that is to be disposed of in landfills.

F. Conduct regular visual inspections of waste handling procedures and storage container at the Site to ensure that wastes other than contaminated soil and groundwater are not contaminated.

G. Waste minimization and recycling activities shall be discussed at the beginning of each daily safety meeting.

END OF SECTION

SECTION 01110
ENVIRONMENTAL PROTECTION REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section covers the requirements for compliance with environmental precautions and controls.

1.02 RELATED SECTIONS:

A. Section 01065 - Health and Safety Requirements

B. Section 01066 - Equipment and Material Decontamination

C. Section 01100 - Construction and Demolition and Solid Waste Management

D. Section 01611 - Waste Handling and Management

E. Section 02120 - Off-Site Transportation and Disposal

F. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

G. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

H. Section 02370 - Soil Erosion and Sedimentation Control

1.03 REGULATORY REQUIREMENTS:

A. The Contractor shall observe and comply with all applicable Federal, State and local laws, resolutions, ordinances and regulations that will in any way affect the Work. The Work performed under this section shall meet the specifications and regulations set forth in the following:
1. Title 40, Code of Federal Regulations (CFR):
    a. 40 CFR Part 261 Identification and Listing of Hazardous Wastes
    b. 40 CFR Part 262 Standards Applicable to Generators of Hazardous Waste
    c. 40 CFR Part 268 Land Disposal Restrictions
    d. 40 CFR Part 761.61: PCB Remediation Waste
    e. 40 CFR Part 761.79: Decontamination Standards and Procedures
    f. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces
2. New York Standards – New York Codes, Rules, and Regulations (NYCRR):
    a. 6 NYCRR Part 360 Solid Waste Regulations
    b. 6 NYCRR Part 370 Hazardous Waste Management
    c. 6 NYCRR Part 371 Identification and Listing of Hazardous Wastes
    d. 6 NYCRR Part 373 Standards Applicable to Generators of Hazardous Waste
    e. 6 NYCRR Part 376 Land Disposal Restrictions
    f. 6 NYCRR Part 374 Management of Specific Types of Hazardous

Wastes

3. United States Department of Labor (USDOL), Occupational Safety and Health Administration (OSHA), Title 29, Code of Federal Regulations (CFR):
   a. 29 CFR 1904: Recording and Reporting Occupational Safety and Health Standards.
   b. 29 CFR 1910: Occupational Safety and Health Standards.
   c. 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response.
   d. 29 CFR 1926: Safety and Health Regulations for Construction.
   e. 29 CFR 1926.59: Hazard Communication Standard.
   f. 29 CFR 1926.65: Hazardous Waste Operations and Emergency Response.
   g. 29 CFR 1926.103: Respiratory Protection Standard.
4. UMTA Circular (5620.1) - UMTA, Urban Mass Transportation Administration.
5. Stormwater Pollution Prevention Plan (SWPPP) for Construction and Post-Construction Activities as found in New York State Department of Environmental Conservation (NYSDEC) General Permit for Construction Activity (GP-0-10-001), Guidelines for Erosion Control in Urban Areas of New York State, U.S. Department of Agriculture Soil Conservation Services, New York Standards and Specifications for Erosion and Sediment Control, Empire State Chapter of the Soil and Water Conservation Society, and the New York State Stormwater Management Design Manual @ http://www.dec.ny.gov/chemical/29072.html.
6. Guidelines for Erosion and Sediment Control in Urban Areas of New York State, U.S. Department of Agriculture, Soil Conservations Service, and NYSDEC General Permit for Construction Activity (GP-0-10-001).

1.04 PERMITS:

A. All permits required by regulating agencies shall be obtained by the Contractor. Work shall not commence in areas requiring permits prior to issuing of said permits from authorities having jurisdiction. In obtaining permits the Contractor shall:
   1. Coordinate with regulating agencies to assure the identification of all required permits. Applications are to be submitted for review and approval by the Engineer and Frito-Lay prior to submission to the regulatory agency and all contact with any environmental regulatory agency must receive prior approval from the Engineer and Frito-Lay.
   2. Prepare and submit Notice of Intent which is required for coverage under the NYSDEC General Permit for Construction Activity (GP-0-10-001), unless provided by the Owner.
   3. Unless the Engineer requests that it be maintained for a longer period of time, prepare and submit Notice of Termination under the NYSDEC General Permit for Construction Activity (GP-0-10-001) upon completion of all Work.
   4. Submit copies of Notice of Intent, Notice of Termination, and permits to the Engineer and Frito-Lay, unless provided by the Owner.

1.05 SUBMITTALS:

A. Management and Disposal of Waste Material.
   1. The Contractor should only use waste material transporters and disposal sites for off-site disposal of waste material or hazardous and/or non-hazardous contaminated soil that have already been approved by the Engineer and Frito-Lay.

2. Waste of any type including hazardous, non-hazardous contaminated soil, construction and demolition debris and solid waste generated within the job site shall not be moved except in accordance with Federal, State and local regulations. In no event shall hazardous waste/soil remain on the site for more than 45 days from generation or non-hazardous waste/soil or excavated contaminated soils remain on the site more than 60 days. A Waste Management System shall be developed and maintained to track the removal and disposal of all wastes from the Site. Copies of Weight Tickets/Bill-of-Lading and/or Waste Profile Sheets, Waste Manifests (for Hazardous Waste) must be submitted to the Engineer for authorization prior to off-site disposal.
3. Within 10 calendar days after receipt of Notice of Award, the Contractor shall submit a Waste Management Plan for approval by the Engineer. The Plan shall detail all measures and procedures to be undertaken by the Contractor to identify, characterize, manage, properly store, label and dispose of wastes (solid, construction/demolition, non-hazardous and hazardous) generated during site activities. The Plan shall:
    a. Describe methods of storage for all waste materials generated at the jobsite and at other locations.
    b. Describe methods to transport waste material to final disposal site(s). Contractor is to note that the use of transfer facilities is not permitted by the Engineer and Frito-Lay. All transport of environmentally regulated materials must be direct from the generation site to the ultimate disposal site. Transporters must be identified and permits submitted to the Engineer for approval.
    c. Identify all final disposal sites and submit permits as required by the Engineer and Frito-Lay for approval.
    d. The Engineer will collect all endpoint and waste classification samples required for NYSDEC approval and off-site disposal. Copies of the laboratory results shall be provided to the Contractor upon review and acceptance by the Engineer.
    e. Identification of a person responsible for implementation and compliance with the Plan.

B. Within 10 days after the Notice of Award, the Contractor shall submit a Spill Prevention and Response Plan for approval by the Engineer. The Plan shall detail all site-specific measures and procedures to be undertaken by the Contractor to prevent the release to the environment substances defined as hazardous by Federal and State agencies and to respond in the event that the Contractor causes a release. In addition, the plan shall identify available on-site equipment and Contractor personnel who will be responsible for implementation of the Plan. The Plan shall include a map of the Site with locations of surface waters. The Plan shall describe measures to orient and train personnel on measures to comply with the Plan. The Plan shall also identify all agencies to be notified in the event of a spill including Frito-Lay, the Engineer, and emergency contact phone numbers for all agencies listed.

C. A Fugitive Dust Emissions Control Plan shall be submitted within 10 calendar days after the Notice of Award. The Plan shall describe all site-specific measures to be undertaken for the control of fugitive dust and shall be in conformance with the Community Air Monitoring Plan (CAMP) prepared for the Site and previously accepted by NYSDEC. Activities covered shall include, but not be limited to, excavation activities, storage of soil and debris, soil load-out for transportation and disposal, and other construction-related activities. The Plan shall list all the methods utilized for fugitive emissions control, and must meet all applicable standards and requirements for air pollution control.

1.06 PREVENTION OF ENVIRONMENTAL POLLUTION AND PRESERVATION OF PUBLIC NATURAL RESOURCES:

A. The Contractor shall comply with all provisions of Federal, State, and local statutes, ordinances, regulations, and permit requirements pertaining to the prevention of environmental pollution and the preservation of natural resources.
   1. NYCRR Parts 700-705, Water Quality Regulations.

B. The Contractor shall be liable for the payment of all fines and penalties resulting from failure to comply with the regulatory environmental requirements of Federal, State, and local authorities.

C. It shall be the responsibility of the Contractor to report to the Engineer and Frito-Lay without delay, all incidents involving chemical, oil or other contaminated discharges into State waters or onto adjacent land and to immediately report those incidents to the appropriate regulatory agencies.

1.07 WATER QUALITY:

A. The Contractor shall take all necessary precautions to prevent pollution, erosion, siltation, and damage to property and adjacent water bodies; shall provide for the continuing, uninhibited flow of all water courses, including ditches and drains intercepted during the progress of the work; and shall complete restoration work in accordance with the directions of the Engineer.

1.08 JOBSITE CLEANLINESS:

A. The Contractor shall operate and maintain all equipment necessary for the safe excavation, removal, and disposal of hazardous and non-hazardous contaminated soil and construction debris from the various parts of the Work. The Contractor's equipment and jobsite shall be kept clean and orderly at all times during working and non-working hours.

1.09 AIR QUALITY:

A. The Contractor shall not cause or allow the discharge of particulate matter, the emission of any air contaminants, or odor bearing gases in excess of the limits set forth by Federal, State and local authorities. The Contractor shall maintain air quality within the national emission standards for hazardous air pollutants.

B. The Contractor shall minimize the potential for air pollution caused by the Work by dust control methods, by the use of emission control devices on Contractor operated equipment and by the shut-down of motorized equipment when not in use. Vapor control, if needed, shall be provided by the Contractor. Trash burning will not be permitted on the Site.

1.10 NOISE CONTROL:

A. All equipment and operations shall not exceed permissible sound levels for construction and equipment operations established by all Federal, State, and local agencies having jurisdiction.

B. All mechanical equipment utilized on-site shall conform to New York State and local noise codes.

C. Haul routes for construction and waste disposal shall be selected to provide the maximum distance possible between the construction site and nearby residential receptors.

D. The placement of idling equipment, air compressors, and generators near noise sensitive receptors shall be avoided; such equipment not in use shall be powered down. All such locations shall be approved by the Engineer and Frito-Lay.

E. Construction noise levels shall be restricted to those set forth in the UMTA guidelines (UMTA (Circular 5620.1)), where the noise limits for mobile construction equipment operating near an arterial residential zone is 85dBA.

F. The Contractor shall be responsible for responding to all summons or complaints and paying any and all fines levied against him/her resulting from noise control code violations. If Frito-Lay is fined or penalized, in addition to other remedies Frito-Lay may possess, as a result of the Contractor's violations, said fine or penalty shall be deducted from the Contractor's payment on the appropriate bid items of work.

1.11 OIL SPILL PREVENTION AND CONTROL:

A. The Contractor shall take all necessary precautions to prevent and control the spill and spread of fuel and oil, and shall comply with the provisions of the Spill Prevention and Response Plan. The following requirements shall be incorporated into the Spill Prevention and Response Plan submitted by the Contractor and approved by the Engineer.

1. Discharge of fuel and oil from any equipment or facilities into public waters or onto land will not be permitted.

2. All fuel storage containers shall be stored in designated areas and precautions (such as roping off the areas and/or secondary containment) shall be taken to minimize the chance of spills. Machinery shall be refueled only in areas designated in the Plan.

3. Fuel hoses, oil drums, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent discharges. Proper security shall be maintained to discourage vandalism.

4. The Contractor shall make available spill kits, absorbent pads and materials, drums, and other types of spill cleanup materials to cleanup spills that occur during the Work.

5. All Contractor personnel shall be made aware of the location of absorbent materials and in the event of a spill, shall use such materials to contain the spill and absorb the spillage and shall do everything possible to prevent the entry of oil into drains or waterways.

6. The Spill Prevention and Response Plan Administrator shall be identified in

the Plan. In the event of a spill, the Contractor shall immediately notify the Engineer. The Engineer will advise field personnel whether or not work shall be continued at the location. The Engineer shall contact the NYSDEC in such an event to satisfy its reporting requirements. Although the Contractor should not contact NYSDEC directly unless directed to do so by the Engineer, it shall advise the Engineer on technical matters in facilitating the decision process and in communicating with the NYSDEC in consultation with the Engineer. Nothing in this procedure shall be construed as relieving the Contractor from any regulatory responsibilities.

1.12 DECONTAMINATION:

A. The Contractor shall provide for decontamination of all equipment and shall be responsible for clean-up of the Site or equipment and the disposal of all materials contaminated by the Work as specified in Section 01066 - Equipment and Material Decontamination and as specified in other project-related specifications.

B. The Contractor shall include the decontamination procedures referenced in 40 CFR 761.79 and Subpart S – Double Wash/Rinse methods for Decontaminating Non-Porous Surfaces, at a minimum, in decontamination operations before any construction or sampling equipment leaves the Exclusion Zone and before imported clean materials are placed after machinery has been in contact with PCB contaminated materials.

1.13 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 - Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

Not Used

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section outlines the submittal requirements in the Contract Documents.

B. All submittals shall include calculations, laboratory results, certificates, design drawings, plans, photos, reports, records, diagrams and details, where applicable, to assist the Engineer in his review.

1.02 RELATED SECTIONS

A. Section 01010 – Summary of Work

1.03 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 - Measurement and Payment.

PART 2 - PRODUCTS

2.01 SUBMITTALS:

A. Submittals to the Engineer include, but are not limited to the following:

1. Submittal Register.
2. HAZWOPER documentation/certification.
3. Construction schedule and progress reports.
4. Project Implementation Plan (defined in Section 01010 - Summary of Work).
5. List of damage to property that exists prior to construction.
6. Site-specific Health and Safety Plan.
7. Waste Management Plan.
8. Waste Management Report.
9. NYSDEC General Permit for Construction Activity (GP-0-10-001).
10. Spill Prevention and Response Plan.
11. Soil Erosion and Sediment Control Plan.
12. Fugitive Dust Emissions Control Plan.
13. Traffic Control Plan.
14. Clean Fill Certification for backfill material.
15. Analytical acceptance and conformance test results of backfill material. Test results cannot be older than 3 weeks and test results must be from an independent testing laboratory and not from the source supplier.
16. Disposal manifests and bills of lading for all materials disposed off-site.
17. Project closeout and demobilization punch list item status.

PART 3 - EXECUTION

3.01 SUBMITTAL REGISTER:

A. The Contractor shall develop the submittal requirements by producing a submittal register. The Contractor shall be responsible for listing all required submittals necessary to ensure that the project requirements are complied with. The Register shall identify submittal items such as shop drawings, manufacturer's literature, certificates of compliance, material samples, and test results that the Contractor shall submit for review. The Engineer shall edit the submittal register and specifications to designate which submittals are for Engineer Approval or for Engineer Information and indicate that submittals are for Engineer Information or Approval.

B. The approved Submittal Register will become the scheduling document and will be used to control submittals throughout the duration of the Work. This register and the progress schedules shall be coordinated with the Engineer. After initial approval of the Contractor's Submittal Register, the Contractor shall submit one (1) copy of the revised and/or updated Submittal Register to the Engineer.

3.02 SUBMITTAL PROCESS:

A. The Contractor shall submit all items listed in the other sections of these specifications. The Engineer may request submittals in addition to those listed when deemed necessary to adequately describe the Work covered in the respective sections. Units of weights and measures used on all submittals shall be the same used in the Contract Documents. Each submittal shall be complete and in sufficient detail for ready determination of compliance with the contract requirements. Three (3) copies of each submittal shall be provided to the Engineer for distribution to others as necessary. Each item shall be transmitted on a form acceptable to the Engineer.

B. The Contractor shall not commence the Work requiring submittals until return of submittals with Engineer's approval and/or acceptance.

3.03 DRAWING SUBMITTALS:

A. Each required submittal which is in the form of a drawing shall be submitted as two (2) paper copies and one (1) electronic version (AutoCAD 2008 or later version). The Contractor is responsible for contacting the Engineer prior to submittal to determine the acceptable electronic format.

3.04 CONTROL OF SUBMITTALS:

A. The Contractor shall carefully control their operations to assure that each individual submittal is made on or before the corresponding date scheduled on his accepted submittal register.

3.05 SUBMITTAL REVIEW:

A. When Reviewed without Comments:
   1. A review without comments by the Engineer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Review will not relieve the Contractor of the responsibility for any error which may exist as the Contractor, under quality assurance requirements of this contract, is responsible for the satisfactory performance of all work.

B. When Not Approved:
   1. The Contractor shall make all corrections required by the Engineer and promptly furnish a corrected submittal in the same manner as specified for initial submittals. The Work involved may not proceed until submittal is corrected/redrawn and resubmitted. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract or contract price, a notice must promptly be given to the Engineer.

C. Re-submittal Requirements:
   1. The Contractor shall clearly identify changes made from the initial submittal other than those requested by the Engineer. The Engineer will review only those changes that were requested and those identified by the Contractor.

D. Withholding of Payment:
   1. Payment for materials incorporated into the Work will not be made if required submittals have not been received from the Contractor.

3.06 CERTIFICATES OF COMPLIANCE:

A. Any certificates required for demonstrating proof of compliance of materials with drawing, specification and Work requirements shall be executed in three (3) copies. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specified requirements.

B. Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract by the Engineer's approval of shop drawings, product data or samples unless the Contractor has specifically informed the Engineer, in writing, of such deviation at the time of submission and the Engineer has given written approval to the specific deviation. Contractor shall not be relieved from responsibility for errors or omissions in the shop drawings, product data, or samples by the Engineer's approval thereof.

3.07 PURCHASE ORDERS:

A. Each purchase order issued by the Contractor or his subcontractor for materials and equipment to be incorporated into the Work shall (1) be clearly identified with the applicable contract number, (2) carry an identifying number, (3) be in sufficient detail to identify the material being purchased, and (4) indicate a definite delivery date. Copies of purchase orders shall be furnished to the Engineer when requested for the purpose of review.

END OF SECTION

SECTION 01510
TEMPORARY SITE FACILITIES AND UTLITIES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section includes furnishing, installing, operating, and maintaining by the Contractor the following temporary facilities and utilities for the Contractor.

B. Temporary Facilities:
1. Contractor's Office.
2. Decontamination Facilities.
3. Health and Safety Equipment Storage.
4. Stockpiling and Material Storage Areas.
5. Fences and signage (for traffic control).
6. Barricades.
7. All other temporary facilities required to perform the Work.

C. Temporary Utilities:
1. Electricity and lighting.
2. Telephone, paper copy, and fax service.
3. Water supply.
4. Sanitary facilities (port-o-let, etc.).

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01066 - Equipment and Material Decontamination

D. Section 01110 - Environmental Protection Requirements

E. Section 01610 - Storage of Materials

F. Section 01740 - Project Closeout and Demobilization

G. Section 02100 - Mobilization and Site Preparation

1.03 SUBMITTALS:

A. The following information shall be submitted to, and accepted by the Engineer, prior to delivery and installation at the site:
1. Copies of all applicable permits.
2. Trailer - materials of construction, size, number, and location.
3. Electricity supply and lighting - source point, layout locations, fixtures, and materials.
4. Water supply and sanitary facilities - source point, layout locations, fixtures, materials, and methods of disposal.

5. Stockpiling and storage areas - layout and locations.
6. Decontamination pad.

B. The Contractor shall supply, provide, and maintain all materials, fabrication, installation, and delivery of services as specified in this section for complete and proper site mobilization.

1.04 REQUIREMENTS OF REGULATORY AGENCIES:

A. Electricity and lighting shall be in accordance with Federal, State, and local regulations, as well as local utility company requirements. All work shall be performed by a licensed electrician in accordance with the most current version of the National Electric Code.

B. Sanitary facilities, and disposal of sanitary wastes, shall be in accordance with Federal, State and local regulations.

C. The Contractor shall be responsible to obtain all permits and approvals required for temporary facilities and utilities from local agencies.

1.05 LOCATION:

A. All facilities specified shall be located on site within the Support Zone, unless otherwise approved the Engineer.

B. The security, communications, and equipment storage areas may be contained within the same or separate structures, at the Contractor's option.

1.06 RESPONSIBILITY:

A. The Contractor shall be responsible for the security, operation, maintenance, and removal of all equipment and systems to assure that necessary services are provided without disruption.

B. The Contractor shall be responsible for all costs associated with connecting and disconnecting electric and water service required for the work.

C. The Contractor shall be responsible for all telephone charges including installation, service charges, and discontinuance.

D. The Contractor shall not permit temporary installations to be abused or endangered. Do not allow hazardous, dangerous or unsanitary conditions to develop or persist at the Site.

1.07 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. All materials shall be suitable for their intended use and shall conform to applicable codes and standards. Manufacturers' requirements shall be strictly adhered to. Used materials may be utilized provided that they are sound and capable of performing the intended function.

2.02 EQUIPMENT:

B. All equipment shall be suitable for their intended use and shall conform to applicable codes and standards. Equipment manufacturers' requirements shall be strictly adhered to. Used equipment may be utilized provided that they are sound and capable of performing the intended function.

PART 3 - EXECUTION

3.01 GENERAL:

A. The Contractor shall be responsible for designing, furnishing, and installing all temporary site facilities required for the performance of Work.

3.02 ELECTRICITY AND LIGHTING:

A. All temporary electric service for the Site shall be provided by the Contractor and costs associated with connection and shutoffs are the responsibility of the Contractor.

B. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and characteristics to accommodate performance of Work during the construction period.

C. Circuits shall be provided of adequate size and proper characteristics for each use. In general, the Contractor shall run wiring overhead and rise it vertically where wiring will be least exposed to damage from construction operations.

D. Provide over-load protected disconnect switch for each temporary circuit and each temporary lighting circuit, located at the power distribution center.

E. Include necessary meters, transformers, overload protected disconnect, and main distribution switch gear. Provide temporary service with an automatic ground-fault interrupter activated from the circuits of the systems.

F. Site electric service shall originate at a source(s) near the Site. It shall be the responsibility of the Contractor to ascertain site power requirements and provide appropriate service and suitable protection for all services in accordance with applicable electrical code(s).

G. Service shall be brought to immediate work areas of the Site, as required, by construction-type power cords in accordance with OSHA standards. Distribution boxes and circuit wiring shall be provided, if required, to meet the required power needs.

