LIRR CONTRACT NO. 5619

GENERAL ENGINEERING CONSULTANTS

Category 10 (5567) - Abatement and Remediation

JANUARY 2001

SITE ASSESSMENT OF 20 SUBSTATIONS FOR MERCURY CONTAMINATION

Interim Remedial Measures Oversight Report

RLA/JOBS/LIRR1648(9/21/00)

DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

SITE ASSESSMENT OF 20 SUBSTATIONS FOR MERCURY CONTAMINATION
INTERIM REMEDIAL MEASURE
OVERSIGHT REPORT

Prepared for:

METROPOLITAN TRANSPORTATION AUTHORITY
LONG ISLAND RAIL ROAD

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TABLE OF CONTENTS

List of Appendices

List of Figures

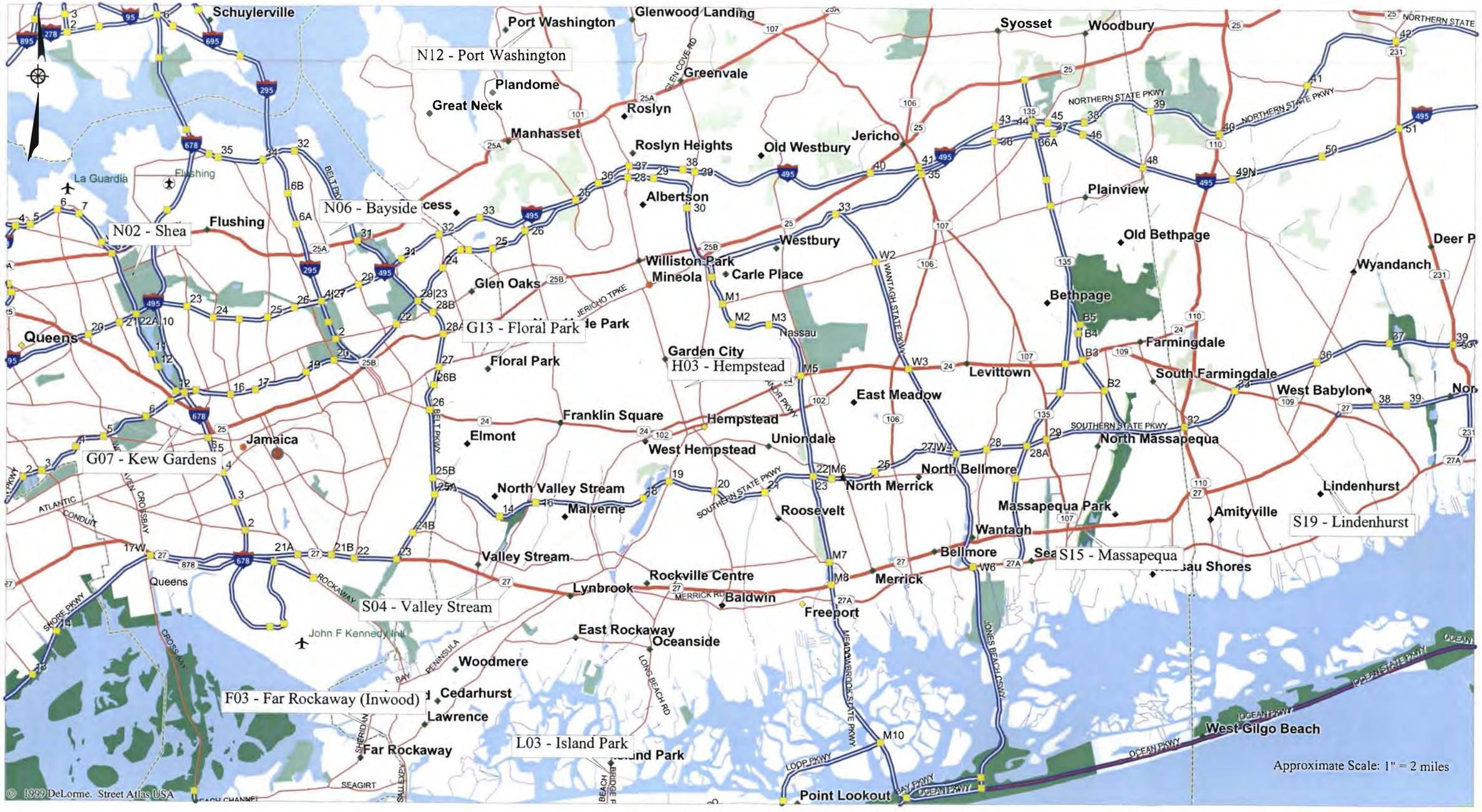
List of Tables

Section 1

1.0 INTRODUCTION

The purpose of this report is to present the findings of the Interim Remedial Measure (IRM) activities that were conducted at various Long Island Rail Road (LIRR) electric substations. Dvirka and Bartilucci Consulting Engineers (D&B) recently completed site assessment activities at 20 electric substations owned and operated by the LIRR that once utilized mercury containing rectifiers. According to the LIRR, from the 1930's through 1951, the LIRR constructed electric substations that utilized mercury rectifiers. These rectifiers allowed the LIRR to convert 60 cycle alternating current (AC) to direct current (DC) to power its locomotive and electric passenger car fleet. It is believed that during the early 1980's, the mercury rectifiers were taken out of service and replaced with non-mercury containing solid state equipment. However, due to uncertainties surrounding the work practices regarding the operation and maintenance of the mercury rectifiers, the LIRR believed it necessary to conduct environmental assessments of these 20 substations to determine the potential effects that the operation of the substation may have had on the surrounding environment.

Based on a review of the preliminary findings of the electric substation investigation program, it was determined that certain substations exhibited elevated levels of mercury in the soil and had the potential to pose a human exposure pathway. Accordingly, at the request of the LIRR, an IRM program was developed by D&B to attempt to eliminate any potential human exposure pathway by excavating mercury impacted soil for proper off-site transportation and disposal. As an additional remedy, the areas targeted for remediation were restored with a blue stone cover. As part of the IRM program, D&B identified a total of 11 electric substations that were recommended for IRM activities. The 11 substations are depicted on Figure 1-1. They include: Valley Stream, Lindenhurst, Far Rockaway, Floral Park, Shea, Bayside, Port Washington, Massapequa, Hempstead, Kew Gardens and Island Park.



IRM

Dvirka and Bartilucci CONSULTING ENGINEERS
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OVERALL SITE LOCATION MAP

FIGURE 1-1

Section 2

2.0 SCOPE OF WORK

In addition to developing the scope of work for the IRM program, D&B was also retained by the LIRR to provide engineering oversight of the IRM program activities conducted by the contractor during the course of the project. All IRM activities described in this report were conducted in accordance with the Statement of Work prepared by D&B dated January 2000 (see Appendix A). D&B was also responsible for the collection and analysis of endpoint samples to demonstrate the effectiveness of each IRM activity and determine if further remediation would be required as part of the selected long-term remedial action plan.

LIRR retained Trade-Winds Environmental Restoration Inc. (Trade-Winds) of Bay Shore, New York to conduct the Interim Remedial Measure activities for the project. Accordingly, excavation, staging, loading, transportation, disposal services and site restoration activities, as required, were completed by Trade-Winds.

As discussed above, D&B was retained by LIRR to provide engineering oversight of the IRM activities. The field activities were conducted between April 3, 2000 and May 12, 2000. The daily field activities were recorded in a bound log book, which is available in the project file and provides documentation of the Interim Remedial Measures that were conducted at each of the 11 substation sites.

Section 3

3.0 FIELD ACTIVITIES

As previously discussed, the IRM field activities for each electric substation were completed in accordance with the Scope of Work dated January 2000. The limits of remediation and the location of endpoint surface soil samples for each substation are shown in Figures 3-1 through 3-11 which are presented at the end of this section.

3.1 Valley Stream Substation - S04

Dates Work Performed

April 3 and April 4, 2000

Personnel On-Site

- Trade-Winds - Artie Baldwin, Project Manager (April 3, 2000); Mike Mazur, Foreman (April 3 and April 4, 2000); Gabriel Baez, Laborer (April 3 and April 4, 2000); David Baez, Laborer (April 3 and April 4, 2000); and Terrance Russell, Laborer (April 3 and April 4, 2000).
- LIRR - Bill Keenan (April 3, 2000); Rich Caylor, Foreman (April 3 and 4, 2000); Charles Wharton, Electrician (April 3, 2000); Darrel Randolf, Electrician (April 4, 2000); and Dennis Steinberg, Electrician (April 4, 2000).
- D&B - Robert Gantzer, Environmental Engineer (April 3 and 4, 2000).

Equipment On-Site

One box truck, one dump truck and trailer, and one backhoe.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged hazardous waste storage

boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-1. Excavated soil was placed into lined 1 cubic yard hazardous waste storage boxes. It should be noted that Trade-Winds segregated the highly contaminated soil into separate containers as determined by direct mercury vapor measurements and visual observations. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 6 inches below grade. However, the excavation in the vicinity of the tree base and substation wall was continued to a depth of about 1 foot below grade due to the presence of visible mercury beads. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. Trade-Winds then transferred the hazardous waste storage boxes to the staging area designated by the LIRR and covered the storage boxes with poly tarp secured with duct tape. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels, rakes and disposed of all personal protection equipment (PPE) into 55-gallon drums.

It should be noted that LIRR electricians were on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 8 cubic yards of mercury-impacted soil were excavated from the Valley Stream substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.0 mg/m^3 to 0.219 mg/m^3. PID readings were below the detection limit of the instrument.

Endpoint Sampling

Five endpoint samples, identified as VSEP-01, VSEP-02, VSEP-03, VSEP-04 and VSEP-05 were collected from the bottom of the excavation. Each sample was collected utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM Corporation (MITKEM) of Warwick, Rhode Island. The five endpoint sample locations are shown on Figure 3-1.

Waste Characterization Sampling

A composite waste characterization sample consisting of each of the eight hazardous waste storage boxes was collected by Trade-Winds. The leachate resulting from conducting the Toxicity Characteristic Leaching Procedure (TCLP) was analyzed for total mercury. The waste characterization results are presented in Appendix B.

3.2 Lindenhurst Substation - S19

Dates Work Performed

April 5 and April 6, 2000

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (April 5 and April 6, 2000); Gabriel Baez, Laborer (April 5 and April 6, 2000); David Baez, Laborer (April 5 and April 6, 2000); and Terrance Russell, Laborer (April 5 and April 6, 2000).
- LIRR – Phil Caputo, Electrician (April 4 and 5, 2000); and Randy Lent, Electrician (April 5 and 6, 2000).
- D&B - Robert Gantzer, Environmental Engineer (April 5 and 6, 2000).

Equipment On-Site

- April 5 - One box truck, one dump truck and trailer, and one backhoe
- April 6 - box truck and one backhoe.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged a 20-cubic yard waste container on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-2. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels, rakes and disposed of all PPE into two 55-gallon drums.

It should be noted that the LIRR de-energized the substation on April 5 to accommodate a contractor working on the roof of the substation. On April 6, the electrician did not de-energize the substation.

Approximately 6 cubic yards of mercury-impacted soil were excavated from the Lindenhurst substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.03 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as LHEP-01, LHEP-02, LHEP-03, LHEP-04 and LHEP-05, were collected from the bottom of the excavation. Each sample was collected utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The five endpoint sample locations are shown on Figure 3-2.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 20-cubic yard waste container. The TCLP leachate was analyzed for RCRA metals. In addition, the composite sample was analyzed for percent moisture, pH, total petroleum hydocarbons (TPH), flash point/ignitability, reactivity, polychlorinated biphenyls (PCBs), and total mercury. The waste characterization results are presented in Appendix B.

3.3 Far Rockaway Substation - F03

Dates Work Performed

April 7, 2000

Personnel On-Site

- Trade-Winds; Mike Mazur, Forman (April 7, 2000) Gabriel Baez; Laborer (April 7, 2000); David Baez, Laborer (April 7, 2000); and Terrance Russell, Laborer (April 7, 2000).
- LIRR Charles Wharton, Electrician (April 7, 2000) and Arthur Hecht, Electrician (April 7, 2000).
- D&B – Robert Gantzer, Environmental Engineer (April 7, 2000).

Equipment On-Site

April 7, 2000 – one box truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 5 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-3. Excavation activities were conducted by utilizing hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the shovels and rakes and disposed of all PPE into two 55-gallon drums.

In addition, due to elevated mercury vapor readings detected in an opening between the front steps and the substation building, Trade-Winds capped this opening with concrete to minimize any future exposure.

It should be noted that LIRR electricians were on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 5 cubic yards of mercury-impacted soil were excavated from the Far Rockaway substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector

(PID) every 10 minutes. Mercury vapor readings were detected from 0.0 mg/m^3 to 1.2 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as FREP-01 and FREP-02, were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The two endpoint sample locations are shown on Figure 3-3.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the five hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.4 Floral Park Substation - G13

Dates Work Performed

April 10, 11, 12, 13, 14 and 19, 2000

Personnel On-Site

- Trade-Winds - Mike Mazur, Forman (April 10, 11, 12, 13, 17, 18 and 19, 2000); Gabriel Baez, Laborer (April 10, 11, 12, 13, 17, 18 and 19, 2000); David Baez, Laborer (April 10, 11, 12, 13, 17, 18, and 19, 2000); Terrance Russell, Laborer (April 10, 11, 12, 13, 17, 18 and 19, 2000); and two additional laborers (April 13 and 18).
- LIRR – George Scott, Foreman (April 10, 11, 12, 13, 17, 18 and 19, 2000); Bob Bermingham, Electrician (April 11, 12, 13, 17, 18 and 19, 2000); Segey Segareishuili, Electrician (April 10, 2000); and Lewis Wunderlich, Environmental Engineer (April 11, 2000).

- D&B - Robert Gantzer (April 10, 11,12, 18 and 19, 2000); Patrick West, Environmental Engineer (April 11, 13, 17, 2000); Richard Walka, Project Director (April 11, 2000); and Adam Postyn, Project Manager (April 11, 2000).

Equipment On-Site

(April 10, 11, 12) one box truck, one dump truck and trailer, one backhoe, (April 13, 17, 18, and 19) one box truck and one dump truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 37 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-4. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 12 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 12 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels and rakes and disposed of all PPE into 14 55-gallon drums.

It should be noted that LIRR electricians were on-site during all IRM field activities to address any electrical issues. This substation was de-energized during all excavation activities.

Approximately 37 cubic yards of mercury-impacted soil were excavated from the Floral Park substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.0 mg/m^3 to 0.36 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as FPEP-01, FPEP-02, FPEP-03, FPEP-04, FPEP-05, FPEP-06, FPEP-07 and FPEP-08, were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The eight endpoint sample locations are shown on Figure 3-4.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 37 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury as well as TPH and PCBs. The waste characterization results are presented in Appendix B.

3.5 Shea Substation - N02

Dates Work Performed

April 19, 20, 24, 25, and 26, 2000.

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (April 19, 20, 24 and 26); Gabriel Baez, Laborer (April 19, 20, 24, 25 and 26, 2000); David Baez, Laborer (April 19, 20, 24, 25 and 26); and one additional laborer on April 26, 2000.

- LIRR – Tom Soto, Flagman (April 20, 2000). A. Gutierrez, Flagman (April 26, 2000); Lewis Wunderlich, Environmental Engineer (April 25, 2000); and Bill Keenan, Environmental Field Engineer (April 25, 2000).

- D&B - Robert Gantzer, Environmental Engineer April 19, 20, 25 and 26, 2000, and Pat West, Environmental Engineer (April 24, 2000).

Equipment On-Site

One box truck, one dump truck and trailer, and one backhoe.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 19 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-5. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels and rakes and disposed of all PPE into five 55-gallon drums.

It should be noted that the substation remained online during the excavation activities.

Approximately 19 cubic yards of mercury-impacted soil were excavated from the Shea substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.03 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as SHEP-01, SHEP-02, SHEP-03, SHEP-04, SHEP-05, SHEP-06 and SHEP-07, were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The seven endpoint sample locations are shown on Figure 3-5.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 19 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.6 Bayside Substation - N06

Dates Work Performed

April 27, 2000.

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (April 27, 2000); Gabriel Baez, Laborer (April 27, 2000); David Baez, Laborer (April 27, 2000); and Terrance Russell, Laborer (April 27, 2000) and one additional laborer (April 27, 2000).

- LIRR – One Electrician (April 27, 2000).
- D&B - Robert Gantzer, Environmental Engineer (April 27, 2000)

Equipment On-Site

One box truck, one dump truck and trailer, and one backhoe.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 5 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-6. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels and rakes and disposed of all PPE into two 55-gallon drums.

It should be noted that an LIRR electrician was on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 5 cubic yards of mercury-impacted soil were excavated from the Bayside substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector

(PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.01 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as BSEP-01, BSEP-02, BSEP-03 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The three endpoint sample locations are shown on Figure 3-6.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 5 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.7 Port Washington Substation - N12

Dates Work Performed

April 28 and May 1, 2000

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (April 28 and May 1, 2000); Gabriel Baez, Laborer (April 28 and May 1, 2000); David Baez, Laborer (April 28 and May 1, 2000); Terrance Russell, Laborer (April 28 and May 1, 2000); and one additional laborer (April 28 and may 1, 2000).
- LIRR – One Electrician inside substation.
- D&B - Robert Gantzer, Environmental Engineer (April 29, and May 1, 2000).

Equipment On-Site

One box truck, one dump truck and trailer, and one backhoe.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 15 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-7. Excavation activities were conducted by utilizing a backhoe along with hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the backhoe, shovels and rakes and disposed of all PPE into 55-gallon drums.

It should be noted that an LIRR electrician was on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 15 cubic yards of mercury-impacted soil were excavated from the Port Washington substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.01 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as PWEP-01, PWEP-02, PWEP-03, PWEP-04 and PWEP-05 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The five endpoint sample locations are shown on Figure 3-7.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 15 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.8 Massapequa Substation - S15

Dates Work Performed

May 2 and May 3, 2000

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (May 2 and May 3, 2000); Gabriel Baez, Laborer (May 2 and May 3, 2000); David Baez, Laborer (May 2 and May 3, 2000); Terrance Russell, Laborer (May 2 and May 3, 2000); and one additional laborer for May 2 and May 3.
- LIRR – Randy Lent, Electrician (May 3), Phil Caputo, Electrician (May 2) and Glenn Chandler, Electrician (May 2).
- D&B - Robert Gantzer, Environmental Engineer (May 2 and May 3, 2000).

Equipment On-Site

May 2, one box truck, one dump truck and trailer, and one backhoe; May 3, one box truck and one dump truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged fourteen 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-8. Excavation activities were conducted by utilizing hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the shovels and rakes and disposed of all PPE into 55-gallon drums. Because the backhoe was only used for moving the hazardous boxes to the staging area, decontamination of the backhoe was not necessary.

It should be noted that LIRR electricians were on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 14 cubic yards of mercury-impacted soil were excavated from the Massapequa substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.0 mg/m^3 to 0.6 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as MSEP-01, MSEP-02, MSEP-03, MSEP-04, MSEP-05 and MSEP-06 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The six endpoint sample locations are shown on Figure 3-8.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 14 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.9 Hempstead Substation - H03

Dates Work Performed

May 4 and May 5, 2000.

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (May 4 and May 5, 2000); Gabriel Baez, Laborer (May 4 and May 5, 2000); David Baez, Laborer (May 4 and May 5, 2000); and Terrance Russell, Laborer (May 4 and May 5, 2000).
- LIRR – Bob Bermingham, Electrician.
- D&B - Robert Gantzer, Environmental Engineer (May 4 and May 5, 2000).

Equipment On-Site

One box truck and one dump truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 5 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-9. Excavation activities were conducted by utilizing hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the shovels and rakes and disposed of all PPE into two 55-gallon drums.

It should be noted that an LIRR electrician was on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 5 cubic yards of mercury-impacted soil were excavated from the Hempstead substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.01 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as HSEP-01 and HSEP-02 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The two endpoint sample locations are shown on Figure 3-9.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 5 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.10 Kew Gardens Substation - G07

Dates Work Performed

May 5, May 8 and May 9, 2000.

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (May 5, May 8, May 9 and May 10, 2000); Gabriel Baez, Laborer (May 5, May 8 and May 9, 2000); David Baez, Laborer (May 5, May 8 and May 9, 2000); Terrance Russell, Laborer (May 5, May 8, May 9 and May 10, 2000); and one extra laborer on May 8, 2000.
- LIRR – Franz Telfort, Electrician (May 5, May 8 and May 9); E.T. McHugh, Flagman (May 5, 2000); C. Jordan, Flagman (May 5, 2000); and K. Brush, Flagman (May 5, 2000).
- D&B - Robert Gantzer, Environmental Engineer (May 5, May 8 and May 9, 2000).

Equipment On-Site

May 5 and 8, 2000 one box truck, May 9 and 10, one box truck and one dump truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 5 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-10. Excavation activities were conducted by utilizing hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the shovels and rakes and disposed of all PPE into 55-gallon drums.

It should be noted that an LIRR electrician was on-site during all IRM field activities to address any electrical issues. This substation remained online during the excavation activities.

Approximately 5 cubic yards of mercury-impacted soil were excavated from the Kew Gardens substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.03 mg/m^3. PID readings were not detected above the detection level of the instrument.

Endpoint Sampling

Endpoint soil samples, identified as KGEP-01, KGEP-02 and KGEP-03 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The three endpoint sample locations are shown on Figure 3-10.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the five hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.

3.11 Island Park Substation - L03

Dates Work Performed

May 10, 11 and 12, 2000.

Personnel On-Site

- Trade-Winds - Mike Mazur, Foreman (May 10, 11 and 12, 2000); Gabriel Baez, Laborer (May 10, 11 and 12, 2000); David Baez, Laborer (May 10, 11 and 12, 2000); and Terrance Russell, Laborer (May 10, 11 and 12, 2000).
- LIRR – Charlie Wharton, Electrician; Artie Hecht, Electrician; and Darryl Randolf, Electrician (May 10, 11 and 12, 2000).
- D&B - Robert Gantzer, Environmental Engineer (May 10, 11 and 12, 2000).

Equipment On-Site

One box truck and one dump truck.

Work Performed

Trade-Winds initiated IRM activities by mobilizing equipment to the site and clearing areas for equipment and materials storage. Trade-Winds then staged 10 1-cubic yard hazardous waste storage boxes on-site and constructed a temporary decontamination pad. Next, Trade-Winds marked-out the excavation area as specified on Figure 3-11. Excavation activities were conducted by utilizing hand equipment such as shovels and picks to a depth of 6 inches below grade. Following the collection of the endpoint surface soil samples, Trade-Winds placed poly sheeting at the bottom of the excavation as a point of reference in the event that additional remediation was warranted. Trade-Winds then backfilled the excavation area with 6 inches of blue stone to match the original grade. At the completion of all field activities, Trade-Winds decontaminated the shovels and rakes and disposed of all PPE into 55-gallon drums.

It should be noted that LIRR electricians were on-site during all IRM field activities to address any electrical issues. This substation was de-energized during the excavation activities.

Approximately 10 cubic yards of mercury-impacted soil were excavated from the Island Park substation for proper off-site transportation and disposal.

Air Monitoring

During all excavation activities, the breathing zone was monitored by the D&B on-site representative using a Jerome mercury analyzer and a Photovac 2020 photoionization detector (PID) every 10 minutes. Mercury vapor readings were detected from 0.00 mg/m^3 to 0.01 mg/m^3. PID readings were not detected above the detection level of the instrument.

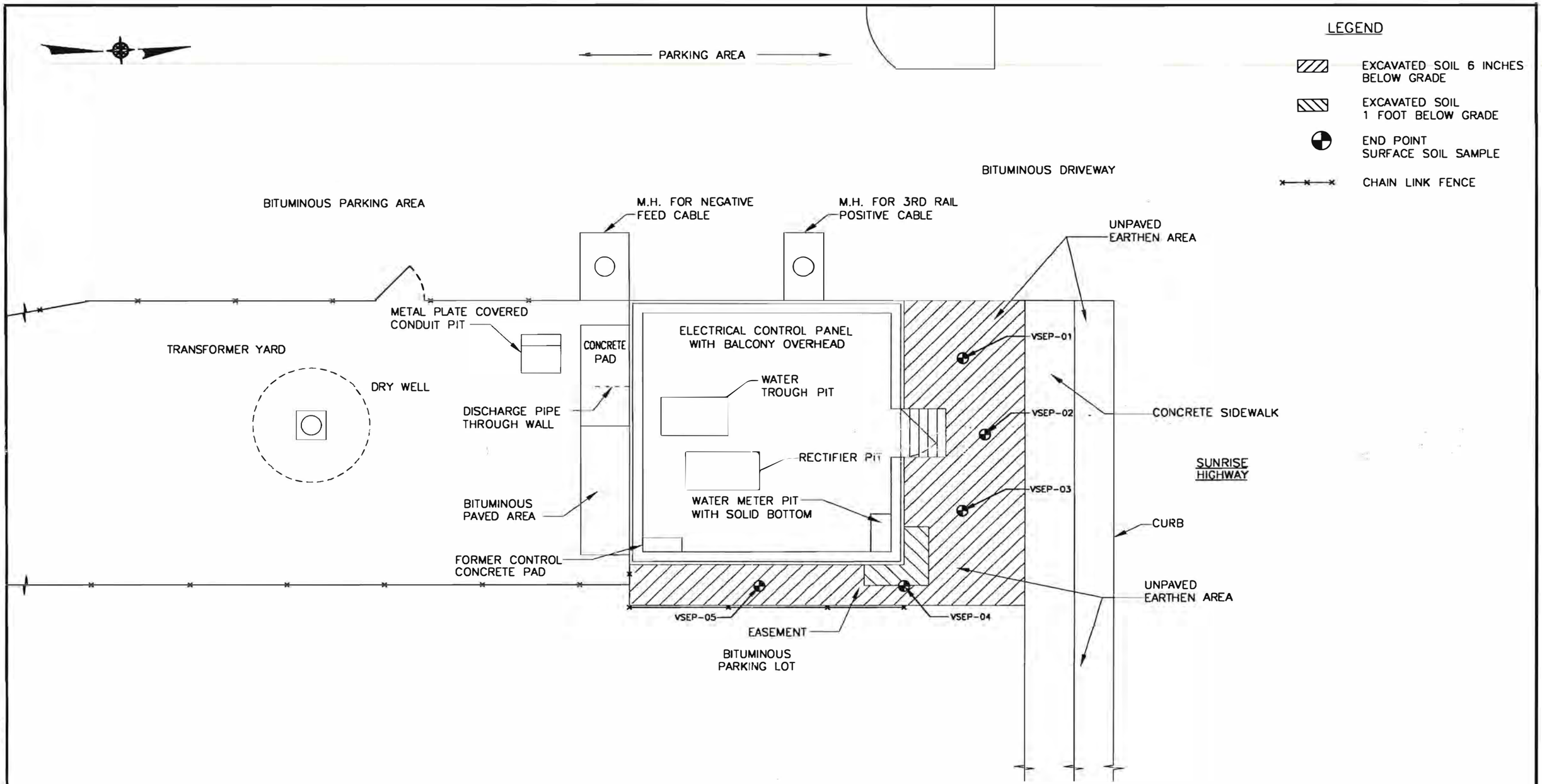
Endpoint Sampling

Endpoint soil samples, identified as IPEP-01, IPEP-02 and IPEP-03 were collected from the bottom of the excavation. Each sample was obtained utilizing a dedicated disposable

polyethylene scoop. The endpoint samples were analyzed for mercury utilizing Method 7471 by MITKEM. The three endpoint sample locations are shown on Figure 3-11.

Waste Characterization Sampling

A composite waste characterization sample was collected by Trade-Winds from the 10 hazardous waste boxes. The composite sample was analyzed for TCLP and total mercury. The waste characterization results are presented in Appendix B.