H. The Contractor shall provide temporary light and power to all workers during all working hours.

3.03 TELEPHONE SERVICE:

A. The Contractor shall make all arrangements with the telephone company and pay all costs for providing telephone services as specified herein and for his additional requirements. Telephone service is to include one (1) telephone line and one (1) fax line, at a minimum. Cell phones and personnel computers with internet, e-mail, and scanning capabilities can be used in lieu of telephone service.

3.04 WATER SYSTEM:

A. All water service for the Site shall be provided by the Contractor, including costs associated with connection and shutoff.

B. Site water may be stored in holding tanks and distribution piping or by tank trucks or any combination thereof.

C. A high-pressure low volume steam-cleaning system shall be provided for equipment and vehicle decontamination after the mud and/or dirt has been cleaned from the equipment and vehicles. The Contractor is required to collect and dispose of the wastewater resulting from the decontamination of the equipment and vehicles which shall be collected, sampled, and disposed of in accordance with Federal, State, and local regulations.

3.05 DECONTAMINATION WATER:

A. Water from personnel and equipment decontamination activities shall be collected, sampled, and disposed of in accordance with Federal, State, and local regulations.

3.06 DUST CONTROL WATER:

A. Water for dust control activities shall be stored in tank trucks and shall be available throughout the course of the Work.

3.07 POTABLE WATER:

A. The Contractor shall furnish and maintain a safe drinking water supply readily available to all workers and the Engineer.

B. The Contractor shall furnish and maintain a 5-gallon bottled water supply at the office trailer.

3.08 SANITARY WASTE SYSTEM:

A. Suitably enclosed chemical or self-contained toilets shall be provided by the Contractor for the use of the persons involved in the Work.

B. Toilets shall be located near the Work and secluded from observation insofar as possible. Toilets shall be serviced at a minimum of one time per week, and kept clean and supplied throughout the course of the Work. The Contractor shall provide and pay for all maintenance and servicing of these toilet facilities.

3.09 CONTRACTOR'S OFFICE TRAILER:

A. Prior to installation of an office trailer, the Contractor shall consult with the Engineer in regard to location, access, and related facilities. The trailer shall be installed and maintained in accordance with applicable requirements and code.

B. The office trailer shall be equipped with a first aid kit suitable for first aid treatment for on-site personnel. The Contractor shall maintain first aid kits for the duration of the Work.

C. The on-site office trailer shall be structurally sound and weather-tight, with floors raised above ground and open to allow free circulation of air.

D. The on-site office trailer shall be equipped with built-in heating, air conditioning, lighting, and electrical connections.

E. The on-site office trailer shall be maintained throughout the course of Work and shall be removed from the Site at the close of Work upon final acceptance of the Contract Work by the Engineer.

3.10 PERSONNEL DECONTAMINATION FACILITIES:

A. An area shall be provided for personnel decontamination. Refer to Section 01065 - Health and Safety Requirements.

3.11 STOCKPILING AND STORAGE AREAS:

A. Contractor shall provide separate areas for stockpiling of materials and equipment as may be required for his operations. Refer to Section 01610 - Storage of Materials and Equipment.

3.12 CONSTRUCTION ENTRANCE:

A. The Contractor shall construct a stabilized construction entrance and/or construction access roads, as needed to perform the Work, with crushed stone to accommodate heavy truck traffic, in accordance with the Construction Drawings and Section 01110 - Environmental Protection Requirements.

B. Prior to placing crushed stone, the subgrade shall be shaped and compacted and shall be free from water pockets. The crushed stone access roads shall be constructed in one (1) layer of a minimum thickness of six (6) inches and compacted to a hard, smooth surface capable of withstanding the anticipated loads. Contractor shall maintain the construction entrance(s) and access roads in satisfactory condition throughout the duration of the Work.

3.13 CLOSURE:

A. The Contractor shall submit to the Engineer evidence of final payment for all utility services.

B. The Contractor shall decontaminate facilities and equipment where required.

C. Unless the Engineer requests that it be maintained for a longer period of time, the Contractor shall remove each temporary service and facility promptly when the need for it or a substantial portion of it has been completed, or no later than substantial completion.

END OF SECTION

SECTION 01513
TRAFFIC CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for providing all labor, equipment, supplies, and materials for traffic control during all phases of construction activities.

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01110 - Environmental Protection Requirements

D. Section 02370 - Soil Erosion and Sedimentation Control

1.03 SUBMITTALS:

A. The Contractor shall include and submit a Traffic Control Plan that addresses ingress and egress to and from the Site, truck staging areas, traffic routes, and other traffic control measures implemented during the course of Work.

B. Update the Traffic Control Plan as necessary to keep the Engineer and Frito-Lay informed of traffic routing. The Engineer must approve all traffic disruptions and/or detours during the Work.

C. Traffic Control Schedule.
   1. Plan for vehicular traffic control compatible with construction procedures employed in each construction area.
      a. Incorporate construction sequencing to form continuous traffic control schedule.
      b. Include procedures for vehicular traffic routing and protection in immediate construction area and surrounding area during working and nonworking hours.

D. Traffic Control Plan shall include:
   1. Contractor's contact person(s) with 24-hour telephone number.
   2. Contact agencies with telephone numbers as applicable: Engineer, Frito-Lay, local traffic authority, and other effected agencies.

E. The Engineer will review schedules and updates only for maintenance of adequate traffic patterns within and through construction areas. The Engineer's review and acceptance shall not be construed as confirming adequacy of protection measures proposed. The Engineer will notify personnel employed at Frito-Lay of construction schedules and traffic plans. The Contractor shall be solely responsible for full protection of public and Contractor's own forces.

F. The Contractor shall be responsible for insuring the Traffic Control Plan is acceptable to the Engineer and the Borough of Brooklyn. The Contractor shall be responsible for paying for any traffic control officers (i.e., Police) that may be needed during flow of construction traffic on the public right- of-ways.

1.04 PROJECT/SITE CONDITIONS:

A. The Contractor shall utilize specific entrances for material deliveries, equipment deliveries, workmen access to the Site, contaminated soil removal and transportation, as approved and directed by the Engineer. The selected entrances will remain open and accessible to the Contractor during normal working hours. The Contractor is expressly prohibited from using any other entries into the Site during the construction activities, unless granted by the Engineer only after Frito-Lay's concurrence.

B. In the event the Contractor requires to access the Site outside the normal working hours, such access shall be granted by the Engineer only after Frito-Lay's concurrence.

C. Onsite parking areas shall be arranged and maintained by the Contractor. Parking shall occur near the location of the temporary facilities. Appropriate space should be made available to the Contractor, his Subcontractors, Frito-Lay, and the Engineer. Access roads and parking areas shall be maintained by the Contractor so as to be fully usable in all weather conditions.

D. The Work must be staged to minimize the disruption to the ongoing adjacent facility operations.

E. Keep work areas open to vehicular traffic to maximum extent practical. Provide safe passage of such traffic and continuous access for emergency vehicles.

1.05 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 VEHICULAR TRAFFIC CONTROL:

A. Provide traffic control for Work in or adjacent to streets, alleys, and highways.

B. General:
   1. For unpaved trenches and other disturbed areas: flashing light barricades, Type I or II, to channelize traffic into undisturbed areas.
   2. At ingress and egress locations: flashing light barricades, Type III, to screen off disturbed areas in trenches.

C. During Working Hours:
   1. The Contractor shall protect his employees from vehicular traffic traveling through the construction area by providing measures to isolate the construction site. Temporary construction barriers shall be installed to preclude the drivers from entering the Contractor’s work zone. Such measures may include:
      a. Chain link fence.
      b. Temporary concrete barriers.
      c. Signage.
      d. Flashing lights.
   2. If the Contractor deems that contaminated soil excavation and removal activities at site-specific areas cannot be completed in a single day, temporary construction barriers and signs shall be removed at the end of each workday and re-erected at the beginning of the following work day unless otherwise directed by the Engineer.
   3. The perimeter of the work area shall be isolated with light duty barricades, such as cones, and warning sign arrangements and controls.
   4. Work anywhere in right-of-way shall receive warning/barricading in accordance with NYSDOT requirements.

D. Traffic Control for Contractor’s Equipment.
   1. The Contractor shall prevent interference with local traffic and Frito-Lay’s operations on existing roads.
   2. Where equipment enters or leaves public roadways, provide warning signs or barricades. In moderate and high vehicular traffic volume areas, provide flag persons or temporary traffic signs to control traffic and aid travel of construction equipment. In moderate or high pedestrian traffic areas, provide flag persons to control traffic.
   3. When traveling in lanes open to public traffic, Contractor's vehicles shall always move with, not against or across flow of traffic, if at all possible. Vehicles shall enter or leave work areas in manner that shall not be hazardous to, or interfere with, traffic and shall not park or stop except within designated work areas. Personal vehicles shall not park within right-of-way except in areas approved by Frito-Lay.

END OF SECTION

SECTION 01610
STORAGE OF MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. The work under this section shall consist of furnishing all labor, equipment and materials for providing necessary storage and protection of materials in accordance with standard construction, health and safety, and environmental protection practices recommendations and requirements.

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01066 - Equipment and Material Decontamination

D. Section 01110 - Environmental Protection Requirements

E. Section 01510 - Temporary Site Facilities and Utilities

F. Section 01740 - Project Closeout and Demobilization

G. Section 02100 - Mobilization and Site Preparation

1.03 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 STORAGE OF MATERIALS AND EQUIPMENT:

A. The Contractor shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, imported materials, imported certified clean fill, and all other materials to be incorporated into the Work shall be placed in a location so as not to damage any part of the Work or existing facilities.

B. The Contractor and Engineer shall be provided with unrestricted access at all times to all parts of the Work. Materials and equipment shall be kept neatly, securely and compactly stored in locations that will cause a minimum of inconvenience to adjoining site operations. Storage shall be arranged in a manner to provide easy access for inspection.

C. Areas available onsite for storage of materials and equipment shall be approved by the Engineer.

D. The Contractor shall be responsible for making provisions for satisfactory storage of sufficient imported certified clean fill so as to prevent delays in operation.

E. Materials and equipment shall be stored to facilitate their inspection and ensure preservation of the quality and fitness of the Work, including proper protection against damage by freezing and moisture. Such property shall be placed inside storage areas unless otherwise approved by the Engineer.

F. The Contractor shall be fully responsible for loss or damage of stored materials and equipment and shall take all necessary measures, including stormwater pollution and spill pollution prevention measures, to prevent materials from entering adjacent surface water bodies, wetlands, adjacent properties or right-of-ways.

3.02 UNCOVERED STORAGE:

A. Materials that may be stored out-of-doors without cover include, but are not limited to the following if they do not present a soil erosion problem:
   1. Cleared vegetation and debris uncovered or encountered during construction provided that all roots are segregated from the associated parent tree trunk and all underground part of a removed structure is segregated and/or decontaminated.
   2. Surface debris.
   3. Imported stone aggregate.
   4. Closed 55-gallon drums.

3.03 COVERED STORAGE:

A. Materials that may be stored out-of-doors if covered with materials impervious to water include, but are not limited to the following:
   1. Imported soil (imported certified clean fill, sub base) that will be used as a fill material.
   2. Imported geotextile fabrics.
   3. Soil erosion and sediment control supplies (e.g., hay bales, silt fencing, etc.).

4. Excavated hazardous and non-hazardous soil scheduled for off-site disposal.

B. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

C. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged polyethylene sheeting covers will be promptly replaced.

D. At the end of each day, the Contractor shall cover each soil stockpile, roll-off container, and excavation areas with 8-mil polyethylene sheeting in a manner that ensures a watertight environment and prevents soil from coming in contact with rainwater.

E. Covers shall be tied down with rope or weighted down and sloped to prevent accumulation of water.

F. The Contractor shall store the imported materials in accordance with manufacturer's recommendations.

G. Stockpiles will be inspected at a minimum once each day and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

3.04 FULLY PROTECTED STORAGE:

A. Materials and equipment that may be affected by weather conditions (i.e., extreme heat/cold, moisture, etc.) shall be stored in a temporary shed or other structure impervious to water and to prevent weather damage.

END OF SECTION

SECTION 01611
WASTE HANDLING AND MANAGEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section includes a description of responsibilities for proper handling and management of materials including, but not limited to the following:
   1. miscellaneous debris uncovered, generated, and removed during excavation;
   2. liquid (decontamination fluids) waste; and,
   3. remediation waste (disposable PPE, plastic sheeting, and sampling equipment).

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01066 - Equipment and Material Decontamination

D. Section 01110 - Environmental Protection Requirements

E. Section 02100 - Mobilization and Site Preparation

F. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

G. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

1.03 SUBMITTALS:

A. The Contractor shall submit a Project Implementation Plan (PIP), which will include materials identified requiring management, sorting, disposal; the type of containers to be utilized; and the procedures for management of the materials and the equipment to be utilized.

1.04 STANDARDS AND REGULATIONS:

A. Title 40, Code of Federal Regulations (CFR):
   1. 40 CFR 260-270: Hazardous Waste Requirements.
   2. 40 CFR 761.61: PCB Remediation Waste
   3. 40 CFR Part 761.79: Decontamination Standards and Procedures
   4. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces

B. Transportation - Research and Special Programs Administration, Department of Transportation (DOT). Title 49, Code of Federal Regulations (CFR):
   1. 49 CFR 172: (1993) Hazardous Materials Table, Special Provisions,

Hazardous Materials Communications, Emergency Response Information, and Training Requirements.

C. New York Standards – New York Codes, Rules, and Regulations (NYCRR):
   1. 6 NYCRR Part 371 - Identification and Listing of Hazardous Waste.
   2. 6 NYCRR Part 374 - Management of Specific Types of Hazardous Wastes

1.05 PAYMENT:

A. Payment for items included in this section shall be in accordance with the separate Pay Items included under Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

2.03 WASTE CONTAINERS:

A. The Contractor shall provide containers necessary during the course of the Work, including, but not limited to, the following:
   1. Appropriate containers, trucks, and/or tarps for storage and off-site treatment, disposal, as appropriate, of contaminated or non-contaminated material from the excavation and all other contaminated or non-contaminated debris removed during site mobilization, preparation, and clearing activities.
   2. DOT-approved containers, including dumpsters, NYSDEC-registered roll-off containers, fractional tanks, or other containers or vessels needed for storage and off-site treatment, disposal, as appropriate, of any contaminated or non-hazardous solid or liquid wastes generated during decontamination activities or during the course of Work.
   3. Plastic bags for disposable PPE. Plastic bags shall have a minimum thickness of 3 mil.
   4. Secondary spill containment greater than or equal to 110% of the volume of containers containing petroleum substances (e.g., gasoline, diesel fuel, lubricant oils, etc.) and portable, temporary storage tanks for the storage of collected fluids (e.g., decontamination fluids, construction dewatering wash water, etc.).
   5. DOT-approved, steel 55-gallon drums for possible storage of residual contaminated materials and/or water.

2.04 CLEANING AND DECONTAMINATION MATERIALS:

A. The Contractor shall use only cleaning and decontamination materials and agents recommended and approved by the equipment manufacturer of a surface to be cleaned.

B. The Contractor shall use only materials and agents that will preclude creating hazards to human health, safety and the environment.

C. The Contractor shall use each type of cleaning and decontamination material on only those surfaces recommended by the cleaning material manufacturer.

D. The Contractor shall use each type of cleaning and decontamination material on those surfaces recommended by 40 CFR 761.79 (Decontamination Standards and Procedures) and 40 CFR 761, Subpart S (Double Wash/Rinse Methods for Decontamination Non-Porous Surfaces) for PCBs.

PART 3 - EXECUTION

3.01 EQUIPMENT DECONTAMINATION:

A. Prior to off-site disposal, the Contractor shall properly decontaminate the removed materials and debris, as well as the excavation and transportation equipment, as specified in Section 01066 - Equipment and Material Decontamination.

B. The Contractor shall include the decontamination procedures referenced in 40 CFR 761.79 and Subpart S – Double Wash/Rinse methods for Decontaminating Non-Porous Surfaces, at a minimum, in decontamination operations before any construction or sampling equipment leaves the Exclusion Zone and before imported clean materials are placed after machinery has been in contact with PCB contaminated materials or leaves the Site.

3.02 ON-SITE MANAGEMENT AND STORAGE OF MATERIALS:

A. The Contractor shall be responsible for proper on-site management of wastes generated in compliance with all Federal, State, and local regulations.

B. The Contractor shall be responsible for non-hazardous municipal trash to be removed from the Site.

C. The Contractor shall be responsible for segregating, handling, transporting and staging any solid waste encountered or generated during earthwork activities at the Site after inspection and to the satisfaction of the Engineer. Contaminated materials shall be managed separately from non-contaminated materials. All underground materials and debris encountered during the earthwork activities shall be considered contaminated and handled, managed, transported, and disposed as such in accordance with this Specification and approved by the Engineer.

D. The Contractor shall stockpile cleared vegetation, municipal trash, and all other non-contaminated debris removed during site preparation, clearing, and other stages of the Work at a designated Site location approved by the Engineer pending off-site disposal.

E. The Contractor shall be responsible for loading all waste containers, trucks, etc., with all debris to be removed from the Site during the execution of the Work.

F. The Contractor shall be responsible for movement of the containers, trucks, etc. into positions required for proper loading and management of material.

G. The Contractor shall not load waste containers, trucks, etc. prior to inspection and determination by the Engineer that decontamination of such materials has been achieved. These materials shall be removed from the Site and transported to a pre-approved facility for off-site disposal.

H. The Contractor shall be responsible for the on-site management of soil stockpiles in accordance with Section 01610 – Storage of Materials and Equipment, roll-off containers, storage of trash and debris from site preparation through final cleanup activities.

I. The Contractor shall be responsible for coordinating the schedule for delivery and pick-up of waste containers. The Contractor shall also be responsible for movement and storage of containers within the Site to allow the progress of the Work.

J. The Contractor shall be responsible for covering of the soil stockpiles and waste containers at the end of each work day. The cover material shall be a minimum of 8-mil polyethylene sheeting or similar impermeable material designed to fully prevent rainwater from entering the stockpiles and containers. At no time shall the soil stockpiles and waste containers be left exposed or uncovered at the end of each work day. The plastic sheeting shall be weighted and tied down.

3.03 SAMPLING AND TESTING OF WASTES:

A. Testing shall not be required for non-contaminated wastes or wastes decontaminated by the Contractor upon removal, unless the receiving facility requests such documentation. In that instance, the Contractor will be responsible for sample collection and analysis.

B. If necessary, and as directed by the Engineer, the Contractor shall be responsible for the sample collection and laboratory testing of the following wastes:
   1. Any collected liquids (i.e. decontamination fluids and construction dewatering fluids) that requires off-site disposal shall be sampled using the sampling methods, frequency, and analyses in accordance with the requirements of the designated off-site disposal facility.

C. Laboratory testing of wastes shall be performed by Test America, an NYSDOH-certified laboratory, a pre-approved laboratory. All laboratory test methods and frequencies shall be in accordance with USEPA, NYSDEC, and/or NYSDOH requirements.

D. The Engineer shall be responsible for the testing and laboratory analysis of potentially hazardous and non-hazardous soil from the designated contaminated areas that are identified on the Contract Drawings for excavation, handling, and off-site disposal. End point sampling and sampling for off-site disposal purposes shall only be performed by the Engineer.

3.04 TRANSPORTATION AND OFF-SITE DISPOSAL OF WASTES:

A. The Contractor shall be responsible for the transportation and disposal of all materials, and potentially hazardous and non-hazardous soil designated for off-site disposal from the Site in order to complete the Work.

B. The Contractor shall not burn or bury debris, rubbish and waste materials on-site or within the premises of the Site.

C. The Contractor shall not discharge wastes into waterways.

D. The Contractor shall be responsible for the transportation and off-site disposal of all generated waste materials that include, but are not limited to the following:
   1. properly decontaminated or non-contaminated debris generated, uncovered, or encountered during the execution of the Work;
   2. containerized waste;
   3. remediation waste (disposable PPE, plastic sheeting and sampling equipment); and,
   4. waste materials generated by final cleanup activities including the dismantling of the decontamination pad and areas.

E. All transportation shall be from the point of origin on-site until acceptance by the pre-approved and designated off-site disposal facility.

F. The Contractor shall be responsible for the management, handling, treatment, and discharge of all collected liquids from the point of origin on-site until disposal to, and acceptance by, the designated off-site disposal facility.

G. The Contractor shall be responsible for coordinating and scheduling transporters for off-site transportation of all materials generated during the execution of the specified Work.

H. Material shall be properly containerized and labeled (if warranted) and carefully loaded into fully enclosed trucks or other appropriate vehicles. The Contractor shall be responsible to inspect the transportation vehicles before and after loading to ensure compliance with all Federal, State, and local regulations for the safe transport of wastes from the Site to the designated off-site disposal facility. The Contractor shall provide the necessary labor and materials to ensure all trucks, containers, etc. are lined with plastic prior to filling, foamed, or stabilizing agent placed, if necessary, and covered with impermeable cover prior to leaving the Site.

I. The Contractor shall ensure that the transporters arriving at the Site for loading do not cause undue congestion to local streets or vehicular traffic, and shall stage trucks either within the perimeter of the Site or at an off-site staging area approved by the Engineer and Frito-Lay.

J. The Contractor's transporters shall proceed directly from the Site through the exit gate to the designated off-site disposal facility. Temporary staging or storage of material at intermediate (transfer station) locations between the Site and the receiving facility is prohibited.

K. The Contractor shall originate, maintain, and provide the Engineer with a copy of each executed Bill of Lading/Waste Manifests for all loads shipped off-site, as required. In addition, the Contractor shall provide to the Engineer, documentation and records verifying receipt of each truck load by the receiving facility. Such documentation shall indicate the actual weight of each load shipped.

L. Transporters shall proceed from the Site along traffic routes established by the Contractor, approved by the Engineer, and approved by the Borough of Brooklyn, if required.

END OF SECTION

SECTION 01740
PROJECT CLOSEOUT AND DEMOBILIZATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section covers the requirements for final cleaning, inspection and other procedures necessary for demobilization and contract closeout.

1.02 RELATED SECTIONS:

A. Section 01066 - Equipment and Material Decontamination

B. Section 01110 - Environmental Protection Requirements

C. Section 02370 - Soil Erosion and Sedimentation Control

1.03 SCOPE:

A. Work shall include but not be limited to, all work required to remove from the Site all construction equipment, wastes, supplies, materials, temporary facilities and utilities, and performance of necessary decontamination and repairs; final cleanup of all work areas and adjacent areas upon completing the site restoration; submittal of project record documents as described in the Specifications; and any other items and services required for complete demobilization as described in the Specifications for which pay items are not provided elsewhere in this contract.

1.04 SUBMITTALS:

A. Contractor shall submit all final weight tickets, waste manifests/bill of ladings, and certificate of destruction to the Engineer before application for final payment.

1.05 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Project Closeout and Demobilization, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 DECONTAMINATION:

A. Final Decontamination:
   1. The final decontamination shall include the decontamination and removal of all of the Contractor's construction equipment and materials.

B. Equipment Decontamination:
   1. Decontamination shall consist of degreasing (if required) followed by high pressure water and/or high pressure low volume steam cleaning supplemented by detergents or solvents as appropriate. Special attention shall be paid to removal of material on and within the undercarriage, trucks and sprockets of crawler equipment, and undercarriage, tires and axles of trucks and rubber tire mounted equipment. Decontamination activities shall be conducted only in the Exclusion Zone on the decontamination pad and as described in Section 01066 - Equipment and Material Decontamination and in compliance with 40 CFR 761.79 (Decontamination Standards and Procedures).

C. Final Approval:
   1. Final Inspection - Prior to removal from Site, all decontaminated equipment and material shall be inspected and accepted by the Engineer.
   2. Certification - Certification of Decontamination shall be attested to by the Engineer.

3.02 FINAL CLEANING AND RESTORATION OF THE PROJECT SITE:

A. The cleaning and restoration work shall include the following:
   1. Repair of any erosion or runoff related damage.
   2. Grading, as required, of all areas used by the Contractor.
   3. Sweeping of the paved surfaces contiguous to the work area or otherwise affected by construction activities.
   4. Removal of all materials, such as excess construction material, wood, debris and any other foreign material; and,
   5. Removal of all construction equipment.

3.03 ADMINISTRATIVE PROVISION:

A. Substantial Completion:
   1. Prior to substantial completion, the Engineer shall present to the Contractor a punch list of work items to be completed;
   2. Should inspection by the Engineer find the work is not substantially complete, the Contractor will be notified in writing, listing observed deficiencies. The Contractor shall remedy the deficiencies and send a new written notice of

substantial completion. This procedure shall continue until such time when the Engineer is satisfied with such repairs and corrections; and,

3. When the Engineer finds the work to be substantially complete, a Certificate of Substantial Completion will be prepared with a list of deficiencies which require timely correction and/or non-construction deficiencies in accordance with provisions of the Conditions of the Contract.

3.04 FINAL ACCEPTANCE:

A. When the Contractor considers the work to be complete, he shall submit to the Engineer a written certification that:

1. Contract Documents have been reviewed;
2. Work has been inspected for compliance with Contract Documents;
3. Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected;
4. All construction equipment, excess construction material, debris and other foreign material has been removed;
5. Work is complete and ready for final inspection. Should the Engineer's inspection find work incomplete, the Contractor will be notified, immediately, in writing, listing observed deficiencies. The Contractor shall remedy the deficiencies and send a second certification of final completion. This procedure shall continue until such time when the Engineer is satisfied with such repairs and corrections;
6. When all work is complete, the Engineer will review the closeout submittals, and a Final Acceptance Certificate will be issued to the Contractor; and,
7. When the Contractor receives the Final Acceptance Certificate, he shall submit his final invoice for final payment.

END OF SECTION

SECTION 02100
MOBILIZATION AND SITE PREPARATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section covers the requirements for proper site mobilization prior to the start of Work activities.

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of the Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01066 - Equipment and Material Decontamination

D. Section 01110 - Environmental Protection Requirements

E. Section 01300 - Submittals

F. Section 01510 - Temporary Site Facilities and Utilities

G. Section 02370 - Soil Erosion and Sedimentation Control

1.03 SCOPE OF WORK:

A. The work shall consist of the mobilization of the Contractor's personnel, equipment and materials necessary for performing the intended Work of this Contract.

B. Contractor's mobilization and site preparation shall include but not be limited to the following activities:
1. Transportation of personnel, equipment, and operating supplies to the Site;
2. Establishment of temporary facilities and utilities;
3. Installation of equipment and materials storage areas; and,
4. All health and safety materials and equipment.

C. The Contractor shall supply, provide, and maintain all materials, fabrication, installation, and delivery of services as specified in this section for complete and proper site mobilization.

1.04 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work described in this Section.

2.02 MATERIALS:

A. The Contractor shall furnish all equipment required to complete the Work described in this Section.

PART 3 - EXECUTION

3.01 PROJECT IMPLEMENTATION PLAN:

A. The Contractor shall prepare and submit to the Engineer for review and approval, the Contractor's Project Implementation Plan (PIP), which shall contain at a minimum the components described in Section 01010 - Summary of Work.

B. The Contractor shall prepare and submit to the Engineer for review and approval, a Traffic Control Plan to insure the free and unimpeded flow of public and private traffic.

C. The Contractor shall prepare and submit to the Engineer for review and approval, a Health and Safety Plan.

3.02 MOBILIZATION:

A. All work shall be performed by competently trained and appropriately certified workers, skilled in the field to which they are executing the work.

B. The Contractor shall design, construct, and maintain access roads during construction as required for these operations and accepted by the Engineer.

C. The Contractor shall furnish, install, and maintain all temporary site facilities and utilities, as specified in Section 01510 - Temporary Site Facilities and Utilities.

D. The Contractor shall design and furnish all other deliverables as specified in Section 01300 - Submittals.

E. If necessary, the Contractor shall coordinate with the appropriate entity on the use of facility or city water for water supply.

F. At the conclusion of the mobilization and prior to demobilization, the Contractor shall be responsible for restoring easements or right-of-ways to their previous conditions as required by Frito-Lay, the Engineer, or respective authorities.

G. The Contractor shall provide an equipment decontamination pad and other temporary storage and staging areas in accordance with Section 01066 - Equipment and Material Decontamination.

3.03 INSPECTION:

A. The Engineer will inspect all Work as mobilization proceeds to ensure conformance with the requirements of the Contract Documents.

END OF SECTION

SECTION 02110
SITE CLEARING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. The work under this section shall consist of furnishing all labor, equipment and materials for performing clearing of all debris to the extent needed to accomplish the Work.

B. Site clearing consists of the following activities:
   1. removal of general surface debris to complete the Work;
   2. removal of trees, shrubs, twigs, and grubbing of vegetation as needed to perform the Work, and transporting vegetation to a designated staging area for off-site disposal; and,
   3. removal and disposal/storage of all other wastes, at or above grade, as required to perform the Work.

1.02 RELATED SECTIONS:

A. Section 01010 - Summary of Work

B. Section 01056 - Protection of the Work and Property

C. Section 01066 - Equipment and Material Decontamination

D. Section 02370 - Soil Erosion and Sedimentation Control

1.03 SOIL EROSION AND SEDIMENT CONTROL:

A. No clearing shall be performed until all erosion and sediment control measures have been implemented in accordance with Section 02370 - Soil Erosion and Sedimentation Control and the Construction Drawings.

1.04 SUBMITTALS:

A. The Contractor shall submit a Project Implementation Plan (PIP), as described in Section 01010 - Summary of Work, listing a proposed sequence, equipment, approach and methods for site clearing. The PIP shall list a detailed approach designed to segregate debris. The PIP shall also list all procedures that deviate from those outlined in, or are required pursuant to this Section.

B. The Contractor shall submit Soil Erosion and Sedimentation Control Construction Drawings in accordance with Section 02370 - Soil Erosion and Sedimentation Control.

1.05 QUALITY ASSURANCE:

A. The Contractor shall conform to applicable Federal, State, and local regulations for transportation and disposal of debris.

B. The Contractor shall protect work and property in accordance with Section 01056 – Protection of the Work and Property.

1.06 PAYMENT:

A. Payment for items included in this section shall be in accordance with the separate Pay Items included under Pay Item No. 2, Site Clearing, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 CLEARING:

A. All surface debris scattered throughout the area of Work shall be collected and temporarily staged within the established staging areas, as approved by the Engineer. Any debris that has the potential to decay, compress, or cause odors shall be properly packaged, containerized, labeled, and disposed off-site.

B. Dumping of any foreign material generated from adjacent or off-site sources is strictly prohibited. The Contractor will be responsible for managing and disposing of any foreign material that enters the limits of the Site during the course of the field activities.

C. The Contractor shall take precautions to protect site improvements that are to remain.

END OF SECTION

SECTION 02120
OFF-SITE TRANSPORTATION AND DISPOSAL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for transportation and off-site disposal of hazardous and non-hazardous soils.

B. The “Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (July 2010), “Supplemental Remedial Investigation and Second Supplemental Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (April 2011), and the “Remedial Work Plan for 202-218 Morgan Avenue, Brooklyn, New York” (July 2011) prepared by Gannett Fleming Engineers and Architects, P.C. (GF) identified the presence of potentially hazardous PCB-Impacted soil with concentrations above Toxic Substances Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) in soil samples SB-8, SB-8-2, SB-17, SB-20, SB-22, SB-23-4, SB-24, and SB-27.

C. The “Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (July 2010), “Supplemental Remedial Investigation and Second Supplemental Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York” (April 2011), and the “Remedial Work Plan for 202-218 Morgan Avenue, Brooklyn, New York” (July 2011) prepared by GF, also identified the presence of potentially hazardous lead soil in soil samples SB-8, SB-8-2, SB-19, SB-22, SB-23, SB-32, and SB-102.

D. The Contractor is advised that the Work will be performed on a site that contains contaminated soil and groundwater above the most stringent clean up criteria established by the NYSDEC. Polychlorinated biphenyls (PCBs) soil concentrations exceed the Toxic Substance Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) for hazardous waste at several locations designated for excavation and off-site disposal. The Contractor is advised that excavation, handling, and off-site disposal will also be required for arsenic contaminated soil with concentrations exceeding the site-specific Remedial Action Objective (RAO) of 100 mg/kg, lead contaminated soil with concentrations exceeding the site-specific RAO of 10,000 mg/kg, mercury contaminated soil with concentrations exceeding the site specific RAO of 15 mg/kg, and PCB contaminated soil with concentrations exceeding 25 mg/kg and exceeding 10 mg/kg within the proposed warehouse expansion area.

1.02 RELATED SECTIONS:

A. Section 01065 - Health and Safety Requirements

B. Section 01100 - Construction and Demolition and Solid Waste Management

C. Section 01110 - Environmental Protection Requirements

E. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

F. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

G. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARD AND REGULATIONS:

A. United States Environmental Protection Agency (USEPA):
   1. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
   2. Title 40, Code of Federal Regulations (CFR):
      a. 40 CFR Part 261 - Identification and Listing of Hazardous Wastes
      b. 40 CFR Part 262 - Standards Applicable to Generators of Hazardous Waste
      c. 40 CFR Part 263 - Standards Applicable to Transporters of Hazardous Waste
      d. 40 CFR Part 264 - Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
      e. 40 CFR Part 761 - Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.
      f. 40 CFR Part 761.61: PCB Remediation Waste
      g. 40 CFR Part 761.79: Decontamination Standards and Procedures
      h. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces

B. New York State Department of Environmental Conservation (NYSDEC):
   1. Technical Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Levels.
   2. Determination of Soil Cleanup Levels (Memorandum on Consolidation of STARS and TAGM), December 12, 2000.
   3. Division of Solid Waste Technical and Administrative Guidance Memorandum (TAGM; SW-89-2002); December 26, 1989).
   4. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.3, Unrestricted Soil Cleanup Objectives, December 14, 2006.
   5. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.4, Restricted Soil Cleanup Objectives, December 14, 2006.
   6. DER-10 – Technical Guidance for Site Investigation and Remediation, 2010.

C. New York Standards - New York Codes, Rules, and Regulations (NYCRR):
   1. 6 NYCRR Part 360 - Solid Waste Regulations.
   2. 6 NYCRR Part 364 - Waste Transporter Regulations.
   3. 6 NYCRR Part 371 - Identification and Listing of Hazardous Waste, July 14, 1985.
   4. 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities, July 1, 1986.
   5. 6 NYCRR Part 373 - Hazardous Waste Management Facilities.
   6. 6 NYCRR Part 374 - Management of Specific Types of Hazardous Waste.
   7. 6 NYCRR Part 375 - Environmental Remediation Programs, December 14, 2006.
   8. 6 NYCRR Part 376 - Land Disposal Restrictions.

D. United States Department of Labor (USDOL), Occupational Health and Safety Administration (OSHA), Title 29, Code of Federal Regulations (CFR):
   1. 29 CFR 1904: Recording and Reporting Occupational Safety and Health Standards.
   2. 29 CFR 1910: Occupational Safety and Health Standards.
   3. 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response.
   4. 29 CFR 1926: Safety and Health Regulations for Construction.
   5. 29 CFR 1926.59: Hazard Communication Standard.
   6. 29 CFR 1926.65: Hazardous Waste Operations and Emergency Response.
   7. 29 CFR 1926.103: Respiratory Protection Standard.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Provide a statement to Frito-Lay and the Engineer that the "Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York" (July 2010), "Supplemental Remedial Investigation and Second Supplemental Remedial Investigation Report for 202-218 Morgan Avenue, Brooklyn, New York" (April 2011), and the "Remedial Work Plan for 202-218 Morgan Avenue, Brooklyn, New York" (July 2011) prepared by GF has been obtained and reviewed by the Contractor.

B. Written approval of all disposal facilities and transporters (for all material) must be secured from Frito-Lay and the Engineer.

C. All soil roll-off containers or stockpiles are to have an identifying sign placed adjacent to each container or stockpile with the following information:
   1. Soil classification (hazardous or non-hazardous).
   2. An identifying Code to match it back to exact data and waste determination in accordance with the waste characterization performed on the material.
   3. Date when the roll-off was loaded.

C. All soil roll-off container or stockpile identification information as mentioned above is to be kept in a consolidated file or binder in the on-site office of the Contractor's Site Engineer.

D. C&D debris shall be stored separately from the soil roll-off containers or stockpiles designated for off-site disposal.

1.05 SUBMITTALS:

A. At least 10 days prior to initiation of any Work of this Section, the Contractor shall provide to the Engineer, information regarding the proposed facilities for the transportation and disposal of each type of non-hazardous soil or hazardous soil.

B. For Work in this Section, the Contractor shall use US EPA Hazardous Waste Generator Number provided by Frito-Lay.

C. Prior to starting Work of this Section the Contractor shall submit documentation to the Engineer that all applicable transportation and disposal permits as required by Federal, State, and local regulations are secured and up-to-date.

D. Track the actual disposition of all material, recording the time of the disposal, nature of the materials, and the location of the disposal. Waste Manifests/Bill of Ladings for wastes are to be photocopied upon sign off by the transporter's driver and the photocopy shall be kept on file at the Contractor's Site Engineer's office trailer.

E. Contractor is to note that the use of transfer facilities is not permitted by Frito-Lay. All transport of environmentally regulated materials must be direct from the generation site to the ultimate disposal site.

1.06 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 1, Mobilization and Site Preparation, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.02 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Remove hazardous soil and/or non-hazardous soil from the Site in the following manner:
   1. Segregate the material from other soils;
   2. Properly cover/containerize the material;
   3. Properly label the covered roll-off container or stockpile;
   4. Prepare a waste manifest (or Bill of Lading) for each shipment off-site. Start Manifest Document Number (top of manifest) with "FLMA001".
   5. Perform all associated operations in accordance with applicable Federal and State waste and DOT regulations.

B. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

C. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged polyethylene sheeting covers will be promptly replaced.

D. At the end of each day, the Contractor shall cover each soil stockpile, roll-off container, and excavation areas with 8-mil polyethylene sheeting in a manner that ensures a watertight environment and prevents soil from coming in contact with rainwater.

E. Covers shall be tied down with rope or weighted down and sloped to prevent accumulation of water.

F. The Contractor shall store the imported materials in accordance with manufacturer's recommendations.

G. Stockpiles will be inspected at a minimum once each day and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

H. Segregate C&D debris designated for off-site disposal. The Contractor shall cover all C&D debris piles or soil stockpiles with 8-mil polyethylene sheeting to provide precipitation, runoff, and erosion protection.

I. Take all necessary precautions to prevent cross-contamination of non-hazardous soil with hazardous soil managed during excavation and stockpiling.

J. Take all necessary precautions to prevent contamination of adjacent properties, right-of-way's, public streets, and construction areas.

K. The Contractor's transporter shall not stop enroute either before or after picking up hazardous or non-hazardous soil materials from the Site to pick up additional material from any party.

L. Thirty days after the completion of any work item covered by or related to this Section, or as otherwise described herein, the Contractor shall submit the following to the Engineer for approval:
   1. Worker training logs, safety inspection logs, and emergency and accident reports.
   2. Copies of all discharge and disposal records within three days of the completion of the discharge or disposal event.
   3. All manifests, gate receipts, bills-of-lading, certificates of destruction, and records of final waste disposition from the accepting disposal facility(ies), and all other documentation relating to the off-site transportation and disposal of waste.
   4. The final project close-out report including, at a minimum, sufficient detail and supporting documentation to describe the management and off-site disposal of all contaminated material, hazardous soil, non-hazardous soil, and hazardous waste transported off-site for disposal under this Contract.

M. Track the actual disposition of all material, recording the time of the disposal, nature of the materials and the location of the disposal. Shipping papers/manifests/bill of ladings for both non-hazardous and hazardous soils and wastes shall be photocopied upon sign off by the transporter's driver and the photocopy is to be furnished to the Engineer and Frito Lay.

N. All original manifests are to be furnished to the Engineer.

END OF SECTION

SECTION 02140
DEWATERING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for dewatering systems for treatment of groundwater before on-site collection and/or discharge to the New York City stormwater system.

B. The Work shall consist of controlling, handling, treating and disposing of groundwater during dewatering activities.

C. All groundwater or stormwater removed from the excavations, including that generated during initial dewatering, shall at a minimum, be treated to minimize sediment and settleable solids, as well as specific contaminant concentrations exceeding permissible regulatory levels.

D. The Contractor shall obtain a Dewatering Permit from the New York City Department of Environmental Protection (DEP) prior to commencing dewatering activities. The Contractor is fully responsible for paying for all application fees, providing the necessary technical and analytical information required for permit consideration and approval, paying any fines or penalties as a results of exceeding threshold volumes and/or specific contaminant concentrations exceeding permissible levels.

E. The Contractor can propose an alternative method(s) for the collection, management, and off-site disposal of dewatering fluids which shall be in conformance with Federal, State, and local requirements and shall be approved by the Engineer prior to commencing dewatering activities. The Contractor is responsible for obtaining all necessary equipment, materials, permits/approvals and paying for all necessary equipment, materials, and disposal costs associated with their preferred dewatering method.

F. Dewatering of groundwater is anticipated due to the depth of groundwater in relation to the proposed depth of excavation. The depth to groundwater has been reported to range from a depth of 2 feet below ground surface (ft-bgs) in the central portion of the Site to a depth greater than 9 ft-bgs in other portions of the Site. The depth of soil excavation is expected to range from 4 ft-bgs to 12 ft-bgs.

1.02 RELATED SECTIONS:

A. Section 01056 - Protection of Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 01110 - Environmental Protection Requirements

1.03 STANDARDS AND REGULATIONS:

A. United States Department of Labor (USDOL), Occupational Safety and Health Administration (OSHA), Title 29, Code of Federal Regulations (CFR):
   1. 29 CFR 1910 – Occupational Safety and Health Standards.

B. New York City DEP – Division of Permitting and Connections.
   1. Temporary Discharge(s) of Groundwater into the City Sewer System.

1.04 QUALITY CONTROL:

A. Verify groundwater treatment systems meet discharge permit requirements.

B. Verify compliance with referenced standards and regulations.

1.05 SUBMITTALS:

A. Groundwater Treatment System Schematic Diagram and Design Calculations for all system components, processes, and removals, if utilized.

B. Groundwater Treatment System Shop Drawings and Catalog Cuts, if utilized.

C. Operation and Maintenance (O&M) Plan, if groundwater treatment system utilized, may include provisions for removal of settled solids from sedimentation (frac) tanks, replacement of bag filters, carbon servicing, and general system cleaning to remove scaling, deposits, etc.

D. Groundwater Treatment System Monitoring Plan, if utilized, shall include methods for sample collection and analysis from the end point of various treatment system components to assess treatment component removal efficiency as referenced in Articles 3.04 and 3.05.

E. Qualifications, applicable up-to-date licenses, and safety certificates for all treatment system operators, waste handling Contractor, and waste receiving facilities.

F. Obtain approval from all regulatory agencies having jurisdiction before full construction service activation.

G. All submittals are to be in accordance with Section 01300 - Submittals.

1.06 DELIVERABLES:

A. Submit to the Engineer all completed permit applications necessary to conduct dewatering, groundwater treatment, and discharge of dewatering effluent.

1.07 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 3, Dewatering, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 GENERAL:

A. The groundwater treatment system shall consist of gravity sedimentation tanks, filtration, or other industry accepted treatment system components necessary to meet applicable discharge limits established by New York City DEP, in a separate dewatering New York City DEP permit obtained by the Contractor.

B. Power and water supply required for system servicing.

C. Piping and all other accessories to convey groundwater from the dewatering location(s) to the treatment system and discharge location.

D. Control panels, as needed, for the treatment system and associated pumps.

E. All valves, sampling ports, meters, gauges, and controls to maintain adequate flow rates and treatment efficiency and to document discharge volume.

F. All equipment shall be designed for its intended use in a potentially wet and hazardous environment, for potential contact with volatile organic compounds, petroleum substances, metal compounds and presence of stray electrical current.