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

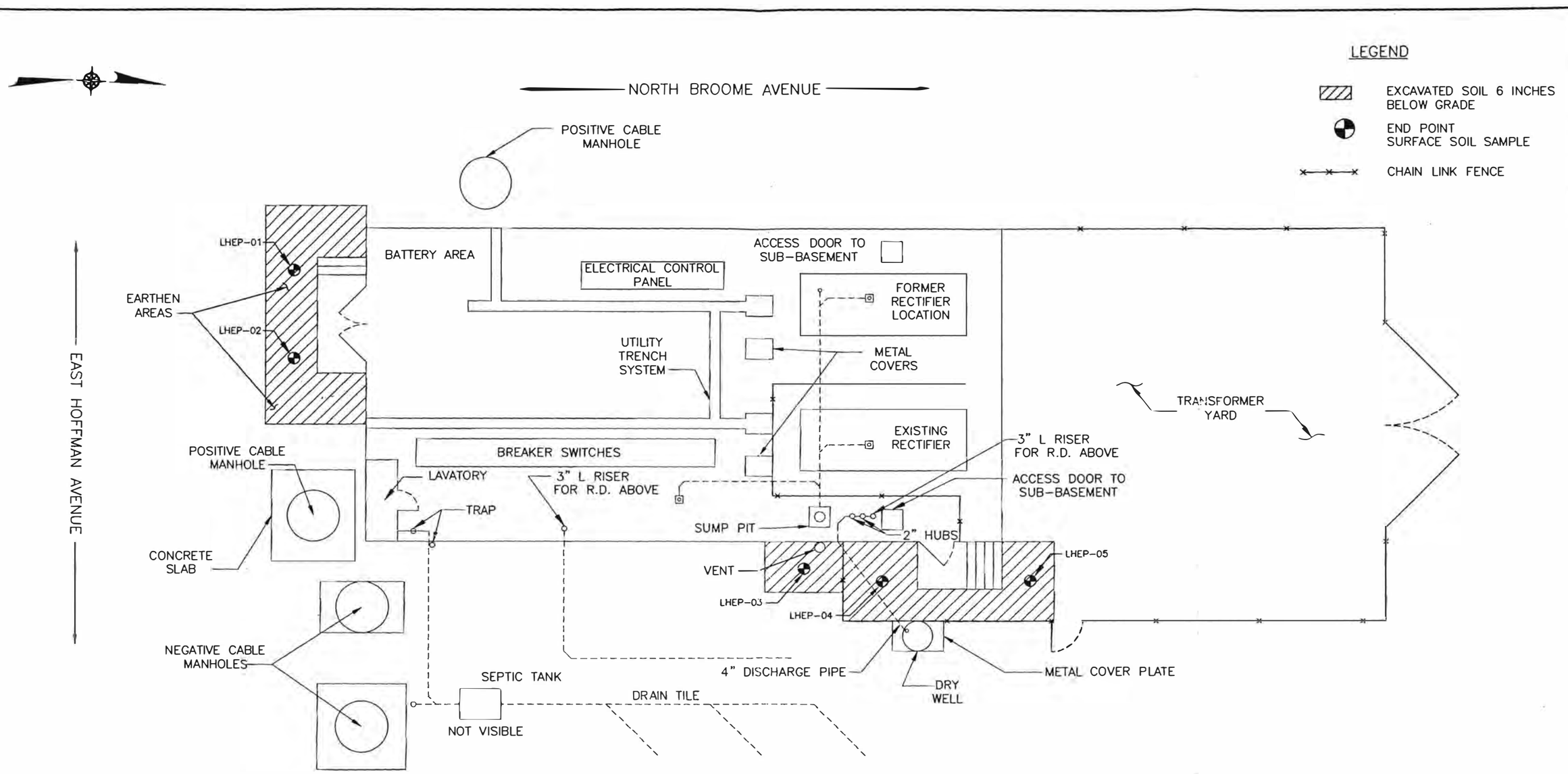
THU, JAN 25, 2001 01:31 P KC E:\1648\1648-4C.DWG

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

VALLEY STREAM SUBSTATION – S04

FIGURE 3-1



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

LINDENHURST SUBSTATION – S19

Dvirka and Bartilucci
Consulting Engineers
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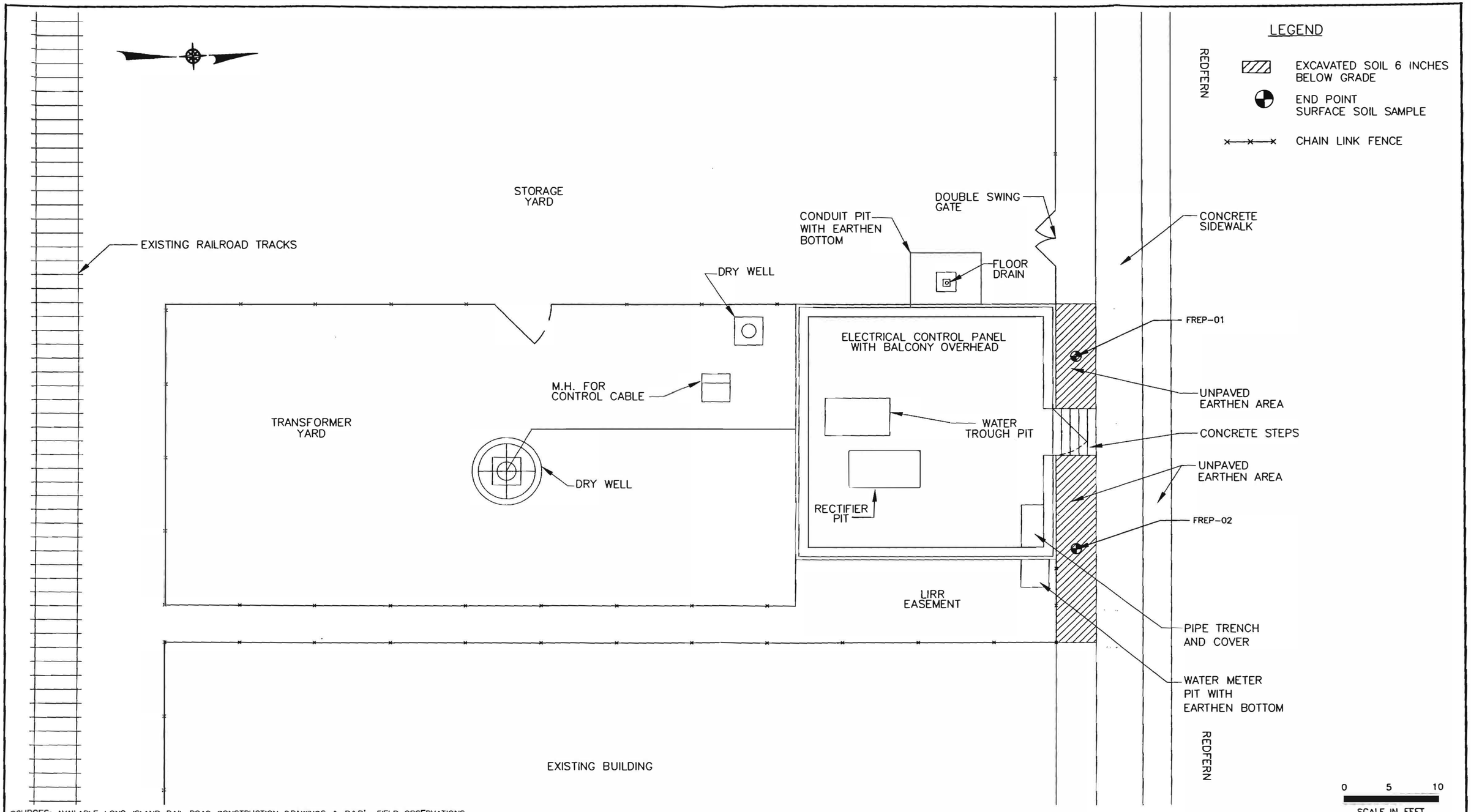
FIGURE 3-2

WED, DEC 27, 2000 08:55 A LVG F:\1648\1648-10D.DWG



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

WED, DEC 27, 2000 08:56 A LVG F:\1648\1648-3C.DWG

LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

FAR ROCKAWAY SUBSTATION – F03

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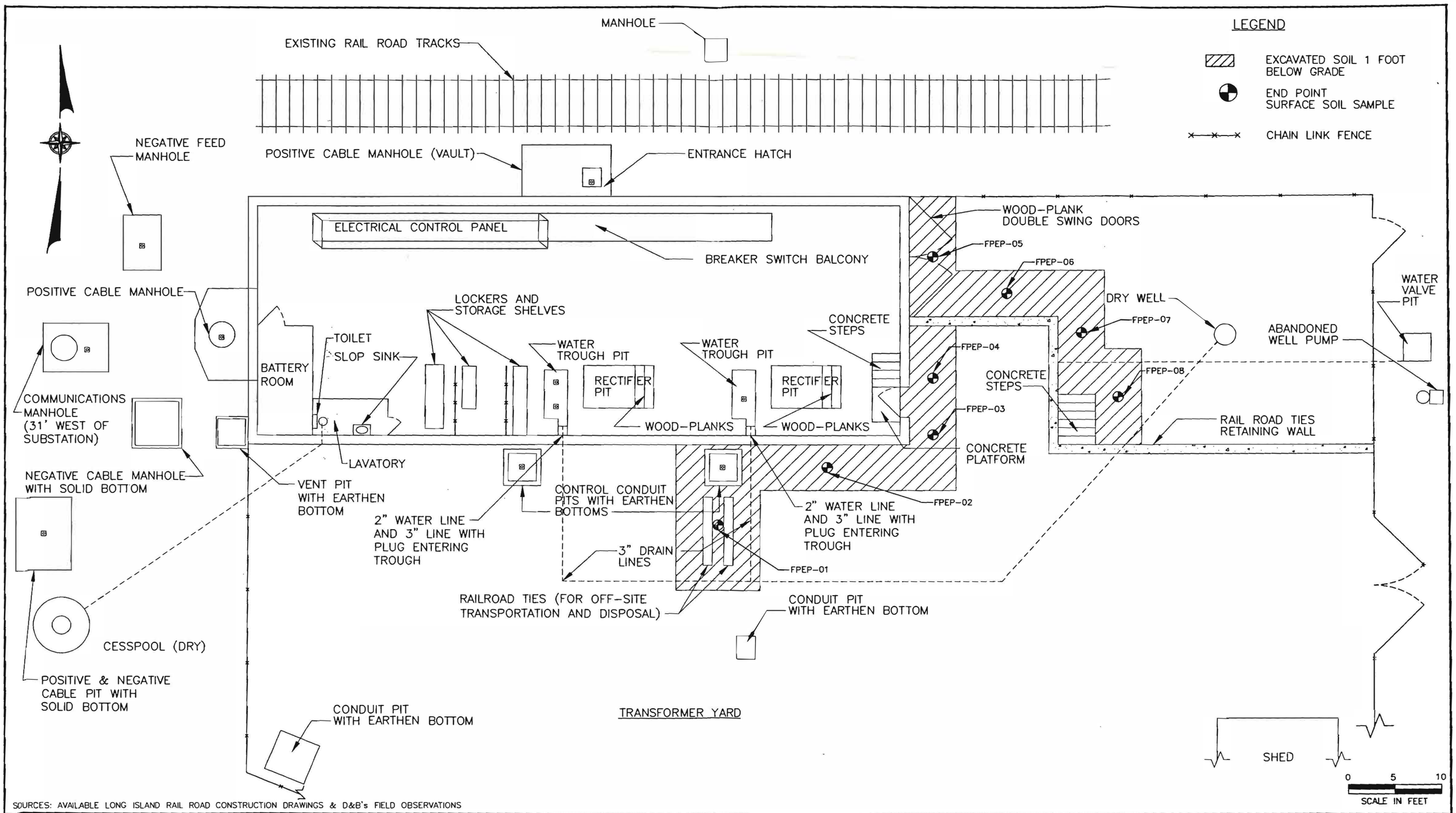
FIGURE 3-3



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

WED, DEC 27, 2000 08:58 A LVG F:\1648\1648-19D.DWG

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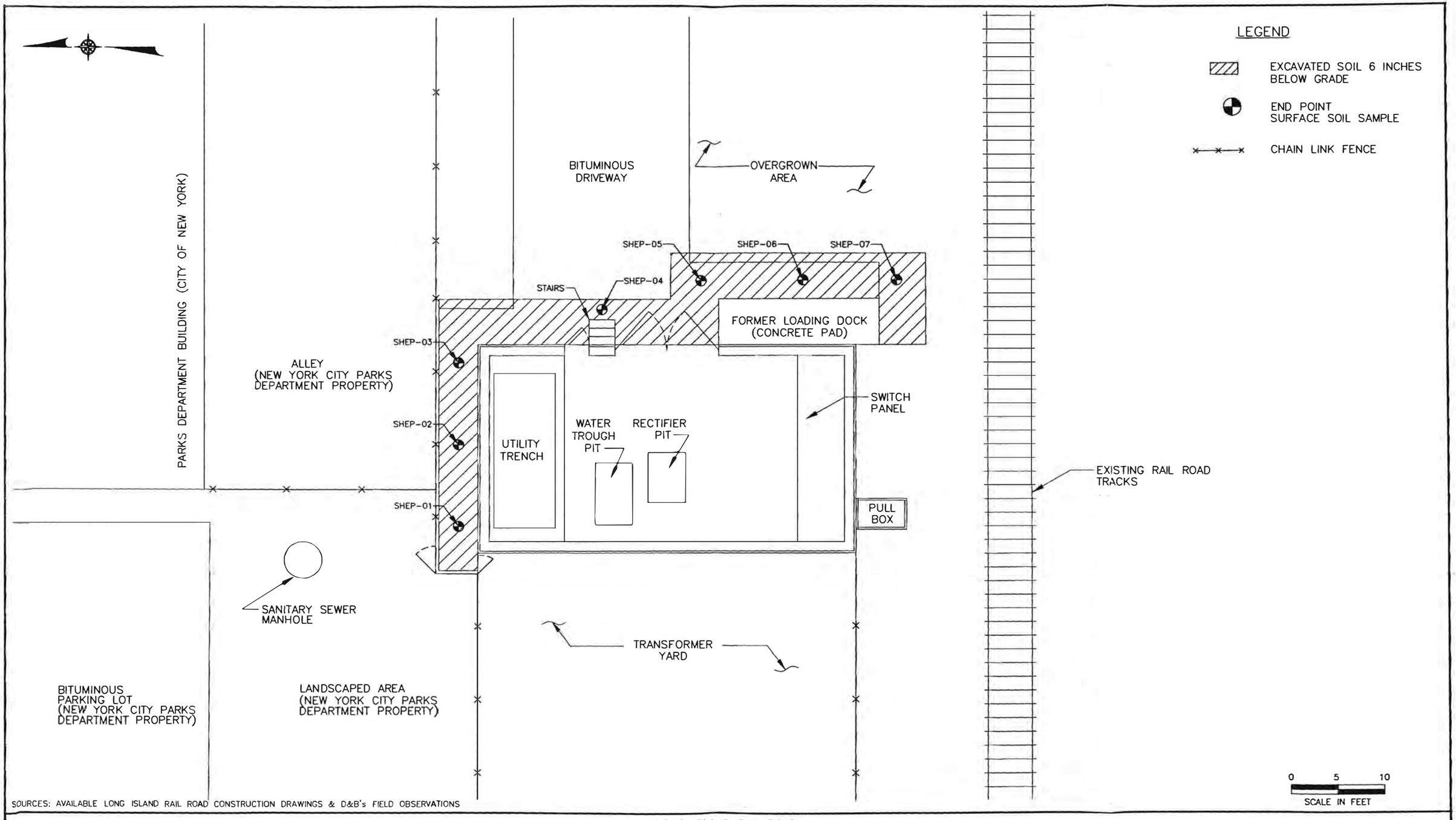
LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

FLORAL PARK SUBSTATION – G13

FIGURE 3-4



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

SHEA SUBSTATION – N02

FIGURE 3–5

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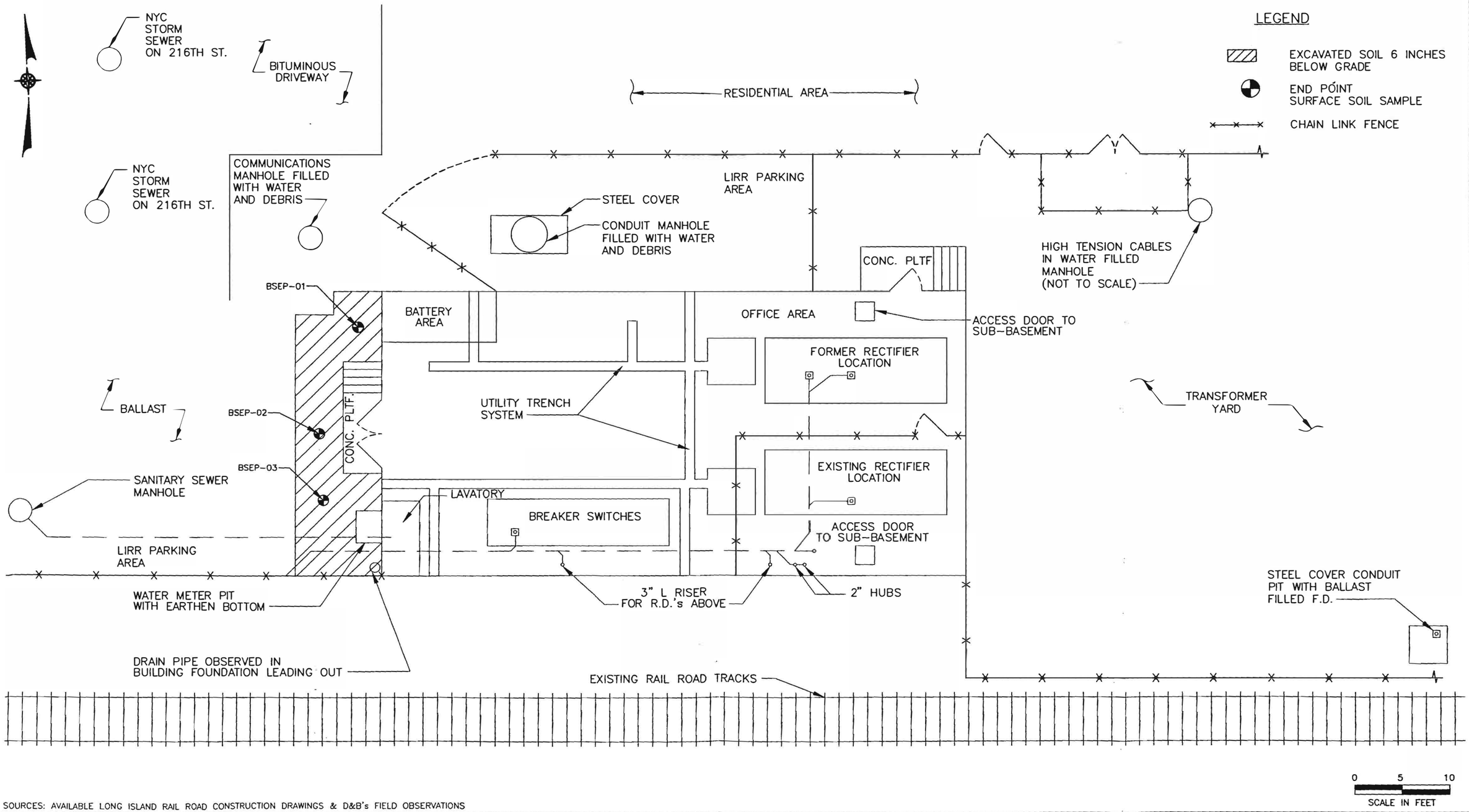
WED, DEC 27, 2000 09:00 A LVG F:\1648\1648-1C.DWG



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

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LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

BAYSIDE SUBSTATION –N06

FIGURE 3–6

, DEC 27, 2000 09:01 A LVG F:\1648\1648-12C.DWG

LEGEND

EXCAVATED SOIL 6 INCHES BELOW GRADE

END POINT SURFACE SOIL SAMPLE

CHAIN LINK FENCE

EXISTING RAIL ROAD TRACKS

UTILITY TRENCH SYSTEM

DRY WELL

ACCESS DOOR TO NORTH SUB-BASEMENT CHAMBER

RECTIFIER PITS

ACCESS DOOR TO SOUTH SUB-BASEMENT CHAMBER

TRANSFORMER YARD

CONC. STAIRS

CONC. PLTF.

C.O.

2" HUBS IN BASEMENT

3" L RISER ROOF DRAIN

PWEP-01

CONC. STAIRS

PWEP-02

CONC. PLTF.

PWEP-03

SHOWER

CONC. PLTF.

PWEP-04

PWEP-05

CONC. STAIRS

LAVATORY

WATER METER PIT WITH EARTHEN BOTTOM

ADJACENT PROPERTY

BITUMINOUS DRIVEWAY

UTILITY MANHOLE

BUILDING

SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

0 10 20

SCALE IN FEET

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LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

PORT WASHINGTON SUBSTATION – N12

FIGURE 3-7

WED, DEC 27, 2000 09:03 A LVG F:\1648\1648-18D.DWG

LEGEND

EXCAVATED SOIL 6 INCHES BELOW GRADE

END POINT SURFACE SOIL SAMPLE

CHAIN LINK FENCE

PIPE CONNECTION BASED ON MECHANICAL SNAKING

EXISTING ELEVATED TRAIN TRACKS

DRY WELL 6'-0" DIA. 9'-0" DEEP (NOT OBSERVED)

STEEL PLATE COVERED POSITIVE BREAKER CABLE PIT W/ EARTHEN BOTTOM

CONCRETE OVERHEAD PASS FOR 3RD RAIL POSTIVE BREAKERS

CONCRETE RETAINING WALL

ROOF DRAIN

DRY WELL

DISCHARGE PIPE CONNECTED TO RECTIFIER PIT DRAIN

UNPAVED AREA

GRASS COVERED AREA

ELECTRICAL CONTROL PANNEL

DRAIN PIPE

SOUTH SLOPING TRENCH

STEEL PLATE COVERED CONTROL COMMUNICATIONS PIT

CONDUIT PIPES

WOOD-PLANK DOUBLE SWING DOOR

WATER TROUGH PIT

BITUMINOUS DRIVE WAY

TRANSFORMER YARD

RECTIFIER PIT

WEST SLOPING TRENCH

WATER SERVICE PIT W/ EARTHEN BOTTOM

INTERCONNECTED DRAIN PIPES

DRAIN PIPE CONNECTED TO DRY WELL

WATER PIPE TRENCH

MSEP-05

MSEP-06

UNPAVED AREA

ROOF DRAIN

MSEP-01

MSEP-02

MSEP-03

MSEP-04

LIRR CONCRETE WALKWAY

DOUBLE SWING CHAIN LINK FENCE ENTRANCE

GRASS COVERED AREA

GRASS COVERED AREA

CONCRETE PEDESTRIAN SIDEWALK

0 5 10

SCALE IN FEET

SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

WED, DEC 27, 2000 09:07 A LVG F:\1648\1648-6C.DWG

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LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

MASSAPEQUA SUBSTATION – S15

FIGURE 3-8

LEGEND

EXCAVATED SOIL 6 INCHES BELOW GRADE

END POINT SURFACE SOIL SAMPLE

CHAIN LINK FENCE

EXISTING ELEVATED TRAIN TRACKS

PVC ROOF DRAINAGE TO GRADE

CONCRETE RETAINING WALL

COMMUNICATIONS MANHOLE

THIRD RAIL CABLE PASS

CONTROL PANEL

SLOP SINK

HSEP-01

DRY WELL

EARTHEN DEPRESSION

WEST SLOPING TRENCH

METAL FLOOR COVER PLATE

DOUBLE-SWING WOOD PLANK DOORS

HSEP-02

SLOP SINK DISCHARGE TO GRADE

TROUGH WATER PIT

RECTIFIER PIT

EARTHEN AREA

CONDUIT PIT

TRANSFORMER YARD

DRAIN PIPE

PIPE TRENCH

METER PIT (FILLED WITH SAND TO GRADE)

WEST SLOPING TRENCH

BATTERY AREA

SLIDING CHAIN LINK FENCE

PVC ROOF DRAINAGE TO GRADE

HEWLETT STREET (ONE WAY)

RESIDENTIAL AREA

PRIVATE DRIVEWAY

RESIDENTIAL AREA

0 5 10

SCALE IN FEET

SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

WED, DEC 27, 2000 09:10 A LVG F:\1648\1648-17D.DWG

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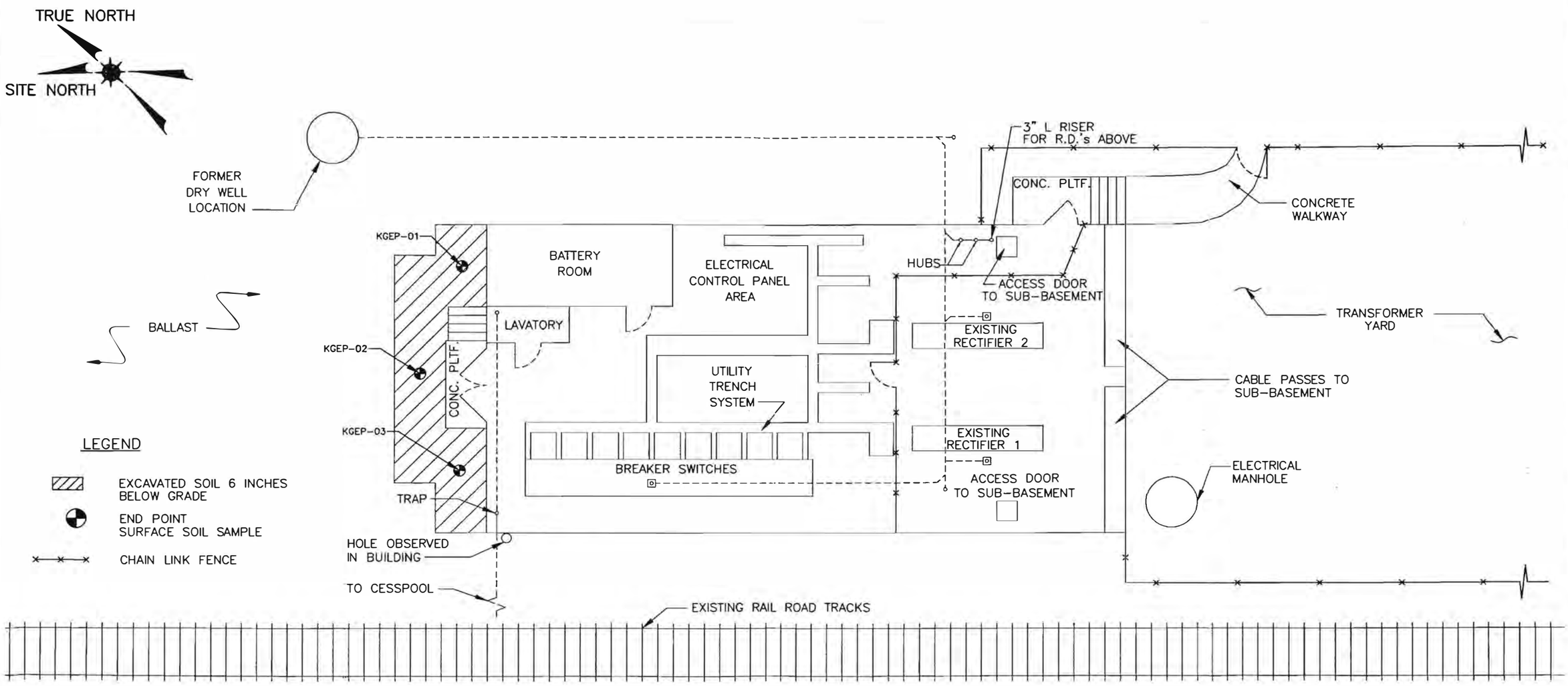
LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