2.02 MATERIALS:

A. The Contractor shall furnish all materials required to complete the Work of this Section.

2.03 EQUIPMENT:

A. The Contractor shall furnish all equipment required to complete the Work of this Section.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Submit the information required in the special condition section of the permit.

B. Design, install, operate, and maintain a groundwater treatment system to reduce identified contaminant concentrations to required levels stipulated in applicable discharge permit(s) from the New York City DEP necessary to complete hazardous and non-hazardous soil excavations in dry conditions to a depth of 12 feet below ground surface or greater.

3.02 DESIGN:

A. Design of the groundwater treatment system shall be based upon site-specific data and an industry accepted treatment scheme to address site-specific contaminated groundwater.

B. Design the groundwater treatment system to meet discharge criteria as stipulated in the applicable New York City DEP discharge (and/or effluent limitations) permits and supplemental requirements as may be stipulated in these permit(s).

C. Design the groundwater treatment system to operate continuously, without interruption and provide adequate removal efficiency to meet the permit requirements.

D. Dewatering fluids shall be piped directly to sedimentation tanks and the use of open settling ponds is not allowable due to potential volatilization of contaminants and Site constraints.

E. Verify installation complies with manufacturer's instructions and standards.

F. The design shall also consider the presence of various metal compounds and volatile organic compounds in the groundwater.

G. At a minimum, the design shall incorporate meters, gauges, and sampling ports for the measurement of flow rate, total flow, operating pressures, and influent and effluent concentrations.

H. The design shall also incorporate adequate ventilation systems in the excavation area for potential volatilization of contaminants from sumps and seepage.

3.03 INSTALLATION:

A. The groundwater treatment system and associated components shall be located, operated and maintained such that all utilities within the Work area shall be protected from damage.

B. Protect all monitoring well locations from damage or displacement during dewatering storage and groundwater treatment activities at the Site.

C. Signs shall be posted inside and outside the treatment system building or enclosure with emergency contact information in the event of system failure or malfunction.

D. All system components, piping, and connections shall be water and vapor tight.

E. Provide complete standby equipment, available for operation as may be required to maintain the dewatering system in the event that all or part of the dewatering system becomes inadequate or fails.

3.04 START-UP AND TESTING:

A. Start the groundwater treatment system in accordance with manufacturer's operating procedures, design considerations, and applicable permit requirements.

B. Conduct initial treatment system testing to verify compliance with discharge limitations.

C. The air within the treatment system building, and excavation areas as needed, shall be monitored for oxygen levels and potential contaminant concentrations to assure adequate ventilation system operation.

3.05 OPERATION:

A. Take all necessary precautions to perform the excavation and construction work in relatively dry conditions.

B. In the event of instability of slopes or damage to structures, without additional cost to Frito-Lay, provide all labor and materials as well as plan and perform all work necessary for the reinstatement of structures or stable slopes for excavation.

C. Operate the groundwater treatment system in accordance with manufacturer's operating procedures, design considerations, and applicable permit requirements.

D. Keep a Groundwater Treatment System Log Book to include all measurements of system performance such as operating pressures, temperatures, influent, mid-fluent, and effluent concentrations, flow rates, and volumes.

E. Provide the requisite personnel with appropriate training and certification to operate the groundwater treatment system as required in the discharge permit(s).

F. Maintain the treatment system and its various components in accordance with the manufacturers' recommended maintenance routines and procedures.

G. Inspect system components daily for the presence of oil, ice (if present), settled solids accumulation, flow rates, pressures, and effluent color and appearance.

H. Additional treatment components shall be installed and operated, as necessary, to maintain the flow rates necessary for dewatering and to assure compliance with the effluent limitations.

I. In the event pre-finishing component concentrations meet the discharge limits; bypassing of these system components shall be conducted with concurrence by the Engineer.

END OF SECTION

SECTION 02150
SHEETING AND BRACING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for sheeting and bracing.

1.02 RELATED SECTIONS

A. Section 01065 - Health and Safety Requirements

B. Section 01056 - Protection of the Work and Property

C. Section 01300 - Submittals

D. Section 02200 - Earthwork

E. Section 02210 - Excavation, Handling and Disposal Hazardous Soil

F. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

1.03 STANDARDS AND REGULATIONS:

A. American Welding Society (AWS): D1.1 - Structural Welding Code.

B. Western Wood Products Association Rules and Regulations.

C. Southern Pine Inspection Bureau Rules and Regulations.

D. Occupational Health and Safety Administration (OSHA) Standards.

E. American Society for Testing and Materials (ASTM).

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Welders shall be certified in accordance with AWS D1.1.

B. Design and calculations for sheeting and bracing shall be performed and sealed by a Professional Engineer licensed in the State of New York. Calculations shall address all imposed loads including earth load, and any other surcharge loads.

1.05 SUBMITTALS:

A. Design calculations.

B. Detailed working drawings including plans, elevations, sections and details that clearly describe the methods and procedures to be followed and a description of each material to be employed. Materials, dimensions, spacing of members, and allowable stresses of materials shall be clearly noted on drawings.

C. All submittals are to be in accordance with Section 01300 - Submittals.

PART 2 - PRODUCTS

2.01 GENERAL:

A. Steel sheeting may consist of used material but shall be in satisfactory condition and suitable for the intended application.

B. Timber for breastboards shall be free from any defects that might impair its strength or tightness.

2.02 CRITERIA:

A. Structural steel for use as sheet piles, soldier piles, wales, braces and connections: Conform to applicable ASTM specifications.

B. Timber for Breastboards: Douglas Fir, Dense No. 2 or Southern Pine, No. 2 Dense, conforming to the rules and regulations of the Western Wood Products Association and the Southern Pine Inspection Bureau, respectively.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Transmit submittals required by this Section.

B. Furnish products as indicated.

C. Ensure that substrates are in suitable condition to receive the work.

3.02 INSTALLATION:

A. Protect all sides of the excavation area against cave-ins, washouts, and settlements. Protection may be accomplished by a system of soldier piles with horizontal timber breastboards and wales or other means as approved by the Engineer.

B. Workmanship:

1. Welding in accordance with “Structural Welding Code”, AWS D1.1.
2. Splices in structural steel members shall develop 100% of the strength of the member.
3. Secure all piles against lateral movement at all times.
4. All sheeting, bracing and other temporary protective work shall remain in place and their adequacy maintained until temporary protective work is no longer necessary.

5. If the Engineer considers additional bracing or shoring is necessary to safeguard and prevent any such movement or settlement, promptly provide any such bracing or shoring.
6. No sheeting shall be abandoned in place and shall be removed when the Work is completed.

END OF SECTION

SECTION 02200
EARTHWORK

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for excavation, backfill, and grading.

1.02 RELATED SECTIONS:

A. Section 01100 - Construction and Demolition and Solid Waste Management

B. Section 01110 - Environmental Protection Requirements

C. Section 01300 - Submittals

D. Section 02120 - Off-Site Transportation and Disposal

E. Section 02140 - Dewatering

F. Section 02150 - Shoring and Bracing

G. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

H. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

I. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARDS AND REGULATIONS:

A. American Society for Testing and Materials (ASTM):
1. C 117 - Test Method for Material Finer than 75 um.
2. C 136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. D 422 - Test Method for Particle - Size Analysis of Soils.
4. D 1556 - Test Method for Density of Soil in Place by the Sand – Cone Method.
5. D 1557 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft^3).
6. D 2922 - Test Methods for Density of Soil and Soil - Aggregate in Place by Nuclear Method.
7. D 3017 - Test Method for Water content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

B. Title 29 Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction (OSHA).

C. New York State Department of Environmental Conservation (NYSDEC):
1. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.3, Unrestricted Soil Cleanup Objectives, December 14, 2006.

2. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.4, Restricted Soil Cleanup Objectives, December 14, 2006.
3. DER-10 - Technical Guidance for Site Investigation and Remediation, 2010.

D. New York State Department of Transportation (NYSDOT) Standard Specifications:
1. 203-2 Select Borrow.
2. 703-02 Crushed Stone.
3. 703-07 Concrete Sand.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Do not stockpile backfill without written approval of the Engineer.

B. Contractor shall utilize an independent testing laboratory to test each material proposed for use in backfilling. Contractor shall utilize Test America (pre-approved analytical laboratory) to perform environmental analysis on each material proposed for use in backfilling.

C. Frequency of Tests (minimum):

1. Gradation: One test per 1,000 cubic yards stockpiled for imported backfill material in accordance with ASTM C 136 and ASTM C 117, or ASTM D 422. Each test shall be accompanied by a particle size distribution curve, similar to that required by ASTM D 422, with the coefficients of uniformity and concavity computed.
2. Moisture Contents: For material being used as backfill, a minimum of two tests per day per type of material or source of material being placed during stable weather conditions. During unstable weather, tests shall be made as dictated by local conditions.
3. Optimum Moisture and Maximum Density: Perform in accordance with ASTM D1557. Test shall be made for imported backfill material. One representative test shall be performed per 1,000 cubic yards of backfill, or when any change in material occurs which may affect the optimum moisture content or maximum density. Each test shall be accompanied by a gradation test performed in accordance with ASTM C136 and ASTM C117, or ASTM D 422, by a particle size distribution curve similar to that required by ASTM D 422, and coefficients of uniformity and concavity computed.
4. Backfill at Structures: One in-place compaction test for every 2,500 square feet and every 2 feet of added height but not less than three compaction tests in any day during which material is placed. Perform compaction test in accordance with ASTM D 1556 or ASTM D 2922/ ASTM D 3017.
5. Trench Backfill: One in-place compaction test for every 300 linear feet and every two feet of added height, but not less than three compaction tests in any day during which material is placed. Perform compaction test in accordance with ASTM D 1556 or ASTM D2922/ASTM D3017.
6. Contaminant Screening of Imported Backfill: Analytical testing of imported backfill material will be collected by the Engineer prior to acceptance for suitable backfill for the Site. The number of samples and laboratory analysis required on a cubic yard basis is provided in New York State Department of Environmental Conservation (NYSDEC) DER-10, Table 5.4(e) 10. The Contractor will be responsible for the payment of all analytical tests required to determine whether the imported backfill material contains contaminant

concentrations exceeding NYSDEC Restricted Use - Industrial soil cleanup objectives (SCOs). Imported backfill material can contain contaminant concentrations exceeding NYSDEC Unrestricted Use and Commercial SCOs, but shall not exceed Restricted Use - Industrial SCOs for any regulated contaminant.

The Contractor can obtain imported backfill material which has been pre-tested by the supplier. The analytical results shall be based, as a maximum of, the number of samples and laboratory analysis required on a cubic yard basis as provided in DER-10, Table 5.4(e) 10, from this material shall be submitted to the Engineer for review prior to acceptance.

1.05 SUBMITTALS:

A. Plan for stockpiling (and/or roll-off containers) of excavated Toxic Substance Control Act (TSCA) hazardous (PCBs above 50 parts per million [ppm]) and non-hazardous contaminated soils.

B. Excavation procedure plan that includes methods of excavation, backfilling, and testing.

C. Identity and qualifications of independent testing laboratory.

D. Results of gradation analyses, laboratory compaction tests, and compaction test results for in-place material.

E. All submittals are to be in accordance with Section 01300 - Submittals.

PART 2 - PRODUCTS

2.01 CRITERIA:

A. Conform to NYSDOT Standard Specifications and amended as follows:

1. Unclassified Fill: Mostly coarse sandy material (containing no organic material, rubbish or debris) capable of compaction to 90 percent of maximum dry density with the following gradation.

Screen Size	% by Weight Passing
2 inch	100
1 inch	90-100
1/2 inch	30-90
#40	5-70
#200	0-20

2. Structural Backfill: Sound, durable particles of a maximum 3-inch size. No more than 70% by weight passing a No. 40 sieve and no more than 10% by weight passing a No. 200 sieve. Granular and free of organic or other deleterious material.
3. Sand Bedding and Select Backfill for pipes, ducts and conduit: Material conforming to the following specification:

Screen Size	% by Weight Passing
3/8 inch	100
#4	90-100
#8	60-95
#16	25-85
#40	10-60
#200	0-5

4. Crushed Stone: Sound, durable crushed stone, conforming to NYSDOT Standard Specifications, Section 703-02, with the following gradation limits:

   For Size Designation No. 2 as follows,

Sieve Size	% by Weight Passing
1 1/2 inches	100
1 inch	90-100
1/2 inches	0-15

   For Size Designation No. 4A as follows,

Sieve Size	% by Weight Passing
3 inches	100
2 1/2 inches	90-100
1 1/2 inches	0-20

5. Gravel: Crushed stone with only one fractured face, size 3/8" as follows:

Sieve Size	% by Weight Passing
1/2 inch	100
3/8 inch	90-100
No. 4	30-60
No. 8	0-10

6. Washed Gravel: Sound durable washed gravel conforming to the following material gradation:

Screen Size	% by Weight Passing
1 1/2 inches	100
1 inch	80-100
1/2 inch	0-20

   or 3/8 inch material as follows:

Screen Size	% by Weight Passing
3/4 inch	100
½ inch	80-100
3/8 inch	30-90
#4	30-60
#8	0-10

7. Unsuitable Material:
    a. Containing debris, frozen soil, rocks and other foreign matter or containing vegetation or organic matter such as wood, muck, peat, organic silt, topsoil or sod.
    b. Imported backfill material containing contaminant concentrations exceeding NYSDEC Restricted Use - Industrial SCOs.
8. Select Borrow: Conform to NYSDOT Standard Specification Section 203-2.02.B with a material gradation as follows:

Screen Size	% by Weight Passing
4 inches	100
#40	0-70
#200	0-15

9. Filter Fabric: Geotextile, Mirafi 160N or Engineer's approved equal.
10. All imported materials shall be free of hazardous substances as listed in 6 NYCRR Part 370-373 and shall not contain contaminant concentrations exceeding NYSDEC Restricted Use - Industrial SCOs.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Transmit submittals required by this Section.

B. Furnish products as indicated.

C. Ensure that substrates are in suitable condition to receive the Work of this Section.

D. Protect facilities to remain. Locate underground utilities and service connections prior to commencing excavation work.

E. Do not interrupt existing utilities unless permitted by the Engineer. For utilities that shall be relocated, arrange for such relocation with appropriate utility companies.

F. Set and establish finish elevations and lines using established reference points.

G. Preserve all established reference points, and if displaced, damaged, or lost, replace them immediately.

H. When unknown utility lines are encountered, notify the Engineer before taking any action.

3.02 PUMPING, DRAINAGE AND DEWATERING:

A. Control surface water on-site at all times.

B. Dispose of such water in a suitable manner.

C. Refer to Section 02140 - Dewatering for dewatering requirements.

3.03 EXCAVATION:

A. Perform excavation to the lines and grades required.

B. The subgrade shall be proofrolled in accordance with subsection 3.04 Proofrolling, and the entire excavated area backfilled to the subgrade level of the finished floor with structural backfill in accordance with subsections 3.05 Filling and Backfilling and 3.07 Compaction.

C. Saw cut pavement where required.

D. All excavated TSCA hazardous (PCBs above 50 milligrams per kilogram [mg/kg]) and non-hazardous contaminated soils from the Site shall be deemed unsuitable material and shall be placed in roll-off containers or stockpiles on Site in an environmentally acceptable manner as specified in other Sections and by the Engineer. The material shall be transported for off-site disposal. Comply with applicable requirements and procedures of the Waste Management Plan.

E. Protect soil beneath excavation from disturbance and contamination.

3.04 PROOFROLLING OF SUBGRADES:

A. Proofrolling shall be performed under the observation of the Engineer, or if permitted by the Engineer, a representative of the testing laboratory overseeing the earthwork.

B. Any areas that are observed to be unstable, e.g., the tires cause significant rutting or weaving of the ground surface, shall be excavated an additional three (3) feet to the horizontal limits determined by the Engineer or, if permitted by the Engineer, a representative of the testing laboratory overseeing the earthwork in accordance with subsections 3.05 Filling and Backfilling and 3.07 Compaction. Orange construction fencing shall be placed on the excavated subgrade as a demarcation layer prior to backfilling, as directed by the Engineer.

3.05 FILLING AND BACKFILLING:

A. General: Fill and backfill with structural backfill or unclassified fill placed in loose lifts a maximum of eight (8) inches thick. This shall include replacement fill and fill to grade. Structural backfill shall be provided under roadway pavements, sidewalks, and wherever structural support is required. Place fill and backfill as promptly as work permits but not until completion of the following:
   1. Subgrade preparation resulting in a firm, stable subgrade including the replacement of any softened subgrade materials encountered during construction.
   2. Approval by the Engineer of the construction below finish grade.
   3. Recording final location and limits of any structure, utility, or other underground feature that will be covered by backfill.
   4. Concrete structures have been inspected by the Engineer and approved for backfilling.
   5. Removal of trash and debris.
   6. Removal of shoring and bracing.

B. Do not construct in freezing conditions.

C. Where proof rolling is not required, scarify subgrade soils a minimum six (6) inches and compact to 90% of maximum dry density as determined by ASTM D1557 prior to placing fill or backfill.

D. Backfill to the required elevation and below pavement. Use crushed stone, and unclassified backfill in trenches and in other areas specified, or as directed by the Engineer. Use Unclassified Fill in all other areas.

E. Placement

1. Place backfill materials in maximum eight (8) inch layers. Compact each layer in accordance with subsection 3.07 Compaction.
2. In areas inaccessible to conventional compactors, or where maneuvering space is limited, approved impact rammers, plate or small drum vibrators, or pneumatic buttonhead compaction equipment may be used with a layer thickness not to exceed six (6) inches before compaction.

F. Crushed Stone, Gravel or Washed Gravel

1. Place crushed stone and/or gravel for base courses in approximately six (6) inch loose lifts and compact with a minimum of three passes with a vibratory compactor weighing not less than five (5) tons.

3.06 TRENCHING, BEDDING, AND BACKFILLING:

A. General

1. Beddings of trenches shall be well drained and bottoms accurately graded. Hand dig bell holes and depressions for joints after the trench bottom has been graded.
2. Remove rock or boulders encountered in trench bottoms to the depth required to provide for a thoroughly compacted bed of approved material, at least six (6) inches deep, in the trench bottom.

B. Backfilling

1. Do not backfill trenches until required open trench utility tests have been performed and approved by the Engineer. Backfill trench with unclassified fill shall be in maximum twelve (12) inch layers and compact to the required density.

3.07 COMPACTION:

A. General: Control compaction to provide minimum percentage of the maximum dry density specified, as determined by ASTM D 1557. Field test in accordance with ASTM D 1556 or D 2922/ASTM D 3017.

B. Density: Compact each layer of fill or backfill material to the following minimum percentage of maximum dry densities:

1. Sand Bedding: 95%
2. Concrete Sand: 95%
3. Structural Backfill and Fill: 95%
4. Unclassified Fill: 90%
5. Crushed Stone, Gravel, or Washed Gravel: No density test required.
6. Select Borrow: 90%

C. Moisture Control: The moisture content of the material must be within the allowed limit for that type of material to allow maximum compaction.

3.08 MAINTENANCE:

A. Protect newly graded areas from traffic and erosion.

B. Repair and re-establish grades in settled, eroded, and rutted areas.

3.09 TOLERANCE:

A. Top of subgrade shall not extend above the grades necessary to establish the finished elevations.

END OF SECTION

SECTION 02210
EXCAVATION, HANDLING, AND DISPOSAL OF HAZARDOUS SOIL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for the excavation, removal and handling, and disposal of hazardous soils.

B. The "Remedial Investigation Report - 202-218 Morgan Avenue, Brooklyn, New York" (July 2010) and the "Remedial Work Plan (RWP)" (July 2011) prepared by Gannett Fleming Engineers and Architects, P.C. (GF), identified the presence of potentially hazardous PCB-Impacted soil with concentrations exceeding the Toxic Substances Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) in soil samples SB-8, SB-8-2, SB-17, SB-20, SB-22, SB-23-4, SB-24,, and SB-27. This information is also presented in the "Notification for Self-Implementing On-site Cleanup and Disposal of PCB Remediation Waste" (January 2011) which was prepared by GF for submission to the United States Environmental Protection Agency (USEPA), Region II office for review and approval.

C. The "Remedial Investigation Report - 202-218 Morgan Avenue, Brooklyn, New York" (July 2010) and the "Remedial Work Plan (RWP)" (July 2011) prepared by GF, also identified the presence of potentially hazardous lead in soil samples SB-8, SB-8-2, SB-19, SB-22, SB-23, and SB-102. SB-8-2 (0-4') is the only soil sample which has been confirmed, through laboratory analysis, to contain hazardous levels (5.37 milligrams per liter [mg/L]) of lead. The remaining soil samples, SB-8, SB-19, SB-22, SB-23, and SB-102, will require additional laboratory analysis to assess whether these soil sample locations will require management as hazardous waste.

1.02 RELATED SECTIONS:

A. Section 01065 - Health and Safety Requirements

B. Section 01056 - Protection of the Work and Property

C. Section 01100 - Construction and Demolition and Solid Waste Management

D. Section 01110 - Environmental Protection Requirements

E. Section 02120 - Off-Site Transportation and Disposal

F. Section 02200 - Earthwork

G. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

H. Section 02290 - Environmental Well Preservation, Renovation, Repair, and Replacement

I. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARDS AND REGULATIONS:

A. United States Environmental Protection Agency (USEPA):
   1. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
   2. Title 40, Code of Federal Regulations (CFR):
      a. 40 CFR Part 261 - Identification and Listing of Hazardous Wastes.
      b. 40 CFR Part 262 – Standards Applicable to Generators of Hazardous Waste.
      c. 40 CFR Part 263 – Standards Applicable to Transporters of Hazardous Waste.
      d. 40 CFR Part 264 – Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
      e. 40 CFR Part 761 - Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.
      f. 40 CFR Part 761.61: PCB Remediation Waste.
      g. 40 CFR Part 761.79: Decontamination Standards and Procedures.
      h. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces.
   3. Toxic Substances Control Act (TSCA)

B. New York State Department of Environmental Conservation (NYSDEC):
   1. Commissioner Policy (CP), CP-51 Soil Cleanup Guidance Policy
   2. Division of Environmental Remediation (DER), DER-10 - Technical Guidance for Site Investigation and Remediation, 2010.
   3. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.3, Unrestricted Soil Cleanup Objectives, December 14, 2006.
   4. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.4, Restricted Soil Cleanup Objectives, December 14, 2006.