HEMPSTEAD SUBSTATION – H03

FIGURE 3-9



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

Dvirka and Bartilucci
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LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

KEW GARDENS SUBSTATION – G07

FIGURE 3–10

WED, DEC 27, 2000 09:14 A LVG F:\1648\1648-15C.DWG

TRUE NORTH

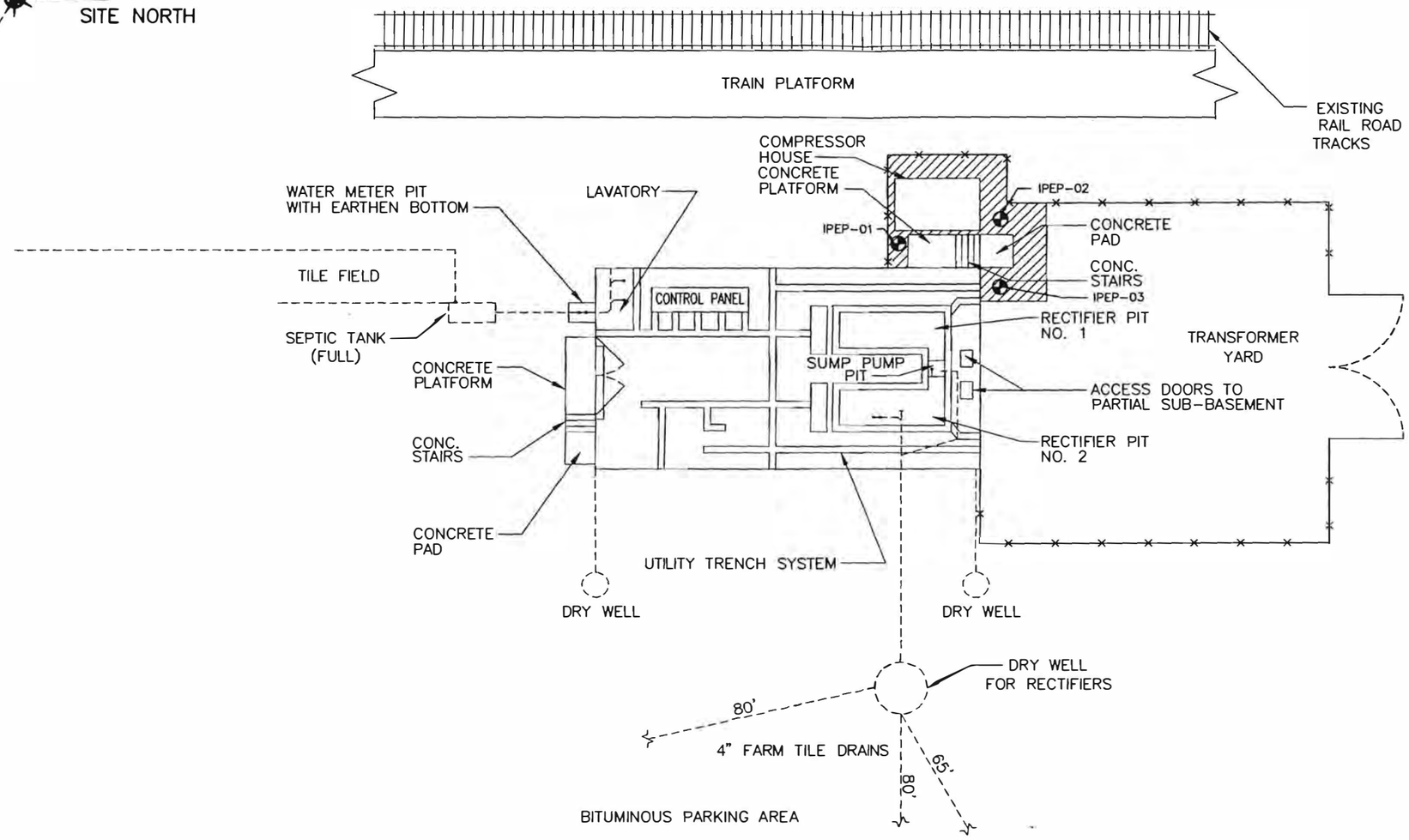
SITE NORTH

LEGEND

EXCAVATED SOIL 6 INCHES BELOW GRADE

END POINT SURFACE SOIL SAMPLE

CHAIN LINK FENCE



SOURCES: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS & D&B's FIELD OBSERVATIONS

0 10 20

SCALE IN FEET

LONG ISLAND RAIL ROAD
INTERIM REMEDIAL MEASURE
REMEDIATED AREAS

ISLAND PARK SUBSTATION –L03

FIGURE 3–11

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WED, DEC 27, 2000 09:17 A LVG F:\1648\1648-20D.DWG

4.0 FINDINGS

Analytical endpoint results obtained in support of the IRM program are presented on Tables 4-1 through 4-11 which are provided at the end of this section. The analytical endpoint results are summarized below:

4.1 Valley Stream Substation - S04

The analytical endpoint results presented on Table 4-1 for the Valley Stream substation indicate a range in mercury concentration from 319 to 4,060 mg/kg. These values exceed the applicable New York State Department of Environmental Conservation (NYSDEC) Eastern USA Background concentration value, as outlined in the Technical Administrative Guidance Memorandum (TAGM) 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.2 Lindenhurst Substation - S19

The analytical endpoint results presented on Table 4-2 for the Lindenhurst substation indicate a range in mercury concentration from 0.11 to 5.5 mg/kg. These values, except for sample LHEP05, exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.3 Far Rockaway Substation - F03

The analytical endpoint results presented on Table 4-3 for the Far Rockaway substation indicate a range in mercury concentration from 35.7 to 3,190 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.4 Floral Park Substation - G13

The analytical endpoint results presented on Table 4-4 for the Floral Park substation indicate a range in mercury concentration from 0.097 to 3,700 mg/kg. These values, except for sample FPEP-01, exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.5 Shea Substation - N02

The analytical endpoint results presented on Table 4-5 for the Shea substation indicate a range in mercury concentration from 2.7 to 1,270 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.6 Bayside Substation - N06

The analytical endpoint results presented on Table 4-6 for the Bayside substation indicate a range in mercury concentration from 8 to 24.5 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.7 Port Washington Substation - N12

The analytical endpoint results presented on Table 4-7 for the Port Washington substation indicate a range in mercury concentration from 0.74 to 5.6 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.8 Massapequa Substation - S15

The analytical endpoint results presented on Table 4-8 for the Massapequa substation indicate a range in mercury concentration from 0.2 to 93.7 mg/kg. These values, except for sample MSEP-06, exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.9 Hempstead Substation - H03

The analytical endpoint results presented on Table 4-9 for the Hempstead substation indicate a range in mercury concentration from 226 to 238 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.10 Kew Gardens Substation - G07

The analytical endpoint results presented on Table 4-10 for the Kew Gardens substation indicate a range in mercury concentration from 3.8 to 39.7 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

4.11 Island Park Substation - L03

The analytical endpoint results presented on Table 4-11 for the Island Park substation indicate a range in mercury concentration from 0.65 to 4.3 mg/kg. These values exceed the applicable NYSDEC Eastern USA Background concentration value, as outlined in the TAGM 4046 Appendix A criteria, for mercury of 0.2 mg/kg.

TABLE 4-1

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - VALLEY STREAM-S04
MERCURY

SAMPLE ID	VSEP-01	VSEP-02	VSEP-03	VSEP-04	VSEP-05	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6	6	6		
DATE OF COLLECTIO	4/4/00	4/4/00	4/4/00	4/4/00	4/10/00		
PERCENT SOLIDS	87	87	87	89	78		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	206	420	795	4060	319	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-2

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - LINDENHURST-S19
MERCURY

SAMPLE ID	LHEP-01	LHEP-02	LHEP-03	LHEP-04	LHEP-05	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6	6	6		
DATE OF COLLECTION	4/5/00	4/5/00	4/5/00	4/6/00	4/6/00		
PERCENT SOLIDS	97	95	89	90	90		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	0.46	5.5	0.46	1.5	0.11	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-3

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - FAR ROCKAWAY-F03
MERCURY

SAMPLE ID	FREP-01	FREP-02	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6		
DATE OF COLLECTION	4/7/00	4/7/00		
PERCENT SOLIDS	89	94		
UNITS	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	35.7	3190	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-4

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - FLORAL PARK-G13
MERCURY

SAMPLE ID	FPEP-01	FPEP-02	FPEP-03	FPEP-04	FPEP-05	FPEP-06	FPEP-07	FPEP-08	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	12	12	12	12	12	12	12	12		
DATE OF COLLECTION	4/13/00	4/13/00	4/19/00	4/19/00	4/10/00	4/10/00	4/10/00	4/10/00		
PERCENT SOLIDS	78	82	83	65	93	87	84	91		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	0.097 B	0.23	4.5	0.81	2,410	3,700	391	386	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

QUALIFIER:

B: Constituent concentration is less than the CRDL, but greater than the IDL.

TABLE 4-5

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - SHEA-N02
MERCURY

SAMPLE ID	SHEP-01	SHEP-02	SHEP-03	SHEP-04	SHEP-05	SHEP-06	SHEP-07	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6	6	6	6	6		
DATE OF COLLECTION	4/20/00	4/20/00	4/20/00	4/25/00	4/26/00	4/26/00	4/26/00		
PERCENT SOLIDS	77	75	81	90	83	84	82		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	2.7	7.2	30.1	1270	336	287	19	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-6

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - BAYSIDE-NO6
MERCURY

SAMPLE ID	BSEP-01	BSEP-02	BSEP-03	Instrument Detection Limits	Eastern USA Background Levels'
SAMPLE DEPTH (IN.)	6	6	6		
DATE OF COLLECTION	4/27/00	4/27/00	4/27/00		
PERCENT SOLIDS	89	87	85		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	24.5	68.4	8	0.1	0.001-0.2

NOTES:

(1) Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-8

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - MASSAPEQUA-S15
MERCURY

SAMPLE ID	MSEP-01	MSEP-02	MSEP-03	MSEP-04	MSEP-05	MSEP-06	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6	6	6	6		
DATE OF COLLECTION	5/2/00	5/2/00	5/2/00	5/2/00	5/3/00	5/3/00		
PERCENT SOLIDS	86	93	92	94	87	85		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	93.7	16.8	71.1	42	42.3	0.20	0.1	0.001-0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-9

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - HEMPSTEAD-H03
MERCURY

SAMPLE ID	HSEP-01	HSEP-02	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6		
DATE OF COLLECTION	5/4/00	5/4/00		
PERCENT SOLIDS	90	89		
UNITS	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	226	238	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-10

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - KEW GARDENS-G07
MERCURY

SAMPLE ID	KGEP-01	KGEP-02	KGEP-03	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6		
DATE OF COLLECTION	5/9/00	5/9/00	5/9/00		
PERCENT SOLIDS	87	85	88		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	3.8	39.7	20.8	0.1	0.001-0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE 4-11

LONG ISLAND RAIL ROAD SUBSTATION IRM
ENDPOINT SAMPLING RESULTS - ISLAND PARK-L03
MERCURY

SAMPLE ID	IPEP-01	IPEP-02	IPEP-03	Instrument Detection Limits	Eastern USA Background Levels[1]
SAMPLE DEPTH (IN.)	6	6	6		
DATE OF COLLECTION	5/11/00	5/11/00	5/11/00		
PERCENT SOLIDS	89	94	86		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	2.9	0.65	4.3	0.1	0.001 - 0.2

NOTES:

[1] Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

Section 5

5.0 CONCLUSIONS AND RECOMMENDATIONS

IRM activities associated with the 11 LIRR substation sites were successfully completed in accordance with the Scope of Work dated January 2000 that was prepared by Dvirka and Bartilucci Consulting Engineers of Woodbury, New York.

Mercury-impacted soil characterized as hazardous waste by Trade-Winds was excavated from the Shea, Valley Stream, Floral Park, Massapequa and Bayside substations for disposal at the Bethlehem Apparatus facility located in Hellertown, Pennsylvania. Mercury-impacted soil was excavated from the Port Washington, Island Park, Hempstead, and Kew Gardens substations for disposal at the Republic Environmental Systems facility located in Bedford, Ohio. Similarly, mercury-impacted soil was excavated from the Far Rockaway substation for disposal at the Pollution Control Industries of Indiana, Inc. facility located in East Chicago, Indiana. Finally, mercury-impacted soil was excavated from the Lindenhurst substation for disposal at the Carteret Biocycle Corporation facility located in Carteret, New Jersey. The waste manifests are provided in Appendix C.

As discussed in Section 4.0, a number of analytical endpoint results for soil samples collected at each of the 11 substations indicated exceedances of the NYSDEC TAGM criteria. Although the IRM activities completed at the 11 LIRR substations were effective in eliminating potential human exposure pathways, the endpoint results indicate that additional subsurface soil sampling is warranted. This additional subsurface soil sampling will be integrated with the future investigation/remediation activities that are recommended as part of the report entitled "Site Assessment of 20 Substations for Mercury Contamination," dated December 2000.

Appendix A

APPENDIX A

IRM SCOPE OF WORK

LIRR CONTRACT NO. 5619

GENERAL ENGINEERING CONSULTANTS

Category 10 (5567) - Abatement and Remediation

INTERIM REMEDIAL MEASURES AT THE LONG ISLAND RAIL ROAD ELECTRIC SUBSTATION SITES

SCOPE OF WORK

JANUARY 2000

RLA/LIRR1648(2/3/00)

DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

SCOPE OF WORK
FOR THE
INTERIM REMEDIAL MEASURES PROGRAM
AT THE
LONG ISLAND RAIL ROAD
ELECTRIC SUBSTATION SITES

Prepared for:

LONG ISLAND RAIL ROAD
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Prepared by:

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JANUARY 2000

SCOPE OF WORK
FOR THE
INTERIM REMEDIAL MEASURES PROGRAM
AT THE
LONG ISLAND RAIL ROAD
SUBSTATION SITES

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

SCOPE OF WORK
FOR THE
INTERIM REMEDIAL MEASURES PROGRAM
AT THE
LONG ISLAND RAIL ROAD
ELECTRIC SUBSTATION SITES

PROJECT SUMMARY

The purpose of this section of the scope of work is to provide a brief overview of the Interim Remedial Measures (IRM) Program to be undertaken at various Long Island Rail Road (LIRR) electric substation sites. This scope of work, along with site-specific work plans, are intended to provide an overview of the elements of the program to be implemented by the contractor during the course of the project.