C. New York State Standards - New York Codes, Rules, and Regulations (NYCRR):
   1. 6 NYCRR Part 360 - Solid Waste Management Facilities.
   2. 6 NYCRR Part 371 - Identification and Listing of Hazardous Waste, July 14, 1985.
   3. 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities, July 1, 1986.
   4. 6 NYCRR Part 375 - Environmental Remediation Programs, December 14, 2006.

D. United States Department of Labor (USDOL), Occupational Health and Safety Administration (OSHA), Title 29, Code of Federal Regulations (CFR):
   1. 29 CFR 1904: Recording and Reporting Occupational Safety and Health Standards.
   2. 29 CFR 1910: Occupational Safety and Health Standards.
   3. 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response.
   4. 29 CFR 1926: Safety and Health Regulations for Construction.
   5. 29 CFR 1926.59: Hazard Communication Standard.
   6. 29 CFR 1926.65: Hazardous Waste Operations and Emergency Response.
   7. 29 CFR 1926.103: Respiratory Protection Standard.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Verify compliance with standards and regulations.

B. Provide a statement to Frito-Lay and the Engineer that the "Remedial Investigation Report" (July 2010), the "Remedial Work Plan (RWP)" (June 2010), and the "Notification for Self-Implementing On-site Cleanup and Disposal of PCB Remediation Waste" (January 2011) prepared by GF has been obtained and reviewed by the Contractor.

C. Written approval of all transporters and disposal facilities (for all materials) must be secured from the Engineer and Frito-Lay. The Contractor shall use transporters, waste management firms, and disposal/treatment facilities that are approved by the Engineer and Frito-Lay.

D. All soil roll-off containers and stockpiles are to have an identifying sign placed adjacent to each roll-off container and stockpile with the following information:
   1. Soil classification (hazardous).
   2. An identifying Code to match it back to exact data and waste determination in accordance with the waste characterization performed on the material.
   3. Date when the roll-off and/or stockpile was loaded.

E. All soil roll-off container and stockpile identification information as mentioned above is to be kept in a consolidated file or binder in the on-site office of the Contractor's Site Engineer.

F. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

G. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged polyethylene sheeting covers will be promptly replaced.

H. At the end of each day, the Contractor shall cover each soil stockpile, roll-off container, and excavation areas with 8-mil polyethylene sheeting in a manner that ensures a watertight environment and prevents soil from coming in contact with rainwater.

I. Covers shall be tied down with rope or weighted down and sloped to prevent accumulation of water.

J. Stockpiles will be inspected at a minimum once each day and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

K. C&D debris shall be stored separately from the roll-off containers and stockpiles containing soil designated for off-site disposal.

1.05 SUBMITTALS:

A. Provide a list of tasks and statement of qualifications for Hazardous Waste Materials Management including names, addresses and telephone numbers of responsible individuals (all subject to review and written approval of the Engineer prior to initiation of work).

B. Evidence of current valid permits, licenses, and certifications including, as a minimum, the following:
   1. Training certificates of all workers, to be engaged in work under this section, including safety officer. Training includes OSHA 40 hour HAZWOPER, 8 hour HAZWOPER Refresher.
   2. Off-site transportation entity permits and licenses including a copy of the Spill Prevention, Control, and Countermeasure (SPCC) Plan.

C. Track the actual disposition of all material from the Site to its final disposal, recording the time the material is removed from the Site and the time it arrives at final destinations, nature of the materials and the location of the disposal. Waste manifests for hazardous wastes are to be photocopied upon sign off by the transporter’s driver and the photocopy shall be kept on file at the Contractor’s office trailer. The Contractor shall maintain an up-to-date Waste Tracking Report on-site at all times and provide the Engineer an electronic copy of the report weekly and a final Waste Tracking Report as outlined in 1.05 E.

D. All original waste manifests shall be given to the Engineer following completion of all excavation.

E. Within 30 days of completion, provide a final Waste Tracking Report which includes but may not be limited to the following:
   1. Photo documentation and inspection reports signed and sealed by a NYS Licensed Professional Engineer.
   2. A spreadsheet tracking each waste load removed from the Site.
   3. Summary of sampling efforts and results of laboratory analysis for material, if required.
   4. Executed hazardous waste manifests for each load of respective material removed and transported from the Site, and waste manifests for material associated with decontamination, as required.
   5. Executed hazardous waste manifest form signed by a responsible party of the disposal facility.
   6. Certificate of final disposal (or destruction) for each manifest.

F. Provide any other documentation requested as needed to conform or comply with all applicable Federal, State, and local laws, codes, ordinances, and regulation.

G. The work described in this Section shall be performed in accordance with a site-specific Health and Safety Plan which shall be approved by the Engineer prior to the commencement of excavation activities.

1.06 WORK AREA CONDITIONS:

A. Representatives of the Engineer and/or Frito-Lay will be on-site daily to inspect the

Work. NYSDEC and USEPA representatives are expected on-site during various stages of the Work. The Contractor shall cooperate with and give such assistance to such representatives.

B. Display or have available at all times at the Site a copy of the approved site-specific Health and Safety Plan.

1.07 PAYMENT:

A. Payment for items included in this section shall be in accordance with Pay Item No. 4, Excavation, Handling, and Off-Site Disposal of Contaminated Soil classified as Hazardous Waste, as described in Section 01025 – Measurement and Payment.

PART 2 - PRODUCTS

2.01 GENERAL:

A. 8-mil polyethylene sheeting shall be used as liner and covers for soil roll-off containers and stockpiles.

B. Roll-off containers of sufficient size, water-tightness, and construction for its designated use.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Provide, pursuant to approval by the Engineer, separate locations where hazardous excavated materials shall be stored at the Site.

B. All potentially hazardous and/or confirmed hazardous soil shall be protected from precipitation, runoff, and erosion. The storage location(s) shall be secured by the Contractor with access restricted to authorized personnel only.

C. The Contractor shall cover all soil roll-off containers and stockpiles with 8-mil polyethylene sheeting to provide precipitation, runoff, and erosion protection.

D. Transmit submittals and deliverables required under this section.

E. All work shall be performed in accordance with the approved site specific Health and Safety Plan.

3.02 PROTECTION:

A. Locate, identify, and protect all utilities within the area from damage.

B. The Contractor shall protect all benchmarks, survey control points, monitoring wells from damage or displacement during the Work.

C. Prior to excavation activities, the Contractor shall consult with the Engineer with regards to monitoring wells as described in Section 02290 - Environmental Well Preservation, Renovation, Repair, and Replacement.

3.03 SOIL EXCAVATION, HANDLING AND STORAGE:

A. The Contractor's Engineer of Record or Project Manager shall meet with the Engineer and/or Frito-Lay representatives prior to the start of excavation.

B. The Contractor shall excavate potentially hazardous and/or confirmed hazardous soil from the work area without mixing with foreign materials.

C. The Contractor shall load potentially hazardous and/or confirmed hazardous soil in the designated roll-off containers and stockpiles and protect them from precipitation, erosion and runoff using 8-mil plastic polyethylene sheeting and containment berms.

D. The Contractor shall store in roll-off containers and stockpiles containing potentially hazardous and/or confirmed hazardous soil separately from all other material in accordance with 6 NYCRR Part 372.

E. All hazardous soil shall be removed from the Site for disposal following the Engineer's receipt and written approval of sampling, analysis, and characterization.

F. If a spill and/or gross contamination is discovered during excavation activities, the Contractor shall immediately inform the Engineer. The Engineer will advise field personnel whether or not work shall be continued at the location. The Engineer will contact NYSDEC and Frito-Lay in such an event and this maybe done together with the Contractor to satisfy its reporting requirements. Although the Contractor should not contact NYSDEC directly unless directed to do so by the Engineer, it shall advise the Engineer on technical matters in facilitating the decision process and in communicating with the NYSDEC in consultation with the Engineer and Frito-Lay representatives. Nothing in this procedure shall be construed as relieving the Contractor from any regulatory responsibilities.

END OF SECTION

SECTION 02215
EXCAVATION, HANDLING, AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for the excavation, handling, and disposal of non-hazardous contaminated soil.

B. The “Remedial Investigation Report - 202-218 Morgan Avenue, Brooklyn, New York” (July 2010) and the Remedial Work Plan (RWP) (July 2011) prepared by Gannett Fleming Engineers and Architects, P.C. (GF), identified the presence of contaminated soil with concentrations exceeding Part 375 Restricted Use – Protection of Groundwater Soil Cleanup Objectives (SCOs) for arsenic, and the Industrial SCOs for lead, mercury, and PCBs. Non-hazardous levels (less than 50 milligrams per kilogram [mg/kg], but greater than 25 mg/kg) of PCBs are present at several soil boring/sample locations will require remediation as part of the Work.

C. The “Remedial Investigation Report - 202-218 Morgan Avenue, Brooklyn, New York” (July 2010) and the Remedial Work Plan (RWP) (July 2011) prepared by Gannett Fleming Engineers and Architects, P.C. (GF), identified the presence of potentially hazardous PCB-Impacted soil with concentrations exceeding the Toxic Substances Control Act (TSCA) threshold concentration of 50 mg/kg in soil samples SB-8, SB-8-2, SB-17, SB-20, SB-22, SB-23-4, SB-24, and SB-27.

D. The “Remedial Investigation Report - 202-218 Morgan Avenue, Brooklyn, New York” (July 2010) and the “Remedial Work Plan (RWP)” (July 2011) prepared by GF, also identified the presence of potentially hazardous lead in soil samples SB-8, SB-8-2, SB-19, SB-22, SB-23, and SB-102. SB-8-2 (0-4) is the only soil sample which has been confirmed, through laboratory analysis, to contain hazardous levels (5.37 milligrams per liter [mg/L]) of lead. The remaining soil sample areas, SB-8, SB-19, SB-22, SB-23, and SB-102, will require additional laboratory analysis to assess whether these soil sample locations will require management as hazardous waste.

E. The Contractor is advised that the Work will be performed on a site that contains contaminated soil and groundwater above the most stringent clean up criteria established by the NYSDEC. Polychlorinated biphenyls (PCBs) soil concentrations exceed the Toxic Substance Control Act (TSCA) threshold concentration of 50 milligrams per kilogram (mg/kg) for hazardous waste at several locations designated for excavation and off-site disposal. The Contractor is advised that excavation, handling, and off-site disposal will also be required for arsenic contaminated soil with concentrations exceeding the site-specific Remedial Action Objective (RAO) of 100 mg/kg, lead contaminated soil with concentrations exceeding the site-specific RAO of 10,000 mg/kg, mercury contaminated soil with concentrations exceeding the site specific RAO of 15 mg/kg, and PCB contaminated soil with concentrations exceeding 25 mg/kg and exceeding 10 mg/kg within the proposed warehouse expansion area.

1.02 RELATED SECTIONS:

A. Section 01065 - Health and Safety Requirements

B. Section 01056 - Protection of the Work and Property

C. Section 01100 - Construction and Demolition and Solid Waste Management

D. Section 01110 - Environmental Protection Requirements

E. Section 02120 - Off-Site Transportation and Disposal

F. Section 02200 - Earthwork

G. Section 02210 - Excavation, Handling, and Disposal Hazardous Soil

H. Section 02290 - Environmental Well Preservation, Renovation, Repair, and Replacement

I. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARDS AND REGULATIONS:

A. United States Environmental Protection Agency (USEPA):
   1. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
   2. Title 40, Code of Federal Regulations (CFR):
      a. 40 CFR Part 261: Identification and Listing of Hazardous Wastes.
      b. 40 CFR Part 262: Standards Applicable to Generators of Hazardous Waste.
      c. 40 CFR Part 263: Standards Applicable to Transporters of Hazardous Waste.
      d. 40 CFR Part 264: Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
      e. 40 CFR Part 761: Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.
      f. 40 CFR Part 761.61: PCB Remediation Waste.
      g. 40 CFR Part 761.79: Decontamination Standards and Procedures.
      h. 40 CFR Part 761: Subpart S: Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces.
   3. Toxic Substances Control Act (TSCA)

B. New York State Department of Environmental Conservation (NYSDEC):
   1. Commissioner Policy (CP), CP-51 Soil Cleanup Guidance Policy
   2. Division of Environmental Remediation (DER), DER-10 - Technical Guidance for Site Investigation and Remediation, 2010.
   3. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.3, Unrestricted Soil Cleanup Objectives, December 14, 2006.
   4. Remedial Program Soil Cleanup Objectives, 6 NYCRR Part 375-6.4, Restricted Soil Cleanup Objectives, December 14, 2006.

C. New York Standards – New York Codes, Rules, and Regulations (NYCRR):
   1. 6 NYCRR Part 360: Solid Waste Management Facilities.
   2. 6 NYCRR Part 371: Identification and Listing of Hazardous Waste, July 14, 1985.
   3. 6 NYCRR Part 372: Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities, July 1, 1986.
   4. 6 NYCRR Part 375: Environmental Remediation Programs, December 14, 2006.

D. Code of Federal Regulations (CFR):
   1. 29 CFR 1904: Recording and Reporting Occupational Safety and Health Standards.
   2. 29 CFR 1910: Occupational Safety and Health Standards.
   3. 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response.
   4. 29 CFR 1926: Safety and Health Regulations for Construction.
   5. 29 CFR 1926.59: Hazard Communication Standard.
   6. 29 CFR 1926.65: Hazardous Waste Operations and Emergency Response.
   7. 29 CFR 1926.103: Respiratory Protection Standard.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Verify compliance with standards and regulations.

B. Provide a statement to Frito-Lay and the Engineer that the "Remedial Investigation Report" (July 2010), the "Remedial Work Plan (RWP)" (July 2011), and the "Notification for Self-Implementing On-site Cleanup and Disposal of PCB Remediation Waste" (January 2011) prepared by GF has been obtained and reviewed by the Contractor.

C. Written approval of all transporters and disposal facilities (for all materials) must be secured from the Engineer and Frito Lay. The Contractor shall use transporters, waste management firms and disposal/treatment facilities that are approved by the Engineer and Frito-Lay.

D. All soil roll-off containers and stockpiles are to have an identifying sign placed adjacent to each roll-off container and stockpile with the following information:
   1. Soil classification (non-hazardous).
   2. An identifying Code to match it back to exact data and waste determination in accordance with the waste characterization performed on the material.
   3. Date when the roll-off container and/or stockpile was loaded.

E. All soil roll-off container and stockpile identification information as mentioned above is to be kept in a consolidated file or binder in the on-site office of the Contractor's Site Engineer.

F. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

G. Stockpiles will be kept covered at all times with appropriately anchored tarps.

Stockpiles will be routinely inspected and damaged polyethylene sheeting covers will be promptly replaced.

H. At the end of each day, the Contractor shall cover each soil stockpile, roll-off container, and excavation areas with 8-mil polyethylene sheeting in a manner that ensures a watertight environment and prevents soil from coming in contact with rainwater.

I. Covers shall be tied down with rope or weighted down and sloped to prevent accumulation of water.

J. Stockpiles will be inspected at a minimum once each day and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

K. C&D debris shall be stored separately from the roll-off containers and stockpiles containing soil designated for off-site disposal.

1.05 SUBMITTALS:

A. Provide a list of tasks and statement of qualifications for Waste Materials Management including names, addresses and telephone numbers of responsible individuals (all subject to review and written approval of the Engineer prior to initiation of Work).

B. Evidence of current valid permits, licenses, and certifications including, as a minimum, the following:
   1. Training certificates of all workers, to be engaged in work under this section, including safety officer. Training includes OSHA 40 hour HAZWOPER, 8 hour HAZWOPER Refresher.
   2. Off-site transportation entity permits and licenses including a copy of the Spill Prevention, Control, and Countermeasure (SPCC) Plan.

C. Track the actual disposition of all material from the Site to its final disposal, recording the time the material is removed from the Site and the time it arrives at final destinations, nature of the materials and the location of the disposal. Manifests/Bills of Lading and other disposal documentation for non-hazardous soil are to be photocopied upon sign off by the transporter's driver and the photocopy shall be kept on file at the Contractor's office trailer. The Contractor shall maintain an up-to-date Waste Tracking Report on-site at all times and provide the Engineer an electronic copy of the report weekly and a final Waste Tracking Report as outlined in 1.05 E below.

D. All original Waste Manifests/Bills of Ladings shall be given to the Engineer following excavation completion.

E. Within 30 days of completion, provide a final Waste Tracking Report which includes but may not be limited to the following:
   1. Photo documentation and inspection reports signed and sealed by a NYS Licensed Professional Engineer.
   2. A spreadsheet tracking each waste load removed from the Site.

3. Summary of sampling efforts and results of laboratory analysis for material.
4. Executed non-hazardous soil Waste manifests/Bill of Ladings for each load of respective material removed and transported from the Site and Waste Manifests and/or Bill of Ladings for material associated with decontamination as required.
5. Executed Waste Manifests/Bill of Ladings form signed by a responsible party of the disposal facility.

F. Provide any other documentation requested as needed to conform or comply with all applicable Federal, State, and local laws, codes, ordinances, and regulation.

G. The Work described in this Section shall be performed in accordance with a site-specific Health and Safety Plan which shall be approved by the Engineer prior to the commencement of excavation activities.

PART 2 - PRODUCTS

2.01 GENERAL:

A. 8-mil polyethylene sheeting shall be used as soil roll-off container or stockpile liner and covers.

B. Roll-off containers of sufficient size, water-tightness, and construction for its designated use.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Provide, pursuant to approval by the Engineer, separate locations where potentially hazardous and non-hazardous excavated materials shall be stored at the Site.

B. All soil stock piles shall be protected from precipitation, runoff and erosion. The storage location(s) shall be secured by the Contractor.

C. The Contractor shall cover all soil roll-off containers and stockpiles with 8-mil polyethylene sheeting to provide precipitation, runoff, and erosion protection, at the end of each working day or when precipitation occurs or anticipated.

D. Transmit submittals and deliverables required under this section.

E. All work shall be performed in accordance with the approved Health and Safety Plan.

3.02 PROTECTION:

A. Locate, identify and protect all utilities within the area from damage.

B. Protect all benchmarks, survey control points, and monitoring wells from damage or displacement during the Work.

C. Prior to excavation activities, the Contractor shall consult with the Engineer with regards to monitoring wells as described in Section 02290 - Environmental Well Preservation, Renovation, Repair, and Replacement.

3.03 SOIL EXCAVATION, HANDLING, AND STORAGE:

A. The Contractor's Engineer of Record or Project Manager shall meet with the Engineer and Frito-Lay representatives prior to the start of excavation.

B. The Contractor shall excavate non-hazardous soil from the construction area without mixing with foreign materials.

C. The Contractor shall load non-hazardous contaminated soil in the designated roll-off containers or stockpiles and protect it from precipitation, erosion and runoff using 8-mil plastic polyethylene sheeting and containment berms.

D. The Contractor shall store in roll-off containers and/or stockpile non-hazardous soil separately from all other material in accordance with 6 NYCRR Part 372.

E. All non-hazardous soil shall be removed from the Site for disposal following the Engineer's receipt and written approval of sampling, analysis and characterization.

F. If a spill and/or gross contamination is discovered during remedial activities, the Contractor shall immediately inform the Engineer. The Engineer will advise field personnel whether or not work shall be continued at the location. The Engineer will contact NYSDEC and Frito-Lay in such an event and this maybe done together with the Contractor to satisfy its reporting requirements. Although the Contractor should not contact NYSDEC directly unless directed to do so by the Engineer, it shall advise the Engineer on technical matters in facilitating the decision process and in communicating with the NYSDEC in consultation with the Engineer and Frito-Lay. Nothing in this procedure shall be construed as relieving the Contractor from any regulatory responsibilities.

END OF SECTION

SECTION 02290
GROUNDWATER MONITORING WELLS
PRESERVATION, RENOVATION, REPAIR, AND REPLACEMENT

PART 1 -GENERAL

1.01 SECTION INCLUDES:

A. Requirements for furnishing all labor, materials, tools, and equipment, and performing all operations necessary for preserving, renovating, repairing, relocating, and replacing, as well as decommissioning, groundwater monitoring wells, or other wells encountered during the Work.

B. The Work area may extend to where wells are located, and these wells may need to be preserved, renovated, repaired, relocated, or replaced. as well as decommission, by the Contractor to perform the Work.

C. The Contractor shall field-locate all existing monitoring wells and present a plan to the Engineer for approval to preserve the integrity of the wells that may be affected by the Work. The Contractor will be required to obtain all information necessary to prepare a plan which satisfies the requirements of this section. The Contractor shall implement the approved plan.

1. The Contractor shall maintain the integrity of all wells in the work area. The Contractor shall protect the integrity of the wells in the area of the Work, and alter the above- and at-grade features of the wells where the purpose of the well can be carried forward effectively.

2. The Contractor shall repair any damage to the groundwater monitoring, during the course of the Work.

3. All groundwater monitoring wells located within the Work area shall be preserved with exception of the monitoring wells designated for decommissioning prior to commencing the Work which will be re-installed prior to project close-out.

1.02 RELATED SECTIONS:

A. Section 01065 - Health and Safety Requirements

B. Section 01100 - Construction and Demolition and Solid Waste Management

C. Section 01110 - Environmental Protection Requirements

D. Section 02105 - Environmental Sampling and Analysis

E. Section 02120 - Off-Site Transportation and Disposal

F. Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil

G. Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil

H. Section 02370 - Soil Erosion and Sedimentation Control

1.03 STANDARDS AND REGULATIONS:

A. American Society for Testing and Materials (ASTM):
1. C 778 - Standard Sand.
2. D 1785 - Poly Vinyl Chloride (PVC) Plastic Pipe, Schedule 40.
3. D 5092 - Standard Practice for Design and Installation of Ground Water Monitoring Wells in Aquifers.
4. D 6286 - Standard Guide for Selection of Drilling Methods for Environmental Site Characterization.

B. Code of Federal Regulations (CFR):
1. 29 CFR 1910 - Occupational Safety and Health Administration (OSHA).

C. New York State Department of Environmental Conservation (NYSDEC):
1. Commissioner Policy (CP), CP-43 - Groundwater Monitoring Well Decommissioning Policy, November 2009.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Verify compliance with standards and regulations.

B. Aquifer Drilling and Testing is the driller on record and will be proposed by the Contractor.

C. Review the details of all wells to be preserved, renovated, relocated, and replaced and prepare the procurement list for all items required for installation and maintenance for the duration of the Work.

1.05 SUBMITTALS:

A. Evidence of current valid permits, licenses, and certifications.

B. Detailed systematic procedure for decommissioning, preservation, renovation, and replacement including installation and development of all wells as needed, including samples of the installation record sheets, logs, decontamination procedures and well decommissioning record sheets, logs, etc.

C. The preservation, renovation, replacement, and installation procedures shall include, but not be limited to, the following:
1. Manufacturer and model of drill rig.
2. Method to be used for cleaning/decontaminating the inside of casing or augers and other materials and equipment that are exposed to contaminated soil.
3. Specifications for proposed grout mixes, including commercial names, proportions of admixtures and water, mixing sequence, mixing methods and duration, pumping methods, tremie pipe type, size, and quantity.

4. Specifications for materials involved with the preservation, repair, and replacement of wells including materials to replace existing aboveground well covers with flush-at-grade covers and any other materials involved with the work.
5. Drill casing or auger type and size.
6. Depth increments for backfilling boreholes with sand and granular bentonite.
7. Method of sealing joints in pipes to prevent ingress of grout.
8. Method(s) for protecting monitoring wells from damage.
9. Method for collection, containerization and disposal of well cuttings, development and purged water.
10. Method of developing wells.

D. Within five days after renovating, repairing, or replacing a monitoring well, submit to the Engineer the installation record sheet for that well including the surveyed as-built location and reference elevation as specified herein.

1.06 DELIVERABLES:

Not Used

PART 2 -PRODUCTS

2.01 GENERAL:

A. All materials shall be new. Whenever materials are specified by brand name and model numbers, any request from the Contractor for consideration of a substitution shall clearly state the nature of any deviation from the product specified.

B. The Engineer may approve the use of a substituted material or product.

C. The Contractor shall furnish all installation tools, materials, and miscellaneous components.

D. Materials used shall not contribute to or remove contaminants from the groundwater. Materials and equipment that have contact with soil shall be decontaminated between well installations.

E. Solvents or glues shall not be used.

F. Each well shall be permanently marked on the well cap with a unique identification number in accordance with the Engineer's requirements.

G. Well casing shall be 2-inch diameter, Schedule 40 PVC pipe and comply with ASTM D 1785 unless otherwise required the Engineer.

H. Well screens shall be 2-inch diameter, Schedule 40 PVC pipe, 10 feet long, with 0.02-inch slots unless otherwise required by the Engineer. Well screens shall be consistent with the lengths and elevations of the replaced groundwater monitoring well.

I. Provide riser pipe with an end cap and a vented top cap. Riser pipe shall be 2-inch, Schedule 40 PVC with self-sealing flush joints. Joints shall either have modified pipe threads or O-rings such that they sustain an internal water pressure of 50-pounds per square inch. Standard square threads without appropriate O-rings are not acceptable.

J. Surface protection shall be flush with the ground surface in paved or other areas and shall consist of an 8-inch diameter, 12-inch depth limited access watertight manhole manufactured by PEMCO (Model No.1038 x 12) or approved equal. A locking lid shall be provided.

K. Granular bentonite shall be Wyo-Ben, Inc. "Enviroplug Medium"; Baroid Division, Petroleum Services, Inc. "Holeplug"; Cetco "PureGold Medium Chips"; Polymer Drilling Systems Company "Pel-Plug TR30" or "TR-60"; or approved equal. Compressed bentonite pellets shall not be used.

L. Filter sand shall conform to ASTM C 778 for 20-30 sand.

PART 3 - EXECUTION

3.01. PREPARATION:

A. Preserve, renovate, relocate, repair, and replace groundwater monitoring wells as directed by the Engineer.

B. Preserve, renovate, relocate, repair, and replace groundwater monitoring wells following all applicable Federal, State, and local standards and regulations.

3.02. WORK AREA CONDITIONS:

A. A qualified Health and Safety Officer (HSO) shall be present at the site at all times.

B. Display or have available at the Site at all times a copy of the Contractor's site-specific CIH-approved Health and Safety Plan.

C. Preserve, renovate, relocate, repair, and replace all wells and make available for monitoring by others.

3.03. GENERAL INSTALLATION PROCEDURES:

A. Decommission, preserve, renovate, relocate, and replace groundwater monitoring wells one per borehole at the locations shown on the Contract Drawings, as required by the Contractor to perform the Work and as directed by the Engineer.

B. Preservation, renovation, relocation, and replacement procedures for groundwater monitoring wells shall be such that all steps in the procedure are in accordance with quality assurance requirements specified herein including ASTM D 5092 and ASTM D 6286. Volumes of each increment of backfilling with sand and granular bentonite shall be small enough that no bridging occurs. The depth to the top of each increment shall be checked after placement. Place granular bentonite in depth increments not exceeding 2 feet.

C. Place grout using a tremie method with side discharge ports on the tremie pipe.

D. Before installing groundwater monitoring wells through drill casing or augers, thoroughly remove all material adhering to the inside of the casing or augers and all cuttings.

E. Whenever withdrawing drill casing or augers during instrumentation installation in a borehole, take care to minimize the length of unsupported borehole and the rate of casing or auger withdrawal. Do not allow collapse of the borehole. Do not allow backfill material to build-up inside the casing or auger such that the instrument is lifted as the casing or auger is withdrawn. Withdraw the casing or auger without rotation.

F. Do not leave partially completed well installations overnight or longer without prior written permission of the Engineer.

G. Groundwater monitoring wells (partially or fully completed) must not allow foreign objects to enter the riser pipe.

H. Groundwater monitoring well as-built locations and elevations shall be surveyed by a New York State Licensed Land Surveyor.

I. As each groundwater monitoring well is preserved, renovated and/or replaced, prepare an installation record sheet including appropriate items from the following list:

1. Project name.
2. Contract name and number.
3. Planned/actual location in horizontal position and elevation.
4. Planned/actual orientation.
5. Planned/actual thickness and volumes at backfill.
6. Personnel responsible for installation.
7. Plant and equipment used including diameter and depth of any drill casing or augers used.
8. Date and time of start and completion of installation.
9. A geologic log of subsurface data indicating the elevations of strata changes encountered in the borehole. Strata soil nomenclature shall be based on profiles and boring logs shall be classified for lithology using the United Soil Classification System (USCS).
10. Type of backfill used.
11. As-built location in horizontal position and elevation including:
    a. Elevation referenced to the Project Elevation Datum together with the location of the point used for the elevation measurement.

b. Horizontal position referenced to the Project horizontal control system together with the location of the point used for horizontal position measurement.
c. A location sketch showing the instrument number, taped horizontal distances to the instrument, measured to an accuracy of plus or minus 1-foot from permanent physical features in the field. A sufficient number of taped measurements shall be included on the sketch to establish a unique horizontal position for the instrument. If such features are removed, provide a new sketch before removal with taped measurements to other features.

12. As-built orientation.
13. As-built volumes of backfill.
14. Weather conditions at the time of installation.
15. Notes of importance on the installation including problems encountered, delays, unusual features of the installation (i.e., odor, sheen, floating product), and details of any events that may have a bearing on instrument behavior.

J. After installation, roadway boxes shall be free-draining. Repair or replace roadway boxes that are not free draining at no additional cost to Frito-Lay.

3.04 PRESERVING, RENOVATING, AND REPLACING GROUNDWATER MONITORING WELLS:

A. Boreholes must be hand augered to a minimum depth of 5 feet.

B. Drill boreholes required for wells to depths specified by the Engineer. Well depths shall be consistent with the depth of the replaced groundwater monitoring well.

C. Install well screens at elevations (with a minimum of two feet above the seasonal high water table) specified by the Engineer. Well screens shall be consistent with the elevations of the replaced groundwater monitoring well.

D. Check depth to the top of each increment of granular bentonite using a cylindrical sounding hammer. Do not tamp the granular bentonite.

E. Joints, caps, and end plugs shall be secured through the use of welds, threads with Teflon tape or force fittings.

F. The space between the borehole and the well casing above the sampling depth shall be sealed (using grout or bentonite) to prevent contamination of groundwater and samples.

G. Decontaminate all equipment that contacts the soil in accordance with standard NYSDEC well drilling procedures (Article 1.03 C) and the driller's detailed systematic procedure for well installation and development (Article 1.05 B).

H. Develop the monitoring wells by pumping and/or bailing or other reviewed methods. Submit the method of development for the Engineer’s review and approval.

I. The top of the riser pipe must be permanently marked to establish a datum for future water level measurements.

J. After completion of installation, determine the as-built location in horizontal position to accuracy of 0.1-foot and in elevation to an accuracy of plus or minus 0.01-foot (i.e., well cap, top of casting, screen, bottom of well).

K. Dispose of drill cuttings and development and purged water in accordance with applicable Federal, State, and local regulations as well as Section 02120 – Off-Site Transportation and Disposal, Section 02210 - Excavation, Handling, and Disposal of Hazardous Soil, and Section 02215 - Excavation, Handling, and Disposal of Non-Hazardous Contaminated Soil.

L. Restore all surfaces affected by installation of instruments to the original condition before completion of the Work as approved by the Engineer.

M. All groundwater monitoring wells to be relocated must be appropriately decommissioned in place as per the NYSDEC Groundwater Monitoring Well Decommissioning Policy (CP-43).

N. If it becomes necessary to replace a monitoring well, well decommissioning activities shall be completed under supervision of the Engineer or Frito-Lay representative.

3.05 MAINTENANCE AND PROTECTION:

A. Maintain and protect existing wells from damage or deterioration due to construction activities, weather, traffic, and vandalism.

B. Maintain and, where necessary or as directed by the Engineer, construct access to all monitoring wells to ensure accessibility.

C. If a groundwater monitoring well is damaged or becomes inoperative, repair or replace the damaged or inoperative well within 72 hours. The Engineer will be the sole judge of whether repair or replacement is required. The Engineer may impose a work stoppage in the vicinity of the damaged or inoperative well until it is again operational. All damaged or inoperative wells shall be decommissioned or replaced in accordance with NYSDEC requirements.

D. Extend or reduce installed groundwater monitoring wells as necessary as grade changes occur and as directed by the Engineer and revise instrument reference elevations as necessary.

3.06 CLOSEOUT:

A. Upon completion of the Work and before the transfer of all groundwater monitoring wells in satisfactory operation condition for continuation of monitoring by others, replace all equipment that is damaged, non-functional, or in poor condition.

END OF SECTION

SECTION 02370
SOIL EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Requirements for soil erosion protection and temporary pollution control to be coordinated with the permanent erosion control features throughout the construction and post construction period.

1.02 RELATED SECTIONS

A. Section 01056 – Protection of Work and Property

B. Section 01065 - Health and Safety Requirements

C. Section 02200 - Earthwork

1.03 STANDARDS AND REGULATIONS:

A. American Association of State Highway and Transportation Officials (AASHTO): M 55, Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.

B. American Society for Testing and Materials (ASTM): A 641, Zinc Coated (Galvanized) Carbon Steel Wire.

C. New York State Department of Environmental Conservation (NYSDEC).

D. New York State Department of Environmental Conservation (NYSDEC) Storm Water Pollution Prevention Plan (SWPPP) requirements (General Permit GP-0-10-001).

E. New York State Department of Transportation (NYSDOT) Standard Specifications Construction and Materials.

F. New York State Standards for Erosion and Sediment Control.

1.04 RESTRICTIONS AND QUALITY CONTROL:

A. Design and calculations for the soil erosion protection and soil sedimentation control shall be signed and sealed by a Professional Engineer licensed in the State of New York.

B. Use all means necessary to protect the materials before, during and after installation and to protect the installed work of others.

C. In the event of damage immediately make all repairs and replacements necessary, to the approval of the Engineer.

D. The Contractor shall develop a SWPPP in accordance with NYSDEC General Permit GP-0-10-001 and shall be responsible for construction maintenance, inspection and logging requirements until such time that Site is stabilized, and such services are no longer required. This SWPPP shall be subject to review and approval of the Engineer.

E. The Contractor shall file for coverage under General Permit GP-0-10-001 if the area of soil disturbance exceeds one acre, unless already obtained by the Owner. In that case, the Contractor shall coordinate the submittal for coverage including the submittal of a Notice of Intent (NOI) with Frito-Lay, unless already submitted by the Owner.

1.05 SUBMITTALS:

A. Design drawings and computations.

B. Samples.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Silt Barrier Fence

B. Hay Bale Treatment for Inlet Protection

C. Wood Stakes

D. Welded Steel Wire

E. Construction Entrance

F. Ditch or Swale Protection

PART 3 - EXECUTION

3.01. PREPARATION:

A. Transmit submittals required by this Section.

B. Ensure substrates are in suitable condition to receive the work of this Section.

C. Contractor to provide immediate permanent or temporary erosion control as necessary to control erosion.

3.02. INSTALLATION:

A. All sediment and erosion control practices shall be installed before any major soil disturbance, in their proper sequence, and maintained until permanent protection is established.

B. All staked hay bales and silt fences shall be in place before grading operations and installation of utilities.

C. All staked hay bales and silt fences shall be in place until construction is completed or areas stabilized.

D. Storm drainage inlets, where indicated, are to be temporarily protected with hay bale treatment to prevent entry of sediment carried by runoff.

E. Inspection of all soil erosion control measures shall be frequent and repair or replacement shall be made promptly as ordered by the Engineer.

F. To prevent blowing and movement of dust from exposed dry soil surfaces, when ordered by the Engineer, the Contractor shall spray water on the exposed areas in quantity as required. The Contractor shall implement dust control measures to the satisfaction of the Engineer and/or the NYSDEC Field Inspector.

G. Silt Fence:

1. Silt fence shall consist of geotextile fabric whose width shall be at least 3 feet to provide for a 2-foot high fence after 1-foot of fabric is buried in the existing soil. Heavy-duty silt fence shall consist of geotextile fabric whose width shall be at least 4 feet to provide for a 3-foot high fence after 1-foot of fabric is buried in the existing soil. Sections of fabric shall be joined in such a manner that when in operation the sections work effectively as a continuous fence. Fence posts shall be installed at a slight angle toward the anticipated run-off source.
2. Heavy-duty silt fence shall include a welded wire mesh backing for the geotextile fabric. This welded steel wire mesh shall be galvanized and shall contain 4-inch square openings. The geotextile fabric shall be secured to the welded wire mesh.

3.03 CONTROL MEASURES

A. Dirt Control

B. Soil Erosion and Sediment Control Maintenance

1. Contractor shall be responsible for removal and disposal of all temporary soil erosion and sediment control measures upon completion of construction and following stabilization of the area.

END OF SECTION

APPENDIX F
COMMUNITY HEALTH AND SAFETY PLAN

REMEDIAL ACTION
COMMUNITY HEALTH AND SAFETY PLAN

Frito Lay, Inc.

Prepared For:

Frito Lay

202-218 Morgan Avenue

Brooklyn, New York

Prepared By:

GANNETT FLEMING

Suite 300

100 Crossways Park West

Woodbury, New York 11797

March 2011

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FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligram per cubic meter
CAMP	Community Air Monitoring Program
CHASP	Community Health and Safety Plan
COC	Contaminant of Concern
EPA	(United States) Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know-Act
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard
GCAMP	Generic Community Air Monitoring Plan
MSDS	Material Safety Data Sheet
NFPA	National Fire Prevention Association
NYCRR	Official Compilation of NY State Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PE	Professional Engineer
PEL	Permissible Exposure Limit
ppm	parts per million
RA	remedial action
RWP	Remedial Work Plan
RQ	Reportable Quantity
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Gannett Fleming Engineers, P.C (GF), on behalf of Frito Lay, Inc. (Frito Lay), has developed this Community Health and Safety Plan (CHASP) to address potential community health and safety issues for the community in the vicinity of the Frito-Lay property (Site) located at 202-218 Morgan Avenue in Brooklyn (Figure 1), New York during scheduled Remedial Action (RA) activities.

The objective of this document is to design, coordinate and implement safety measures that will prevent and/or mitigate any negative impacts to the community that could be caused throughout remedial activities. Furthermore, this document will encourage awareness of the community for those working on the remedial project and encourage vital consideration be provided to the citizens and business within the vicinity of the Site. This CHASP will serve to support the intent of the Emergency Planning and Community Right-to -Know-Act (EPCRA).

Consistent with Frito Lay's agreements with the New York State Department of Environmental Conservation (NYSDEC), GF, on behalf of Frito Lay, submitted to the NYSDEC Division of Environmental Remediation (DER) and the New York State Department of Health (NYSDOH) the final remedial work plan (RWP) outlining the scope and specifications for the remedial activities intended at the Site. Upon review of the RWP, the NYSDOH requested the implementation of the CHASP.

GF followed this fundamental approach when developing this document:

1. Identify and evaluate potential hazards and community impacts that could occur during remedial work activities if preventive measures were not arranged;
2. Evaluate preventive measures that could be put in place before the initiation of the remedial project and accordingly, during remedial activities to mitigate the potential for hazards and impacts to occur; and,
3. Develop response actions and procedures that could be taken in the event hazards or community impacts occur.

The focus of this document is on those potential hazards or impacts that may affect the general public. Separate project Site Specific Health and Safety Plans (HASP) that address worker safety will be developed subsequent to Frito Lay and GF contracting a remedial contractor(s) to perform planned work activities.

2.0 PROJECT SUMMARY

2.1 Project Setting

The Site is located at 202-218 Morgan Avenue in the County of Kings, Brooklyn, New York and is identified as Block 2942 and Lot 105, 111, and 102 on the Borough of Brooklyn Tax Map, Section 10. A United States Geological Survey (USGS) topographical quadrangle (Figure 1-1) shows the Site location. The Site is situated on an approximately 2.85 acre area bounded by Block 2942, Lot 101 to the north, English Kills Basin and Block 2942, Lot 101 to the south, English Kills to the east, and Morgan Avenue to the west. The Site is located in a predominantly manufacturing zone district in this section of Brooklyn. Manufacturing land use is located to the north, south, east (beyond the English Kills) and to the west. An aerial location map is provided as Figure 1-2. The closest school is St. Nicholas Elementary which is located at 287 Powers Street approximately 0.4 miles northwest of the Site. The closest hospital is the Woodhull Hospital which is located at 760 Broadway in Brooklyn which is located approximately 1.5 miles northwest of the Site. There is residential land use approximately 0.25 miles to the west beyond the manufacturing zone district. The only surface water body located in this section of Brooklyn is the English Kills which borders the Site to the east. There are no known wetlands in the immediate vicinity of the Site and the only sensitive receptor is the English Kills.

2.2 Project Description

Rolling Frito-Lay Sales, LP (Frito-Lay), entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC on August 21, 2009, to investigate and remediate the 2.85-acre property located at 202-218 Morgan Avenue in Brooklyn, Kings County, New York. Frito-Lay is a Volunteer in the Brownfield Cleanup Program (BCP).

The environmental investigations conducted at the Site since 2003 have identified contaminants of concern (COCs) in the soil, soil gas, and groundwater. In soil, arsenic, lead, mercury, polychlorinated biphenyls (PCBs), and semi-volatile organic compounds (SVOCs) have been detected at concentrations exceeding Part 375 of Title 6 of the Official Compilation of Codes, Rules and Regulations ("6 NYCRR") Unrestricted and Restricted Use Soil Cleanup Objectives (SCOs) predominantly in the surface and in the subsurface soils. Arsenic, and to a lesser extent lead (total analysis only), and volatile organic compounds (VOCs) have been detected at concentrations exceeding the Technical & Operational Guidance Series (TOGS) standards in groundwater, and VOC concentrations have been detected in soil gas but below the NYSDOH's Soil Vapor/Indoor Air Matrix (Guidance for Evaluating Soil Vapor Intrusion in the State of New York, 2006).

The remedial cleanup objectives of the BCP are to remove or eliminate significant threats to public health and the environment, as well as implementing soil cleanup levels that are consistent with current and intended Site use. The remedial strategy for the soil will be consistent with Track 4 cleanup track, specified within Part 375 of Title 6- NYCRR §375-6.8(b) as the basis for site soil cleanup for the COCs identified at the Site. The SCOs for the major COCs found in the Site soils are 16 mg/kg for arsenic, 3,900 mg/kg for lead, 5.7 mg/kg for mercury, and 25 mg/kg for PCBs. Where concentrations of contaminants in soil exceed the Restricted Use - Protection of Groundwater SCOs for arsenic and the Restricted Use - Industrial SCOs for lead, mercury, and PCBs, a combination of soil removal or an engineered "asphalt cover system" will be implemented to prevent exposures in accordance with restricted use.

3.0 MANAGEMENT AND MONITORING OF POTENTIAL HAZARDS

Management and monitoring will be implemented for the following concerns:

1. Air quality
2. Traffic
3. Spills from vehicles and/or equipment
4. Site Security

3.1 Air Quality

Air quality criteria were established, which follow the guidelines established by the NYSDOH Generic Community Air Monitoring Plan (GCAMP) for remediation programs (2000). In addition to the guidance values, which have been established as work perimeter limits for this remediation project, lower levels have been established (investigation and control levels), which provide additional assurance that the criteria will not be exceeded. These air quality criteria will be in place for the 2011 remedial action activities, and are presented in the table below:

	Air Quality Criteria		
Target Compound	Investigation level	Control Level	Work Perimeter Limit
Total VOCs	2 ppm	3 ppm	5 ppm
Dust (as PM^{10})	100 µg/m³	100 µg/m³	150 µg/m³
Mercury Vapor	0.05 mg/m³	0.05 mg/m³	> 0.1mg/m³

1. Criteria represent 15 minute average above background levels
2. Investigation Level - Evaluate reading with background, identify source
3. Control Level - Apply controls/countermeasures
4. Work Perimeter Limit - Restrict/stop operations and reassess work

ppm- parts per million

The air monitoring program will perpetually operate during planned remedial activities. This program evaluates air quality at the work zone perimeter. During remedial work activities, the air will be constantly monitored for dust particulates, mercury vapor, and VOC concentrations to ensure that concentrations at the Site perimeter remain below the work perimeter limits established for this project.