According to the LIRR, from the early 1930s through 1951, the LIRR constructed and operated electric substations that utilized mercury rectifiers to convert alternating current (AC) to direct current (DC) for the operation of its electric fleet. Most of the substation sites are relatively small parcels of property. Typically, they include a one-story structure containing solid state silicon rectifiers within one or two concrete pits (each usually containing a floor drain). Knowledge of the environmental fate and transport of mercury in the environment was not known at the time these rectifiers were in operation. In the 1970s, the last of the mercury rectifiers were removed from these electric substations. Because the work practices employed when handling the mercury at these substations are unknown, the LIRR believes it is prudent to conduct an environmental assessment at the 20 electric substations that are known or suspected of once utilizing mercury rectifiers to determine the environmental effects of past operation and maintenance practices.

Consequently, an initial substation investigation program is underway to determine if mercury from the substations may have impacted surface soil, subsurface soil, concrete, and/or groundwater (where applicable) at each of the 20 identified substation sites. The preliminary results of this site assessment program indicates that certain substation sites contain elevated levels of mercury in the soil that may pose a potential human exposure pathway. The scope of

work for this IRM project is therefore intended to eliminate or minimize any potential human exposure pathway by excavating mercury impacted soil from each affected area for proper off-site transportation and disposal. In addition, as part of the IRM each of the remediated areas will be restored with a blue stone cover.

For the purposes of this scope of work, the term Engineer shall refer to Dvirka and Bartilucci Consulting Engineers (D&B). The term Owner shall refer to the LIRR. The Contractor shall be selected by the Owner to complete the work presented in this scope of work.

The scope of the project includes, but may not be limited to, the remediation of specified areas; the collection and analysis of post excavation soil samples or other samples as required to demonstrate the effectiveness of the remediation (to be conducted by the Engineer); conducting waste characterization sampling and analysis of the excavated materials, as required; the proper loading transportation and disposal of the excavated material; submitting all required documentation to the LIRR and to the appropriate disposal facility and regulatory authorities; the procurement and delivery to each affected site of clean backfill material, as required; and the restoration of remediated areas.

All substations requiring IRM activities will be described by site specific plans and procedures that will be provided by the Owner/Engineer as a supplement to this scope of work.

SCOPE OF WORK
FOR THE
INTERIM REMEDIAL MEASURES PROGRAM
AT THE
LONG ISLAND RAIL ROAD
ELECTRIC SUBSTATION SITES

1.0 GENERAL

1.1 Scope of Work

A. Furnish all labor, materials, power, equipment and other facilities and incidentals, including utility markouts to the Owner as necessary to perform IRM activities at Long Island Rail Road Substation electric substations located throughout Queens, Nassau and Suffolk Counties, New York.

B. The electric substations requiring IRM activities will be specified on site specific drawings to be provided by the Owner/Engineer at a later time.

The work shall include, but not be limited to, mobilization and demobilization of equipment; clearing and grubbing of areas for equipment and materials staging and storage; construction of a temporary decontamination pad; protection of all aboveground and subsurface utilities; excavation of soil as directed by the Owner/Engineer; collection of endpoint soil samples (to be conducted by the Engineer); loading, transportation and disposal of excavated material to be removed from the site; furnishing and backfilling of excavated areas with clean fill and blue stone; and restoration of site to existing or specified condition.

It is the intent of this scope of work that the aggregate of the completed work under this contract constitute IRM activities that minimize potential human exposure pathways by the removal and disposal of contaminated materials, backfill of excavated areas and complete restoration of the site to original line and grade and existing or specified condition. All work, materials and services not expressly called for in this scope of work, or attached site specific drawings, which are necessary and required for construction and completion of the work shall be performed, furnished and installed by the Contractor according to the agreed unit prices for work ordered by the Owner.

C. The schedule of work shall be conducted as directed by the Owner.

D. The following generic list of work is summarized for the convenience of the Contractor and is intended to indicate the extent of the work, as required, and shall not relieve the Contractor from the satisfactory performance of the work through virtue of omission of any specified item. The Contractor shall be required to perform the following work:

Soil Excavation: The substations that require excavation are identified on drawings provided as part of this Scope of work and shall be remediated according to the following generic procedures:

1. If necessary, the Contractor shall saw cut, remove and containerize for off-site disposal, asphalt and/or concrete to facilitate soil excavation. Concrete and/or asphalt must be saw cut to full depth along the perimeter of the excavation requiring concrete and/or asphalt removal.

2. The Contractor shall excavate impacted soil as specified by the site specific drawings that are provided as part of this scope of work. All excavated soil shall be loaded into lined roll-off containers or 55-gallon DOT-approved drums.

3. At the direction of the Owner, the Engineer may collect and analyze endpoint sample(s) from the bottom of the excavation, as required.

4. If the endpoint sampling results indicate an exceedance of regulatory guidance values, additional soil excavation may be required.

5. The Contractor shall provide and maintain suitable safeguards (i.e., snow fence and flashing barricades) around any open excavation until the excavation is restored to grade or as directed by the Owner/Engineer.

6. Subsequent to the review and approval of endpoint sampling results, the Contractor shall backfill the excavation with clean fill to 6 inches below final grade. The Contractor shall restore all excavated areas with 6 inches of blue stone to match the original grade surface, as required.

7. The Contractor shall resurface concrete and/or asphalt to meet existing grade, as required.

1.2 Reference to Standards and Regulations

A. The latest revisions to all applicable local, state and federal regulations shall apply.

1.3 Permits and Reports

A. The Contractor shall be responsible for obtaining any permits required, including but not limited to, road opening, obtaining water, construction of any facilities/structures, utility work, sewer work, discharging water from the site, disposing of any material including concrete debris, excavated soil, decontamination water or clearing the site for work or access.

B. The Contractor shall furnish separate copies of all permits to the Owner/Engineer as the permits are received.

C. The Contractor shall be responsible for the segregation and containment of contaminated soil on-site and the proper off-site disposal of soil as determined by the Owner/Engineer.

1.4 Description of the Site

A. The project sites consist of electric substations that are described by site specific drawings provided as part of this scope of work. All work will be undertaken within the perimeter of the project site. Rights of ingress and egress will be provided by the Owner. The Contractor shall be responsible for construction of any access that is required in order to move equipment onto and off of the site. Any constructed access must be capable of being locked to prevent site access by unauthorized individuals in order to maintain site security.

1.5 Qualifications

A. The Contractor responsible for undertaking the work shall employ only competent employees for the execution of this work, and all such work shall be performed under the direct supervision of an experienced worker satisfactory to the Owner/Engineer. The Contractor shall have at its immediate disposal, operational equipment in good working order rated to do the required work.

B. All subcontractors selected by the Contractor to perform tasks of this project must be approved by the Owner/Engineer prior to the start of work. If for whatever reason, the Contractor must substitute a previously approved subcontractor, the Contractor shall obtain written approval from the Owner/Engineer before the subcontractor is allowed to work on this project.

C. The Owner/Engineer may undertake other background investigations as deemed necessary to determine the ability of the Contractor to perform the work, and the Contractor shall furnish to the Owner/Engineer all such information and data for this purpose as the Owner/Engineer may require.

D. The Contractor shall furnish satisfactory evidence, upon request, that all materials to be furnished in performing the work are new and all equipment to be used is in good condition and working order.

E. The Contractor shall only utilize personnel who have received training in accordance with the latest requirements of hazardous waste operations and emergency response (HAZWOPER) pursuant to 29 CFR 1910.120, including training and certification in the proper use of personal protective equipment (PPE) and knowledge and understanding of the construction standards and environmental health and safety rules and regulations of the Occupational Safety and Health Administration (OSHA).

1.6 Project Submittals

A. A Work Plan shall be prepared and submitted by the Contractor outlining the procedures that will be utilized to complete the work described herein. The Work Plan shall specify staging areas, truck routes, excavation techniques, sampling techniques, methods of protecting and diverting (if necessary) aboveground and subsurface utilities, and any other pertinent work techniques the Contractor will utilize. Field work may not begin until the Owner/Engineer has reviewed and approved the Work Plan.

B. Prior to the commencement of the work, the Contractor shall provide a Health and Safety Plan (if not previously submitted) to be maintained by the Owner/Engineer. The Health and Safety Plan shall be prepared in accordance with Section 2.2 of this specification.

C. Upon completion of all work, the Contractor shall submit to the Owner/Engineer a written report to include the following:

1. The total amount of materials including, but not limited to, wastewater, soil, asphalt and concrete debris excavated and transported off-site for proper disposal;

2. Copies of all waste manifests and bills of lading completed for the disposal of demolished and excavated debris;

3. The amount of new material (clean fill and blue stone) used to backfill the excavations;

4. Copies of all laboratory analytical results from waste characterization sampling; and

5. Other pertinent data requested by the Owner/Engineer.

1.7 Handling of Materials

A. All equipment, parts and materials shall be properly protected so that no damage or deterioration will occur during a prolonged delay from time of shipment until work is completed.

B. Any equipment, parts and materials damaged, or deemed unacceptable by the Owner/Engineer, shall be removed from the site and replaced with new, like equipment, parts or materials by the Contractor at no additional cost to the Owner/Engineer.

C. Unless directed otherwise by the Owner/Engineer, the Contractor shall load all excavated soil, asphalt and concrete directly into roll-off containers and/or 55-gallon DOT-approved drums, as required. The roll-off containers shall be lined with reinforced polyethylene sheeting. Reinforced polyethylene sheeting will also be utilized for the roll-off cover. Following proper waste characterization, the Contractor will transport the roll-offs and/or 55-gallon drums off-site to a disposal facility approved by the Owner/Engineer.

1.8 Temporary Facilities

A. The Contractor shall provide temporary locking trailers, shanties or sheds of adequate size for storage of materials and supplies, as required. The Owner's buildings are not to be used by the Contractor for storage or personal use. Portable toilet facilities are to be supplied by the Contractor for use by his employees.

B. The Contractor shall acquire all necessary permits for the installation of temporary utilities deemed necessary by the Contractor. The Contractor shall coordinate installation of these utilities prior to the initiation of the Project and disconnection of said utilities upon project completion.

C. The Contractor shall provide electric generators, and flood lights as required. The Contractor shall not rely on electricity to be provided by the Owner at any site location.

1.9 Disposal Sites

A. The Contractor shall dispose of all waste in accordance with 3.9 of this specification. Manifests will be provided to the Owner for all material leaving the site.

B. The Contractor must supply copies of the disposal facilities' environmental permits to the Owner upon request.

1.10 Warranty

A. All work detailed in this scope of work shall be warranted by the Contractor and equipment manufacturers (if applicable) for a period of one (1) year from date of acceptance by the Owner.

1.11 Additional Work

A. At the option of the Owner/Engineer, additional work may be authorized. Additional work shall be completed at unit prices as specified by the Contractor in his Cost Proposal.

1.12 Measurement and Payment

A. Payment for work performed shall be on a basis of unit and lump sum prices for actual work performed. The Contractor shall provide a cost estimate based on this statement of work. The unit and lump sum costs are intended to cover all costs involved in completing the work specified herein. The Contractor shall include all incidental costs necessary to complete the work specified herein into the unit or lump sum prices indicated on the cost estimate.

1.13 Contract Drawings

A. Site specific drawings depicting actual areas for excavation are provided as part of this scope of work.

1.14 Site Security

A. The Contractor shall be responsible for coordinating with the Owner to allow access to the site for each day of the project.

B. The Contractor shall be responsible for the security of the Contractor's equipment, material and supplies.

C. The Contractor shall not place or store any materials, equipment, excavated material, roll-offs, etc. in close proximity to the train tracks to cause a potential to foul the tracks.

2.0 PRODUCTS

2.1 Fill Material

A. Fill material must be clean fill approved by the Owner/Engineer prior to its use. Clean fill must originate from a known non-industrial site. Clean fill may originate from a mine that excavates sand/soil from a virgin (undisturbed/unused) area.

B. The fill material shall be accompanied by a Certificate of Clean Fill certifying that the area from which the fill originated was never used for industrial purposes and that the fill is free of contaminants. This certificate must be signed by an officer of the company procuring the clean fill or its designee. The Certificate of Clean Fill must be submitted with a description of the origin of the fill for approval by the Owner/Engineer prior to use of the fill material.

C. Clean fill (as described above) shall consist of mostly coarse sandy material (containing no organic material, rubbish or debris) capable of being compacted to a relative compaction of 90 percent.

2.2 Health and Safety

A. Prior to the initiation of the project, the Contractor shall provide a site-specific Health and Safety Plan (HASP), if not previously submitted, to be maintained by the Owner/Engineer. The Health and Safety Plan shall properly address all the appropriate federal, state and local regulatory requirements necessary to undertake and successfully complete this project. The HASP shall include a hospital route map and written directions to the nearest hospital. The Contractor shall also provide appropriate emergency phone numbers.

B. The Contractor shall be responsible for ensuring that the Health and Safety Plan and all work associated with this project is performed in accordance with safe working practices, including all Occupational Safety and Health Administration (OSHA) requirements. All site personnel shall have hazardous waste operations and emergency response (HAZWOPER) training in accordance with 29 CFR 1910.120, shall be certified for confined space entry (if necessary), shall be trained and certified in the proper use of personal protective equipment (PPE), and shall have knowledge and understanding of construction standards. Certifications regarding training and expertise will be required prior to the start of work.

C. Ground fault interrupters shall be required on all electrical connections.

D. The Contractor shall provide a copy of Material Safety Data Sheets (MSDS) for all chemicals to be utilized by the Contractor.

E. The Contractor shall provide for his or her employees, and any subcontractor, all equipment, and clothing necessary, including but not limited to, monitoring equipment, respirators and chemical resistant clothing, to provide adequate health and safety protection in any area containing hazardous materials. This equipment and clothing shall be readily available at the site to the employees. The Contractor shall also provide traffic control as necessary.

3.0 EXECUTION

3.1 Scope of Work

A. The Contractor shall complete all necessary excavations for the removal and segregation of all contaminated and uncontaminated debris and soil and for all required or ordered purposes incidental to the work. The Contractor shall also provide clean fill and blue stone as required to backfill such excavations to the extent necessary, and properly dispose of all excess materials in accordance with federal, state, county and local laws and regulations. In addition, the Contractor shall compact and grade the backfilled soil to original elevations or as directed by the Owner/Engineer.

B. Excavation shall include the removal, handling, rehandling, refill and disposal of any and all materials of whatever nature encountered in the work.

C. The use of excavating machinery will be permitted, except in places where operation of same will cause damage to adjacent property, buried utilities, structures or completed work, in which case hand excavation methods shall be employed.

D. The program of excavation shall be carried out in such a manner as to prevent undermining or disturbing the foundations of existing structures or of work previously completed under this or previous contracts.

E. The Contractor's attention is directed to the fact that numerous aboveground and underground utilities are present at the site. The Contractor shall field locate all such utilities with the Owner's assistance and protect and maintain them. If the Owner is unable to locate the utilities, the Contractor shall employ an outside company to mark-out all utilities at the facility. All removal operations shall be carefully performed to prevent damage to these utilities and service connections. Any damage caused by the Contractor operations shall be repaired by the Contractor at no cost to the Owner.

3.2 Decontamination Procedures

A. The Contractor shall be responsible for establishing a decontamination area in a location selected by the Owner/Engineer. In this area, the Contractor shall provide/construct a temporary decontamination pad upon which to clean all equipment, materials and supplies. The Contractor shall also be responsible for relocating the decontamination pad and/or area as required during construction and removing the decontamination pad at the end of the excavation and backfilling program.

B. Heavy Equipment - All excavation and heavy equipment including shovels and buckets, shall be cleaned prior to mobilizing to the site and use during the work. The two options that are available and allowable to accomplish cleaning the heavy equipment include steam cleaning and manual scrub brushing and/or washing.

C. The excavation equipment shall be decontaminated before and after the excavation and backfilling program and prior to leaving the site.

D. All equipment shall be stored in a clean manner as approved by the Owner/Engineer.

E. All cleaning equipment shall be provided by the Contractor.

F. All water used in the decontamination operation shall be provided by the Contractor. Acquisition (including permits and other approvals), transport, storage and disposal of all water and wastewater will be the responsibility of the Contractor. All water used for cleaning must be potable and approved by the Owner/Engineer. The Contractor shall provide copies of all manifests/bills of lading associated with the transport, storage and disposal of all water and wastewater.

G. The Contractor shall collect all decontamination waste in 55-gallon DOT-approved drums or a suitable alternative approved by the Owner/Engineer. Decontamination waste containers shall be supplied by the Contractor and the Contractor shall ensure that the containers are appropriately labeled. The Contractor shall be responsible to conduct waste characterization sampling and analysis of the decontamination waste. The Contractor shall be responsible for the proper off-site transportation and disposal of all decontamination waste generated during this project.

3.3 Lines of Excavation

A. All excavations shall be made in such a manner and to such depths and widths as required to remove the contaminated soil, as specified on the drawings provided as part of this scope of work. The Contractor shall be responsible for all construction means and methods necessary to accomplish the excavation and containment of contaminated soil. The Contractor shall not stockpile any soil. Side slopes of all excavated areas shall be maintained in accordance with the latest requirements of the OSHA standards for excavations, if applicable. Any undermining or settlement of adjacent slabs, columns, or structures within a distance equal to the depth of the excavation from the limits of remediation shall be repaired by the Contractor at no additional cost to the Owner.

B. All excavations shall be made in such a manner and to such widths as to maintain a 1:1 slope to remove the maximum practicable amount of contaminated soil without compromising the structural integrity of on-site structures. However, excavations greater than 4 feet in depth from grade shall be sheeted and shored as required. Excavations less than 4 feet in depth from grade shall be sheeted and shored if structural conditions warrant. The Contractor bears all risk of any damage to any utilities and structures. All materials within the lines of excavation shall be removed, segregated, contained and transported off-site for proper disposal, as directed by the Owner/Engineer.

C. The Contractor shall excavate all materials encountered within the lines of excavation. The Contractor shall saw cut the concrete and/or pavement surrounding the area of excavation. The concrete and/or pavement within the saw cut areas shall be broken and removed for off-site disposal. The Contractor shall be responsible for the excavation and removal of all

material within the lines of excavation. Excavated materials shall be handled in accordance with 1.7 of this specification.

D. The Contractor shall ensure that all work is performed in accordance with safe working practices, including all OSHA requirements. Excavation and sheeting/shoring requirements shall be in accordance with OSHA, 29 CFR XVII, section 1926.650-.653 and Industrial Code Rule 23 as per NY State Department of Labor. The Contractor shall prepare a Sheeting and Shoring Plan for each excavation that requires sheeting and shoring according to this scope of work as determined by the Contractor's licensed New York State Professional Engineer. All Sheeting and Shoring Plans must be designed and certified by a licensed New York State Professional Engineer. All applicable calculations shall be submitted along with the Sheeting and Shoring Plans. The Contractor shall immediately notify the Owner/Engineer if settlement of adjacent slabs, pavement, walls, etc., is observed. If settlement occurs, the Contractor shall return all floors and walls to original elevations. All Sheeting and Shoring Plans shall be maintained by the Owner/Engineer. Field work will not be initiated before the Sheeting and Shoring Plans are received by the Owner/Engineer. All necessary precautions shall be taken to guard against any movement or settlement of any existing pavements, foundations, structures and adjoining property.

E. The Contractor shall field verify the entire scope of work by actual measurements and observations at each substation site. The Contractor shall verify all dimensions and data previously established and field verify the various site conditions and shall make all necessary investigations that will affect the cost and completion of the work to be performed. All discrepancies between actual conditions and those shown in the contract documents shall be reported to the Owner/Engineer for review and approval prior to the commencement of the affected work.

F. For exterior locations, all sheeting shall be removed, in its entirety, by the Contractor.

G. The Contractor shall utilize steel sheet piling adjacent to any column or wall footings that are to remain. The Contractor will have the option to shore columns and rebuild footings, or to utilize steel sheet piling around footings.

H. The Contractor shall hire a licensed surveyor to monitor elevations of all columns and remaining walls on a weekly basis or as may be required. Visible targets shall be marked on columns, walls and benchmark. The Contractor shall submit initial and periodic readings weekly to the Owner/Engineer.

I. All structural steel work shall conform to all applicable federal, state and local standards and guidelines. Structural steel shop and erection drawings and calculations shall be maintained by the Owner/Engineer. Field work will not be initiated before these drawings and calculations are received by the Owner/Engineer.

J. All structural steel shall conform to ASTM Specification A36 unless noted otherwise as ASTM A572.

K. The Contractor shall notify the Owner/Engineer at least 24 hours in advance of all welding and burning operations. Field burning of holes and/or cuts shall not be made in or on any part of a building structure without the review and approval of the Owner/Engineer.

3.4 Endpoint Sampling and Analysis

A. Endpoint soil samples may be collected from the bottom of each excavation by the Engineer. Endpoint samples shall be analyzed by the Engineer for mercury by Method 7471.

B. Sidewall samples will not be required for this project.

3.5 Removal of Water

A. The Contractor shall at all times during construction provide and maintain ample means and suitable equipment consistent with conditions encountered, which will promptly remove and properly dispose of all water entering excavations. All excavations shall be kept dry until the Contractor is directed to backfill the excavations. Water shall be disposed of in a suitable manner so as to avoid damage to adjacent properties, existing structures and all work under construction.

B. The Contractor shall be responsible for obtaining and adhering to all provisions of necessary dewatering permits at no additional cost to the Owner.

3.6 Protection of Existing Utilities and Structures

A. All existing utilities and structures which are encountered or uncovered by the excavation, shall be carefully supported and protected from injury by the Contractor and if injured or removed, shall be restored by the Contractor to at least the same condition as they were before work was begun at no additional cost to the Owner. The Contractor shall coordinate with the Owner and/or an outside company to have all existing utilities marked out prior to the initiation of the work. If the Contractor damages any utilities during the work, then the Contractor shall be required to repair such utilities at the Contractor's expense as determined by the Engineer.

3.7 Backfilling

A. The Contractor shall place one layer of poly sheeting at the bottom of the excavation before any backfilling activities are conducted.

B. Backfill material shall be in accordance with 2.1 of this specification and approved by the Owner/Engineer. The backfill material shall be compacted in maximum 8-inch loose layers. Compaction of backfill material for the excavated areas shall be by means of mechanical tamping to at least 90% relative density as per ASTM D 1557 - Dry Density. The Contractor shall backfill each excavation to within 6 inches of grade with certified clean fill. The Contractor shall then restore each excavated area with 6 inches of blue stone to match the original grade surface.

C. A testing laboratory approved by the Owner/Engineer shall be employed by the Contractor to perform field density tests, where required by the Owner/Engineer, to certify the required compaction in accordance with the modified Proctor test. Costs of tests shall be borne by the Contractor.

D. Suitability of materials shall be demonstrated by tests performed by the Contractor and accepted by the Owner/Engineer. Thereafter, all materials used in construction shall be tested in accordance with the following:

- Compaction (ASTM-D1557)
- In-place Density (ASTM-D1556, D2922)

E. The Contractor shall provide In-Place Density Tests at locations to be determined by the Owner/Engineer. All costs for testing shall be borne by the Contractor. The Contractor shall provide one compaction test per 400 square feet.

F. Backfilling shall not be performed during freezing weather and frozen material shall not be used for backfill.

G. If any backfill material settles below the required levels prior to final acceptance of work, the Contractor shall install additional compacted backfill material to build up the low areas.

H. If the excavation is not backfilled to grade, the Contractor shall maintain fencing and barricades surrounding the excavation which is at least 4 feet high. The exact location and type of fence shall be determined by the Owner/Engineer. The fence shall remain in place until the Owner/Engineer instructs the Contractor to remove the fence.

3.8 Grading

A. Areas to be graded shall be constructed true to grade and shall be maintained free from extraneous accumulations until the work has been accepted.

3.9 Storage, Handling and Disposal of Excavated Materials

A. The Contractor shall be responsible for loading all excavated material directly into roll-off containers and/or 55-gallon DOT-approved drums, as required. The roll-off containers shall be lined with reinforced polyethylene sheeting. Reinforced polyethylene sheeting will also be utilized for the roll-off cover. Following proper waste characterization, the Contractor will transport the roll-offs and/or 55-gallon drums off-site to a disposal facility approved by the Owner/Engineer.

B. The Contractor shall be responsible for collecting and testing all necessary samples required for the purpose of waste characterization. The testing shall include, but not be limited to, conducting the Toxicity Characteristic Leaching Procedure (TCLP) for RCRA constituents (i.e., metals and organics). In addition, all necessary sampling and analysis that is required by the disposal facility shall be conducted by the Contractor. The testing shall be conducted by a

NY State ELAP-approved and ASP-certified laboratory. The Owner/Engineer shall review and approve all testing plans and analytical results.

C. The Contractor shall be responsible for arranging and transporting all waste off-site. After conducting the appropriate waste characterization sampling and analysis, the Contractor shall dispose of all waste at a waste disposal facility approved by the LIRR. A manifest shall be supplied to the Owner/Engineer for all material leaving the site (as applicable).

D. The Contractor shall be responsible for determining the appropriate waste classification of all material leaving the site (i.e., nonhazardous or hazardous, etc.). The Contractor will be responsible for any waste that is rejected by a waste disposal facility.

E. The Contractor shall be responsible for ensuring that manifests (including land disposal forms)/bills of lading are correctly completed prior to waste leaving the property.

F. The Contractor shall provide clean bulk containers (e.g., lined roll-offs, trailers, etc.) qualified (appropriate DOT/UN approvals) to transport nonhazardous, hazardous or industrial waste and to ensure that these containers are in sound structural condition. Containers and/or trailers shall be covered at all times, except when being filled.

G. The Contractor shall provide for transportation of waste by a firm licensed (permitted) to transport hazardous and industrial waste by New York State, the state to which the waste is being transported and any intervening states. Vehicles, trailers and/or containers utilized to transport waste shall appear on the transportation company's waste transporter's permit.

H. The Contractor shall be responsible for moving trailers and/or containers to staging areas designated by the Owner/Engineer. Where applicable, the Contractor shall be responsible for ensuring that all trailers and/or containers are labeled in accordance with federal, state and local hazardous waste regulations while being staged on the property and prior to transportation off site. All wastes shall be properly transported and disposed off-site by the Contractor no later than forty-five (45) days after the date of generation.

3.10 Commencement and Time of Completion

A. The work shall commence within three business days after the date of notice to proceed by the Owner. A schedule for each substation shall be submitted to the Owner/Engineer prior to the start of work.

4.0 SITE RESTORATION

4.1 Scope of Work

A. All work areas shall be left neat and clean and shall be broom swept, or alternatively cleaned, on a daily basis to maintain the level of cleanliness of the building and surrounding areas. All sweeping and cleaning shall be conducted with sufficient quantities of sweeping compound so as to eliminate airborne dust. The Contractor shall remove and dispose of rubbish daily in a proper manner.

B. Final site restoration activities may only be initiated following the completion of all remedial activities and the complete removal of all excavated material from the site to avoid damaging restored areas.

C. The Contractor shall restore all areas of the site which were excavated or damaged during the work. The Contractor shall leave the site in the condition before the work began. If restoration to the original condition is not required in a specific area, the Owner/Engineer will instruct the Contractor on the final condition of the area.