The air monitoring system will operate continuously throughout the workday unless affected by inclement weather. Fixed points that encircle the work zone were selected for the continued monitoring of air quality during RA work activities (see below). Air monitoring results shall be monitored by qualified on-site personnel that have been Occupational Safety and Health Administration (OSHA) forty (40) Hour Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) certified, and reviewed on a regular basis to ensure that the criteria are not exceeded by construction activities. Data from meteorological monitoring stations located in proximity to the work zone will be used to evaluate daily weather conditions.

3.1.1 Dust Monitoring

Dust shall be monitored at four (4) fixed monitoring locations (Figure 2-1) using MIE pDR-1000AN Personal DataRAM Particulate Dust Monitors to ensure that real-time mass concentrations at the work zone perimeter remain below established air quality criteria. The passive air sampling dust monitoring units will be set to log dust conditions in one minute intervals, and will be downloaded to a computer each day for project team review of peak and average concentrations.

Particulate dust emissions will be documented in micrograms per cubic meter ($\mu g/m^3$). Air quality criteria for particulate dust concentrations of 150 $\mu g/m^3$ above background levels has been established as the work zone perimeter limit. To provide additional assurance, a lower control level of 100 $\mu g/m^3$ above background levels has also been established. If this lower level is exceeded for a 15-minute period, additional dust suppression measures (such as increasing the use of water, applying dust suppression foaming agents, reducing equipment speeds, or work stoppage) will be implemented. An audible alarm on the dust monitoring device will sound when concentrations detected reach 100 $\mu g/m^3$ and work shall stop when dust levels exceed 150 $\mu g/m^3$

as indicated in the GCAMP. If the perimeter limit is exceeded, on-site activities that generated the dust will be immediately halted and subsequently re-evaluated.

The fugitive dust control plan will be implemented and perpetually managed throughout the remedial work to minimize the generation of particulate dust during remedial activities at the Site. This plan includes:

- Using water hoses with firefighting grade nozzles to apply water to the Site prior to and during remedial activities;
- Wetting down any soil stockpile and open excavations at the end of each workday;
- Covering all soil stockpiles with heavy plastic sheeting at the end of each workday;
- Utilizing a cover/tarp system on all trucks hauling fine or dusty material;
- If excessive winds prevent water application from achieving the required controls, a dust suppression foaming agent can be used in unison; and,
- During remedial operations, the contractor shall implement dust control measures from transport vehicles, haul roads, and material stockpiles, etc. as considered necessary.

3.1.2 Volatile Organic Compound Monitoring

Air shall be continuously monitored at four (4) fixed locations (Figure 2-2) to ensure that total VOCs concentration at the work zone perimeter do not exceed established air quality criteria. Air quality criteria for total VOCs concentration of 5 parts per million (ppm) above background levels has been established as the work zone perimeter limit for this project. To provide additional assurance, a lower investigation level of 2 ppm and control level of 3 ppm have also been established. Should the air monitors detect VOCs concentrations exceeding the investigation level for a 15-minute period, the source of the volatile emissions will be investigated and subsequently evaluated. Should the air monitors detect VOCs concentrations exceeding the control level for a 15-minute period, measures including covering the area of excavation with water or applying dust suppression foaming agents will be immediately implemented. If a 15-minute average of 5 ppm is exceeded because of on-site activities, work will be stopped until corrective measures are implemented. VOC monitoring equipment consists of four (4) photo-ionization detectors (PIDs) field calibrated daily to a 100 ppm isobutylene gas standard that measures real-time total VOC concentration during remedial excavation activities. VOC monitoring data will be recorded in a separate community air monitoring program (CAMP) log book throughout the breadth of remedial activities.

3.1.3 Mercury Vapor Monitoring

Mercury monitoring in ambient air will be conducted during remedial activities to assess the potential for fugitive mercury vapor concentration in air. This monitoring program will employ two Jerome 431-X Gold Film Mercury Vapor Analyzers manufactured by Arizona Instrument, LLC of Chandler Arizona (Arizona Instruments). The Jerome 431-X is an ambient air analyzer with a range of 0.001 to 0.999 milligrams per cubic meter (mg/m^3 Hg). One unit will be staged upwind and the second unit will be staged downwind, with readings monitored and recorded every 15 minutes throughout remedial work activities. A wind sock will be employed to assist project staff in determining wind direction, and assist with identifying sudden changes in wind direction. Additionally, at least one day of baseline data, prior to the start of remedial activities will be collected along the Site perimeter. Mercury vapor data will be logged in the in a separate CAMP log book during the remedial activities.

Jerome 431-x technical specifications

Range 0.001 to 0.999 mg/m^3

Sensitivity 0.003 mg/m3 Hg

Precision 5% relative standard deviation @ 0.100 mg/m^3 Hg

Accuracy +/- 5% @ 0.100 mg/m^3 Hg

Response time-sample mode 12 seconds

Response time-survey mode 3 seconds

Flow rate 750cc/min (0.75 liters/min)

Operating environment 0° - 40$^{\circ C}$, non-condensing, non-explosive

Air quality criteria for mercury vapor concentrations in air greater than 0.1 mg/m^3 (OSHA permissible exposure limit (PEL)) above background levels has been established as the work zone perimeter limit. To provide additional assurance, a lower control level 0.05 mg/m^3 above background levels has also been established. If this lower level is exceeded for a 15-minute period, additional vapor suppression measures (such as increasing the use of water, reducing equipment speeds, or work stoppage) will be implemented. If the perimeter limit is exceeded, on-site activities will be immediately halted and subsequently re-evaluated.

3.1.4 Opacity Monitoring

Opacity will be monitored through visual observations made and recorded by a certified Visual Emissions Evaluator using EPA Method 9 at the point of emission for on-site construction equipment used in remedial excavation activities. Such observations will be conducted if an opacity complaint is received from the citizens of the public, or if the certified individual determines the requirement. The air quality standard for opacity, based on 6 NYCRR § 211.3, is that opacity during project operations must be less than 20% as a 6-minute average, except that there can be one continuous 6-minute period per hour of not more than 57% opacity. Opacity data will be logged in the in a separate CAMP field book as necessary

3.2 Traffic

All trucks shall use New York State Department of Transportation (NYSDOT) designated local truck routes to and from the Site. The main entrance to the site is through an entranceway located on the east side of Morgan Avenue. Once on-site, the traffic follows the driveway into a gated entranceway along the south side of the Site. Signs will be posted to direct haulers to the appropriate entrance. Flag men will be working to assist with trucks ingoing and outgoing the Site property, therefore, maintaining a systematic traffic pattern. The routes of travel are discussed below.

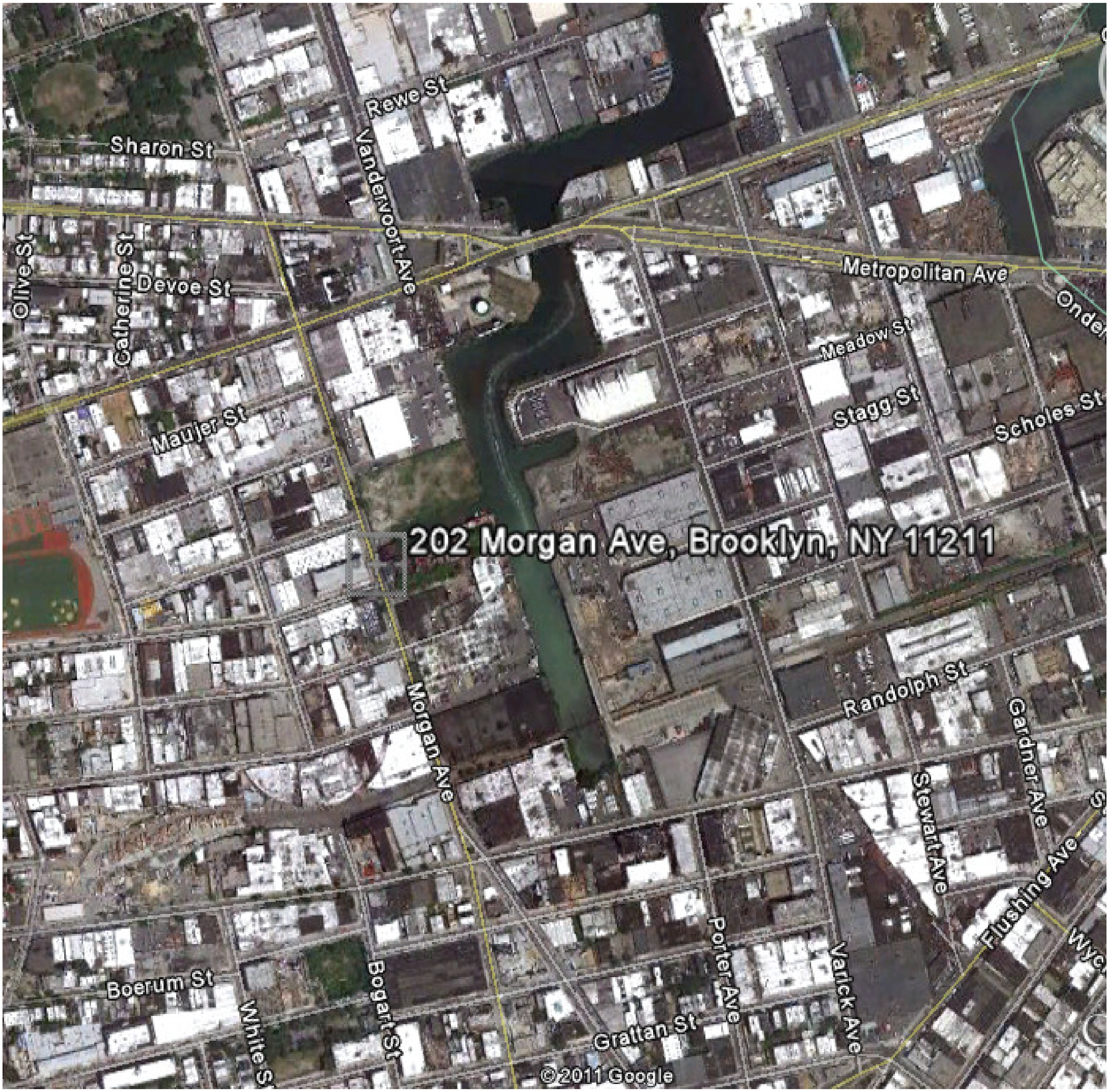
From the New York City area:

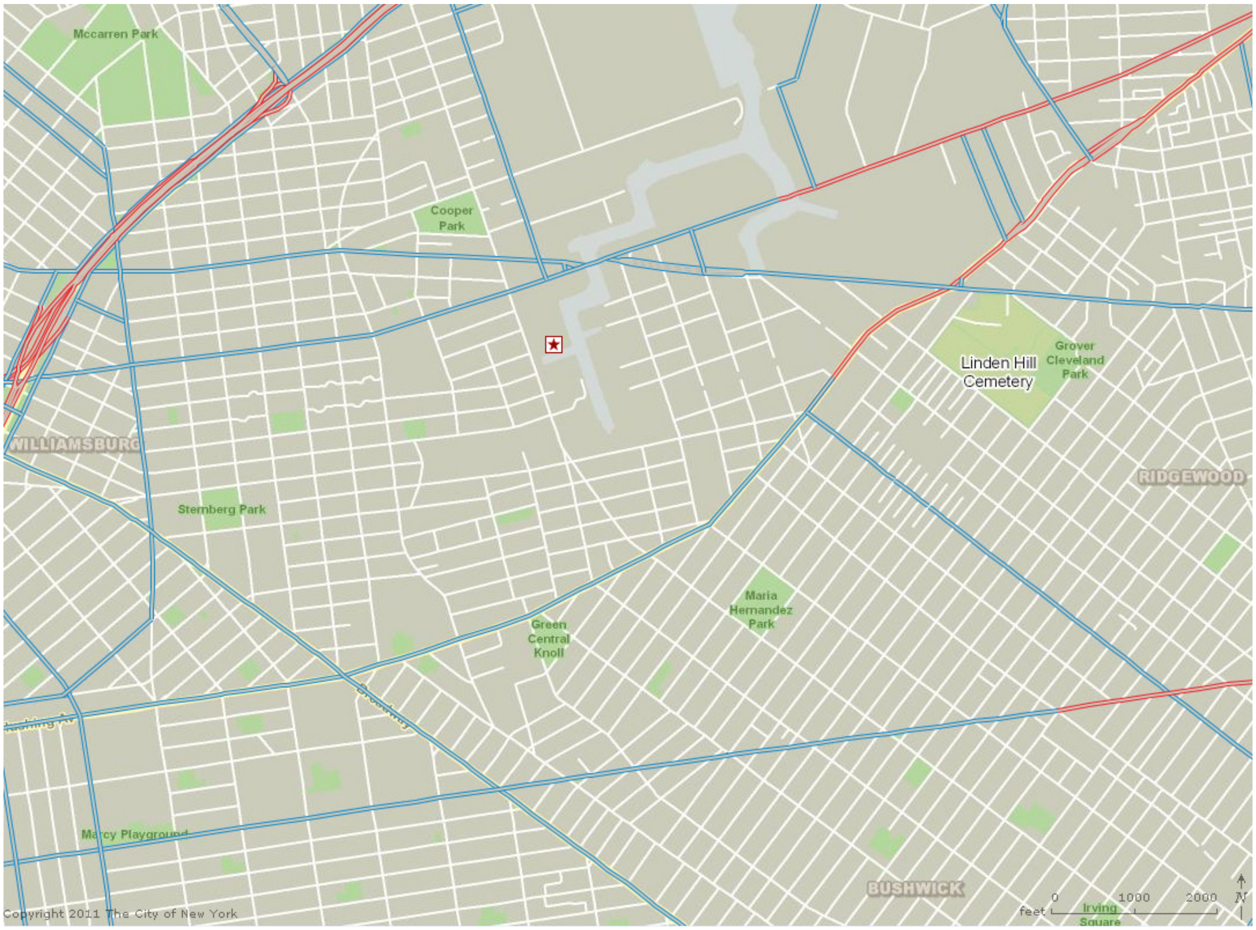
- Take-278 eastbound (Brooklyn-Queens Expressway) to exit 32 toward Metropolitan Avenue;
- Take exit 32 toward Metropolitan Avenue/Williamsburg Bridge/Manhattan;

- Merge onto Rodney Street;
- Turn right at Metropolitan Avenue; and
- Turn right at Morgan Avenue (the Site will be on the left)

From the Long Island area:

- Take I-495 Long Island Expressway heading westbound;
- Take exit 19 toward NY-25/Queens Boulevard/Woodhaven Boulevard;
- Keep left at the fork, follow signs for 1-495 Long Island Expressway westbound;
- Follow signs for 69th Street/Grand Avenue and merge onto Borden Avenue;
- Take a slight left at Grand Avenue; and,
- Turn left onto Morgan Avenue (the Site will be on the left)


Rewe St
Sharon St
Vandervoort Ave
Olive St
Catherine St
Devoe St
Metropolitan Ave
Meadow St
Stagg St
Scholes St
Maujer St
202 Morgan Ave, Brooklyn, NY 11211
Randolph St
Gardner Ave
Morgan Ave
Stewart Ave
Flushing Ave
Porter Ave
Varick Ave
Boerum St
Bogart St
White St
Grattan St
© 2011 Google



DOT Truck Route

- Limited Local
- Local
- Through

3.3 Spills

Preventing spills from vehicles and construction equipment is of considerable importance. In the unlikely event that a spill does occur, site workers will take the appropriate response and reporting actions. Petroleum-based fuels and oils will be used on the site for operation of heavy equipment. Fuels will be brought onto the site by a fuel tanker and stored on-site in proper portable storage tanks. On-site fuel storage tanks will have a secondary containment capacity of one hundred and ten percent (110%) and comply with the National Fire Protection Association (NFPA) 30 “Flammable and Combustible Liquids Code” and OSHA 1910.106. Procedures that will be in place to prevent spills during construction are listed below.

The following are material management practices that will be used to reduce the risk of spills:

- Materials will be stored in a neat, orderly manner in their appropriate containers;
- Products will be kept in their original containers with the original manufacturers’ label affixed, along with the accompanying Material Safety Data Sheet (MSDS);
- Substances will not be mixed with one another unless suggested by the manufacturer;
- Whenever possible, products will be used up or packages resealed before proper disposal of contents and containers off-site;
- Manufacturers’ recommendations for proper use and disposal will be followed;
- All products will be disposed of in accordance with federal, state and local regulations;
- Inspection will be made for proper use and disposal of materials during periodic materials inventory inspections;
- On-site vehicles will be monitored for leaks and receive regular preventative maintenance to lessen the chance of seepage of petroleum products;
- Petroleum products will be stored in closed containers that are clearly labeled and stored within secondary containment; and,
- Materials will be brought on-site in quantities that limit or minimize the amount of on-site storage.

3.3.1 Spill Response

A mobile spill response kit will be on-site at all times. Used spill containment and absorbent materials will be properly contained, labeled, and disposed of in accordance with all federal, state, and local regulations.

3.3.2 Spill Reporting

All petroleum spills and hazardous materials spills meeting the reportable quantity (RQ) criteria within New York State must be reported to the DEC hotline (1-800-457-7362) within 2 hours of detection. It is the responsibility of GF, Frito Lay, and all its remedial subcontractors to report spills in a well-timed matter to the NYSDEC. In the event of a reportable spill the NYSDEC will be notified and the incident will be recorded by GF.

3.4 SITE SECURITY

Access to the Site will be to the highest degree controlled. The existing eight (8) foot tall chain link fence with locking gate that surrounds the Site will prevent unauthorized personnel from entering the Site. This area is normally not accessible to the general public. Yellow caution tape, eighteen (18) inch orange traffic cones, and orange working signs will be deployed in the vicinity of the Site to ensure public awareness and delineate Site operations.

4.0 PROJECT SCHEDULE

This section briefly summarizes the project schedule, anticipated hours of operation, and expected total duration of the project.

4.1 Hours of Operation

Remedial work activities by and large will occurr all through daylight hours, five days a week. Working on weekends, as well as night-time work activities, will be conducted only if essential.

4.2 Duration of Activities

Remedial excavation work activities are scheduled to be implemented within summer 2011. It is anticipated that the effort will continue for the duration of ninety (90) business days, concluding within the fall 2011. The final engineered cover system (asphalt cover) is not scheduled to be installed until Spring 2012.

4.3 Schedule Changes And Notifications

Updates to the schedule of work activities and other project information will be regularly provided to NYSDEC. This information will in monthly progress reports and will be distributed, as appropriate, electronically. Significant changes to the schedule (e.g., temporary work stoppages) will be communicated promptly to NYSDEC, NYSDOH, and other appropriate regulatory agencies and local elected officials, as required.

5.0 SITE SAFETY PERSONNEL RESPONSIBILITIES

The purpose of this Section is to define the roles, responsibilities, qualifications and contact information for the key project health and safety personnel – Corporate Safety Manager; Project Principal; Project Manager; Site Health and Safety Coordinator; and, the Field Sampling Managers. Clearly defining these roles and responsibilities will help establish clear lines of communication and ensure a well-coordinated response to incidents involving local emergency responders.

5.1 Project Safety Personnel

Corporate Safety Manager

- Provide employees with the necessary training, safety equipment and personal protective equipment essential to minimize safety and health hazards that may pose a threat to the general public within the vicinity of the site.

- Assist the Project Manager and Site Health & Safety Coordinator in identifying and minimizing safety and health hazards that may pose a threat to the general public within the vicinity of the site.

Project Principal

- Verify that health and safety provisions as defined in this CHASP are implemented and fully executed at the project site.

- Advise the Project Manager of his/her community safety, health and environmental responsibilities and hold them accountable for their assigned responsibilities.

Project Manager

- Verify that the community safety, health and environmental provisions defined in this CHASP are implemented and fully executed at the project site.

- Advise the Site Safety and Health Coordinator (SSHC) of his/her safety, community safety, health and environmental responsibilities and hold them accountable for their assigned responsibilities.

- Approve all changes of key site personnel.

- Design and manage site operations to minimize potential environmental, safety and human health impacts to the general public in the vicinity of the site.

- Review and evaluate site performance in community safety, health, and environmental protection.

- Consult with the GF Corporate Safety Manager and SSHC as required to resolve community safety, health and environmental issues arising within the vicinity of the project site.

Site Health and Safety Coordinator

- Overall responsibility for verifying that remedial activities are conducted in accordance with the provisions contained in this CHASP.

- Provide oversight of remedial activities that may negatively affect the community safety and health, and environment in the vicinity of the project site.

- Advise the Project Manager on community health and safety issues that affect the health and safety of the public in the vicinity of the project site.

- Verify that monitoring equipment as defined within the CHASP is adequate to support an effective community health and safety program.

- Arrange for all site personnel to be informed of potential community health and safety hazards associated with their assigned tasks and verify that appropriate work practices and procedures are instituted.

- Direct site emergency response activities.

- The primary site duty and responsibility is to implement and direct the health and safety program at the site in accordance with the provisions contained in this CHASP.

- Authority to stop any operation that threatens the surrounding populace or has the potential for a significant adverse impact to the environment.

- Be present on-site as required during site work activities.

- Maintain a Daily Safety Log summarizing daily community health and safety activities, as applicable. The logbook shall include, as a minimum, the following information: instrument field calibration data, weather conditions, names of personnel present at the site (including visitors), any unusual events, accidents or breaches of procedure. The Daily Safety Log Book shall be turned over to the Project Manager at the conclusion of field activities for inclusion in the project files.

- Maintain Daily Air Monitoring Logbook to include instruments utilized for air monitoring, instrument calibration data, CAMP results from each work location prior to the initiation of each day's activities, periodically throughout the day and the end of each day's activities.

- Conduct initial and daily community safety and health briefings for all site personnel when on site.

- Modify the CHASP as necessary as on-site activities and events change. All CHASP modifications shall be presented in a written memorandum to the Project Manager.

Field Sampling Managers

- Report any incidents, unsafe conditions, community complaints/and or inquiries immediately to the SSHC.

- Fulfill daily air monitoring protocols as specified within the CHASP.

- Perform daily calibration on all air quality monitoring equipment required for the CAMP in accordance with manufacturers' specifications, and record calibration data in the Daily Air Monitoring Logbook

- Record air quality data as gathered through CAMP activities in the Daily Air Monitoring Logbook.

- Be present on-site as required during site work activities.

- Provide oversight of remedial activities that may negatively affect the community safety and health in the vicinity of the project site.

- Authority to stop any operation that threatens the surrounding populace or has the potential for a significant adverse impact to the environment.

- Assist the SSHC with directing site emergency response activities.

- Advise the SSHC on community health and safety issues that affect the health and safety of the public in the vicinity of the project site.

5.2 Contact Information for Project Community Safety and Health Personnel

Contact information for key project personnel is presented in the table below. This Information will be updated, as necessary. All updates will be provided to NYSDEC, NYSDOH, local elected officials and external emergency response organizations.

Key Personnel	Title	Contact Number
Paula Loht	Corporate Health and Safety Manager	(office) 717-763-7211 ext. 2846 (residence)717-884-5137
Vincent Frisina, P.E.	Project Principal	(office) 516-364- 4140 ext. 1323 (cell) 516-491-6541
Michael Brady, P.E.	Project Manager	(office) 908-755-0040 ext. 3033 (cell) 609-847-9405
Bryan Tiskowitz	Site Safety & Health Coordinator	(office) 516-364-4140 ext. 1346 (cell) 631-505-2919
Bryan Tiskowitz Megan Borruso	Field Sampling Managers	(cell) 631-505-2919 (cell) 607-761-4454

FIGURES

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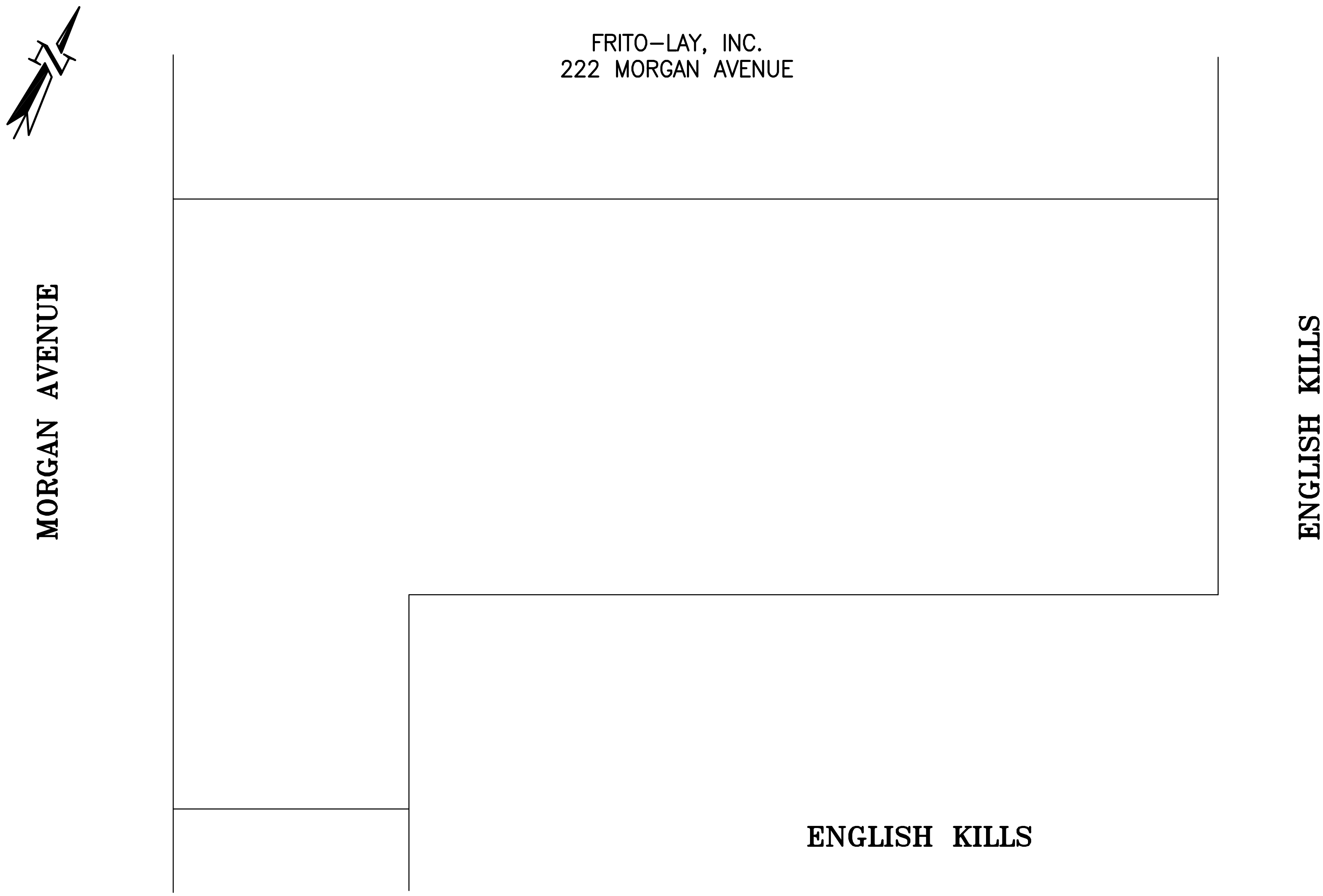
FIGURE 1



NOT TO SCALE

SITE PLAN

FRITO–LAY, INC.

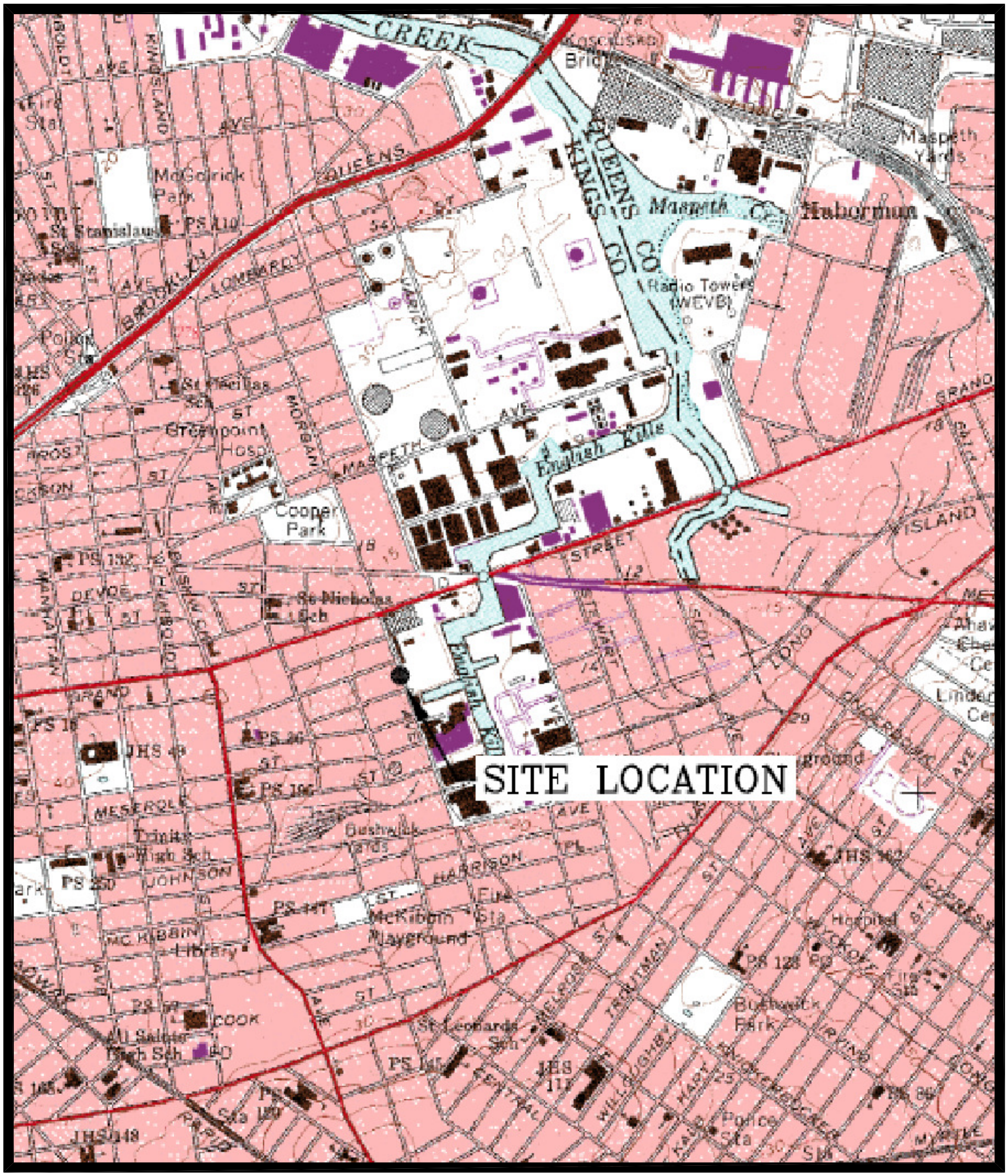
202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 1-1

202-218 MORGAN AVENUE

BROOKLYN, NEW YORK



SCALE 1"=2000'

U.S.G.S. 7.5 MINUTE QUADRANGLE
ELMIRA, NEW YORK

LOCATION MAP

S:\PROJECTS\47\43 - Frito Lay\Brady Files\New Figures\Site Plan\FIGURE 1-1 TOPO.dwg, 4/6/2010 7:51:56 AM

S:\PROJECTS\47743 - Frito Lay\Brady Files\New Figures\Site Plan\FIGURE 2-1 ARIAL.dwg, 12/15/2010 7:53:20 AM

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FIGURE 1-2

LEGEND

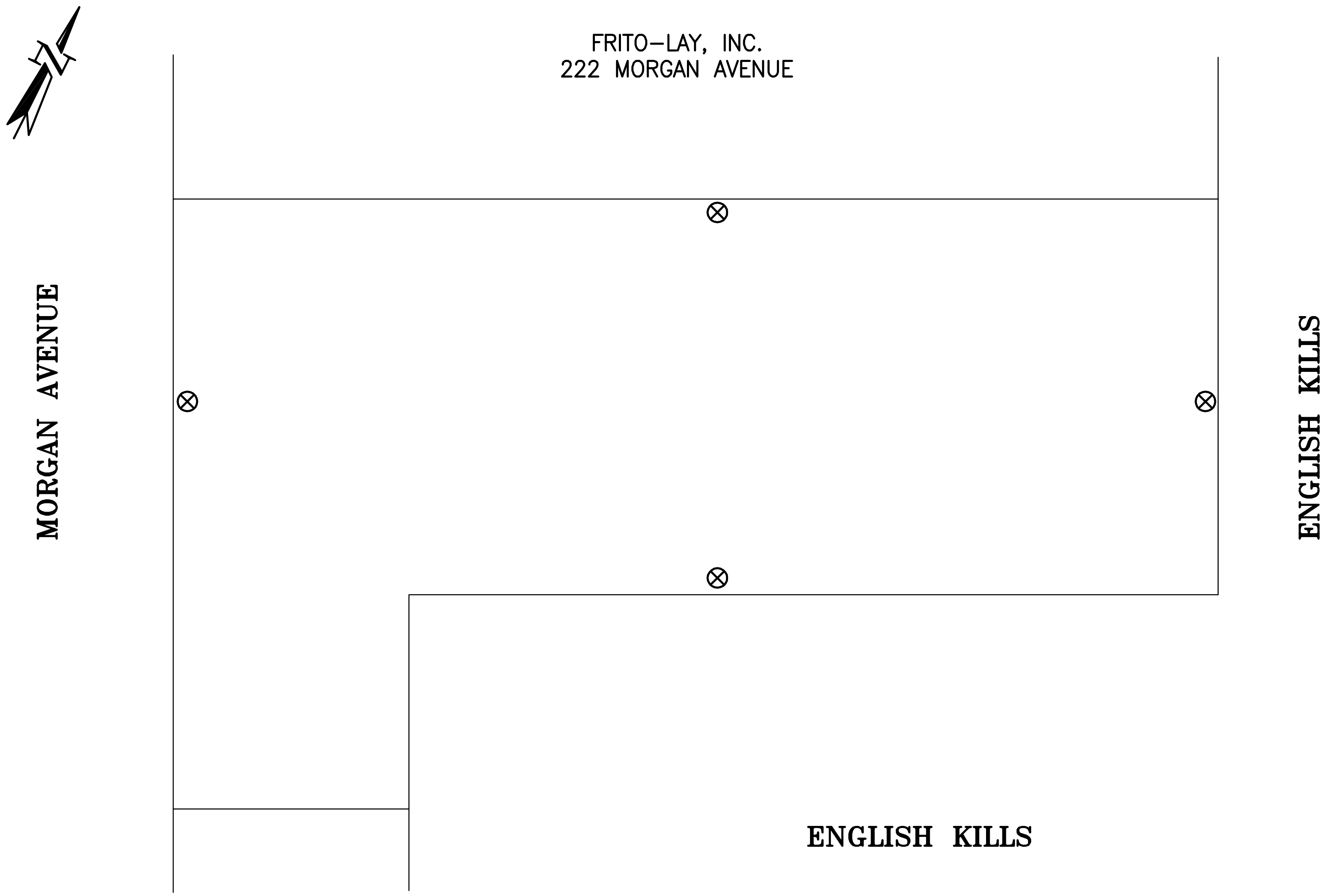
SITE LOCATION

AERIAL LOCATION MAP

FRITO LAY, INC.
202-218 MORGAN AVENUE
BROOKLYN, NEW YORK

Gannett Fleming

FIGURE 2–1



LEGEND

⊗ DUST NONITORING LOCATIONS

NOT TO SCALE

DUST MONITORING LOCATIONS

FRITO–LAY, INC.

202–218 MORGAN AVENUE, BROOKLYN, NEW YORK

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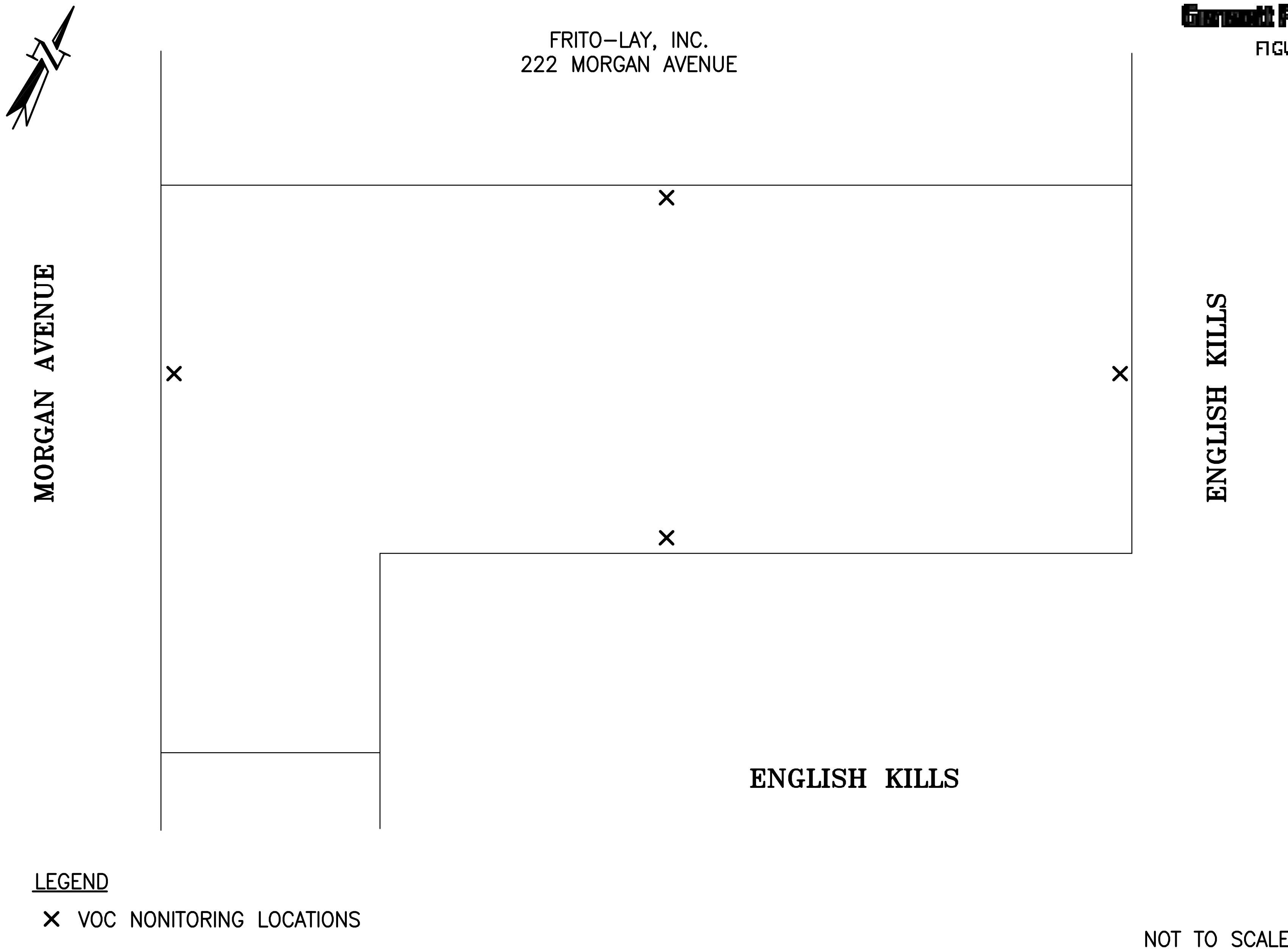
FIGURE 2-2



VOC MONITORING LOCATIONS
FRITO-LAY, INC.
202-218 MORGAN AVENUE, BROOKLYN, NEW YORK

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APPENDIX G
SCHEDULE

Updated: August 22, 2011

NYSDEC Brownfields Cleanup Program Schedule
2009 - 2012

Frito-Lay
202-218 Morgan Ave
Brooklyn, New York
Site No. C224133

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Task No.	Task	Duration	Start Date	Finish Date	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
1	Remedial Investigation Work Plan Implementation	10 days	11/9/2009	11/20/2009																																
2	Prepare Remedial Investigation Report	55 days	12/11/2009	2/5/2010																																
3	Remedial Investigation Report - NYSDEC Review	49 days	2/5/2010	3/23/2010																																
4	Revision to Remedial Investigation Report per NYSDEC Comments	60 days	3/23/2010	5/20/2010																																
5	Revised Remedial Investigation Report - NYSDEC Review	30 days	5/20/2010	6/20/2010																																
6	Submit Final Remedial Investigation Report	20 days	7/7/2010	7/27/2010																																
7	Supplemental Remedial Investigation Work Plan Implementation	7 days	8/4/2010	8/10/2010																																
8	Prepare Supplemental Remedial Investigation Report	15 days	8/5/2010	8/20/2010																																
9	Supplemental Remedial Investigation Report - NYSDEC Review	25 days	8/20/2010	9/14/2010																																
10	Second Supplemental Remedial Investigation Work Plan Implementation	10 days	10/4/2010	10/14/2010																																
11	Prepare Supplemental and Second Supplemental Remedial Investigation Report	60 days	10/15/2010	12/15/2010																																
12	Supplemental and Second Supplemental Remedial Investigation Report - NYSDEC Review	90 days	12/15/2010	3/1/2011																																
13	Revision to Supplemental and Second Supplemental Remedial Investigation Report per NYSDEC Comments	30 days	3/23/2011	4/23/2011																																
14	Remediation - Bidding Process	70 days	4/5/2011	6/15/2011																																
15	Prepare Remedial Work Plan	30 days	4/23/2011	5/23/2011																																
16	Remedial Work Plan - NYSDEC Review	25 days	5/23/2011	6/17/2011																																
17	45 Day Comment Period - Remedial Work Plan	45 days	6/17/2011	8/1/2011																																
18	Remediation - Funding Procurement Process	60 days	6/1/2011	8/1/2011																																
19	Remediation Design/Pre-Construction Sampling	30 days	6/20/2011	7/20/2011																																
20	Prepare Environmental Easements	75 days	8/1/2011	10/16/2011																																
21	Remedial Construction	90 days	9/1/2011	11/30/2011																																
22	Environmental Easements - NYSDEC Review	180 days	10/17/2011	4/17/2012																																
23	Prepare Site Management Plan	30 days	9/16/2011	10/16/2011																																
24	Site Management Plan - NYSDEC Review	30 days	10/16/2011	11/16/2011																																
25	Revision to Site Management Plan	14 days	11/17/2011	12/1/2011																																
26	Revised Site Management Plan - NYSDEC Review	14 days	12/2/2011	12/16/2011																																
27	Remedial Construction Suspended for Winter	90 days	12/1/2011	3/4/2012																																
28	Asphalt Cover System Installation	40 days	3/5/2012	4/14/2012																																
29	Prepare Final Engineering Report	30 days	3/27/2012	4/27/2012																																
30	Final Engineering Report - NYSDEC Review	30 days	4/29/2012	5/30/2012																																
31	Revision to Final Engineering Report	14 days	5/31/2012	6/13/2011																																
32	Revised Final Engineering Report - NYSDEC Review	14 days	6/14/2012	6/28/2012																																
33	Certificate of Completion	1 day	6/291/2012	6/29/2012																																