D. The Contractor shall remove all equipment and unused materials and supplies from the site at the completion of the work. This includes removal and disposal of the decontamination pad in accordance with all applicable federal, state and local regulations. If required, the Contractor shall pay for any analytical samples required to determine proper disposal of the pad.

4.2 Restoration of Unpaved Areas

A. The Contractor shall provide all labor, materials and equipment for grading of all areas and swales which were excavated or damaged during the work. All excavated areas are to be restored with 6 inches of blue stone and returned to original grade except for specific areas designated by the Owner/Engineer.

4.3 Protection and Restoration of Existing Fencing, Utilities and Structures

A. All existing electric conduits, lighting poles, telephone lines, chains, curbs, fences or other structures including underground process piping which are encountered or uncovered during the work and which do not, in the opinion of Owner/Engineer, require to be changed in location, shall be carefully supported and protected from injury by the Contractor and, if injured or removed, shall be restored by the Contractor without compensation, to at least the condition existing prior to the initiation of the work.

4.4 Replacement of Pavement

A. All paved areas damaged as a result of the Contractor's activities shall be repaved to match existing adjacent surfaces. Damaged areas shall be removed to a sufficient depth to allow placement of the new asphalt in order to meet the grade of the adjacent pavement.

B. The pavement to be replaced shall be saw cut to its full depth in a straight line to a minimum of 24 inches outside the edge of the excavated area to remove all damaged pavement.

C. Before placing any paving material, the subgrade shall be shaped to line and grade and compacted with an approved smooth steel wheel roller having a nominal gross weight of not less than 10 tons and exerting a force of not less than 300 pounds per inch of width. All hollows and depressions which develop under rolling shall be filled with acceptable granular material and shall be rolled again.

D. Materials and construction details for pavement shall conform to Section 400, "Bituminous Pavements" as described in the State of New York Department of Transportation (NYSDOT), Office of Engineering's "Standard Scope of Work" of January 2, 1990.

E. The sub-grade shall not be muddy or otherwise unsatisfactory when the pavement is placed upon it.

F. A 6-inch stone sub-base meeting the NYSDOT Type 4 requirements shall be installed and compacted on top of the rolled sub-grade. The sub-base aggregate shall be 3/4-inch maximum in accordance with NYSDOT scope of work.

G. A 3-inch asphalt binder base meeting the NYSDOT Type 3 requirements shall be installed and compacted on top of the 6-inch stone sub-base.

H. The top course of new pavement and overlay on existing pavement shall be asphalt concrete meeting the NYSDOT Type 7 requirements specified in Section 403 of the NYSDOT scope of work. The top course shall be a minimum of 1½ inches thick after rolling.

I. Following compaction, the top surface of the top course shall not deviate more than 1/2 inch from the true grade at any location.

J. Upon completion of restored asphalt, a hot tar seal along the saw cut edge shall be applied.

K. All pavement repairs shall be completed to the satisfaction of the Owner/Engineer.

4.5 Replacement of Concrete

A. The Contractor shall repair all concrete, curbing, dry well or similar structure that is damaged or destroyed by the Contractor's activity during the work. A NYSDOT-approved patching compound shall be used to repair damaged concrete areas.

B. All concrete work shall conform to the ACI "Building Code Requirements for Reinforced Concrete" (ACI 318), latest edition. All concrete shall be normal weight concrete with a minimum ultimate compressive strength of 3000 psi at 28 days. Reinforcing steel shall be deformed bars conforming to ASTM A615 with a minimum tensile strength of 60,000 psi. All adjacent concrete slabs shall be saw cut to a depth not less than the thickness of concrete being cut.

C. All concrete repairs shall be completed to the satisfaction of the Owner/Engineer.

D. Unless otherwise specified, each area must be filled/compacted with certified clean fill to a depth of 6 inches below finished floor (building floor).

E. Damage to adjacent concrete shall be repaired at no additional cost to the Owner. Only a NYSDOT-approved patching compound shall be used to repair damaged concrete areas.

Appendix B

APPENDIX B

WASTE CHARACTERIZATION RESULTS

NYTL New York Testing Laboratories, Incorporated

100 Sweeneydale Avenue, Bay Shore, NY 11706, Phone: (631) 952-7300, Fax: 952-7441

Report To: Trade-Winds Environmental Restoration, Inc.
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR Valley Strea	**Report Date:**	April 6, 2000
Project Location:	Not Given	**NYTL Lab. No.:**	00-101915
Project No.:	Not Given	**Date Sampled:**	04/03/00
Material:	Soil	**Date Received:**	04/04/00
No. Samples:	Two (2)	**Date Analyzed:**	04/05/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	NCDOH Limit (mg/L)	Results (mg/L)
1	00L-3248	2 Hot Boxes	0.1	348
2	00L-3249	Composite	0.1	1400

The above results are reported as an airborne lead concentration based upon air volume information provided by the client. Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the volume of the sample, the final dilution volume and Method Detection Limit (MDL) of 0.5ppm

Disclaimers
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Analyst: _____ Dennis Deegan

Lab Director: _____ William Loch

2 of 3 pages

Client: Trade Winds	Client ID: 4300E Substation (Composite From Drum 1)
Date received: 4/11/00	Laboratory ID: 0012187
Date extracted: 4/13/00	Matrix: Soil
Date analyzed: 4/13/00	ELAP #: 11693

TOTAL MERCURY ANALYSIS

Parameter	MDL	Results mg/kg
MERCURY, Hg	0.020 mg/kg	1,083

Preformed by SW-846 Method 6010

Michael Vendetti

Laboratory Director

LONG ISLAND ANALYTICAL LABORATORIES INC.
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3 of 3 pages

Client: Trade Winds	Client ID: 4300E Substation (Composite From Drum 1)
Date received: 4/11/00	Laboratory ID: 0012187
Date extracted: 4/12/00	Matrix: Soil
Date analyzed: 4/13/00	ELAP #: 11693

TCLP MERCURY ANALYSIS

PARAMETER	REGULATORY LIMIT	RESULTS mg/L
MERCURY, Hg	0.20 PPM	0.38

Method: SW846, 1311 extraction tclp, 7000 series analysis

Michael Venditti

Laboratory Director

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New York Testing Laboratories, Incorporated

100 Sweeneydale Avenue, Bay Shore, New York 11706, Phone: (631) 952-7300, Fax: 952-7441

Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name: Long Island Rail Road
Project Site: Lindenhurst
Project No.: 4322E
Material: Soil/Roll Off
No. Samples: One (1)

Report Date: April 6, 2000
NYTL Lab. No.: 00-102060
Date Sampled: 04/05/00
Date Received: 04/06/00
Date Analyzed: 04/06/00

Submitted For: Characterization Analysis per Methods as Follows

Parameters	Methods	Results	
		Stockpile NYTC # 3560	MDL (mg/kg)
% Moisture	SM-2540G	4.0 %	NA
PH	EPA 9045A	7.3	NA
TPH (mg/kg)	EPA 8015	2500	50
Flash Point / Ignitability	EPA 1010	<10	10
Reactivity (mg/kg)			
Reactivity: CN-	SW846 (7.3.3.2)	<5	5
Reactivity: S-	SW846 (7.3.4.2)	<2	2
TCLP Eleven (11) RCRA Metals (mg/L)			
Lead (Pb)	SW846-7420	450	2.5
Chromium (Cr)	SW846-7420	12.1	1.0
Cadmium (Cd)	SW846-7420	1.6	0.5
Silver (Ag)	SW846-7420	<1	1.0
Barium (Ba)	SW846-7420	95	5.0
Mercury (Hg)	SW846-7471	<0.2	0.01
Arsenic (As)	SW846-7060	3.4	0.01
Selenium (Se)	SW846-7740	0.4	0.02
Copper (Cu)	SW846-7420	55.2	1.0
Nickel (Ni)	SW846-7420	12.0	1.0
Zinc (Zn)	SW846-7420	315	0.5
Total PCB (mg/kg)			
PCB-1016	SW846-8270C	<60	60
PCB-1221	SW846-8270C	<60	60
PCB-1232	SW846-8270C	<60	60
PCB-1242	SW846-8270C	<60	60
PCB-1248	SW846-8270C	<60	60
PCB-1254	SW846-8270C	<60	60
PCB-1260	SW846-8270C	<60	60

Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from sample weight, final dilution volume and method detection limit(MDL).

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Dennis Deegan, Analyst

William Loch, Lab Director

NYTL New York Testing Laboratories, Incorporated
100 Sweeneydale Avenue, Bay Shore, NY 11706, Phone: (631) 952-7300, Fax: 952-7441

Report To: Trade-Winds Environmental Restoration, Inc.
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	April 12, 2000
Project Location:	Lindenhurst Substation	**NYTL Lab. No.:**	00-101951
Project No.:	Not Given	**Date Sampled:**	04/06/00
Material:	One Soil & One water	**Date Received:**	04/06/00
No. Samples:	Two (2)	**Date Analyzed:**	04/07/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	SCDOH Limit	Results
1	00L-3270	Decon Water	2.0 mg/L	<0.002 mg/L
2	00L-3271	Roll Off	2.0 mg/kg	1.67 mg/kg

The above results are reported as an airborne lead concentration based upon air volume information provided by the client. Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the volume of the sample, the final dilution volume and Method Detection Limit (MDL) of 0.5ppm.

Disclaimers.
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Analyst: _____ Dennis Deegan

Lab Director: _____ William Loch

NYTL New York Testing Laboratories, Incorporated
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Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	April 12, 2000
Project Site:	Lindenhurst Substation	**NYTL Lab. No.:**	00-101951
Project No.:	Not Given	**Date Sampled:**	04/06/00
Material:	Composite Roll Off	**Date Received:**	04/06/00
No. Samples:	One Soil & One Liquid	**Date Analyzed:**	04/07/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	SCDOH Limit (mg/L)	Results (mg/L)
1	00L-3270	Decon Water	0.1	<0.002
2	00L-3271	Roll Off	0.1	<0.002

Results preceded by ≈<≈ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL) of 0.5ppm.

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Analyst: Dennis Deegan

Lab Director: William Loch

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Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	April 7, 2000
Project Site:	Far Rockaway	**NYTL Lab. No.:**	00-102264
Project No.:	4338E	**Date Sampled:**	04/08/00
Material:	Soil & Water	**Date Received:**	04/08/00
No. Samples:	One (1) Each	**Date Analyzed:**	04/08/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3806	Soil Composite	0.001	4.24
2	00L-3807	Decon Water	0.001	<0.001

Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Analyst: _____ Dennis Deegan

Lab Director: _____ William Loch

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Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
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Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	April 7, 2000
Project Site:	Far Rockaway	**NYTL Lab. No.:**	00-102263
Project No.:	4338E	**Date Sampled:**	04/07/00
Material:	Soil & Water	**Date Received:**	04/08/00
No. Samples:	One (1) Each	**Date Analyzed:**	04/08/00

Submitted For: Total Mercury (Hg) Analysis per methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3882	Soil Composite	0.001	1737
2	00L-3883	Decon Water	0.001	<0.001

Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Analyst: _____ Dennis Deegan

Lab Director: _____ William Loch

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100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR Floral Parl	**Report Date:**	April 17, 2000
Project Site:	LIRR Floral Park	**NYTL Lab. No.:**	00-102027
Project No.:	Not Given	**Date Sampled:**	04/13/00
Material:	Soil	**Date Received:**	04/14/00
No. Samples:	One (1)	**Date Analyzed:**	04/14/00

Submitted For: TPH Analysis per EPA Method 8015

Sample Number	Sample Description	Results (ppm)
1	Composite Soil	7,200

Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from sample weight, final dilution volume and method detection limit (MDL) of each compound.

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Analyst: James Turecamo

Lab Director: William Loch

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Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR Substation E-13	**Report Date:**	April 14, 2000
Project Site:	LIRR Floral Park	**NYTL Lab. No.:**	00-102013
Project No.:	Not Given	**Date Sampled:**	04/12/00
Material:	Soil	**Date Received:**	04/12/00
No. Samples:	One (1)	**Date Analyzed:**	04/13/00

Submitted For: Total PCB Analysis per GC/MS Method 625

Target Compounds	Results (µg/kg) Transformer Area
PCB-1016	<60
PCB-1221	<60
PCB-1232	<60
PCB-1242	<60
PCB-1248	<60
PCB-1254	<60
PCB-1260	<60

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Analyst: James Turecamo Lab Director: William Loch

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Report to Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR Sub Station E-13	**Report Date:**	April 14, 2000
Project Site:	LIRR Floral Park	**NYTL Lab. No.:**	00-102013
Project No.:	Not Given	**Date Sampled:**	04/12/00
Material:	Soil	**Date Received:**	04/12/00
No. Samples:	One (1)	**Date Analyzed:**	04/13, 04/14/00

Submitted For: TPH Analysis per EPA Method 8015

Sample Number	Sample Description	Results (ppm)
1	Transformer Area	66,000

Results preceded by "<" are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from sample weight, final dilution volume and method detection limit (MDL) of each compound.

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Analyst: James Turecamo Lab Director: William Loch

2 of 3 pages

Client: Trade Winds	Client ID: LIRR Floral Park Substation
Date received: 4/12/00	Laboratory ID: 0012222
Date extracted: 4/13/00	Matrix: Soil
Date analyzed: 4/13/00	ELAP #: 11693

TOTAL MERCURY ANALYSIS

LAB ID #	CLIENT ID	Results mg/kg
0012222	Floral Park G-13	2,088

Preformed by SW-846 Method 6010

Michael Venuti

Laboratory Director

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3 of 3 pages

Client: Trade Winds	Client ID: LIRR Floral Park Substation
Date received: 4/12/00	Laboratory ID: 0012222
Date extracted: 4/12/00	Matrix: Soil
Date analyzed: 4/13/00	ELAP #: 11693

TCLP MERCURY ANALYSIS

LAB ID #	CLIENT ID	RESULTS mg/L
0012222	Floral Park G-13	5.56

Method: SW846, 1311 extraction tclp, 7000 series analysis

Michael Verrelli

Laboratory Director

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Report To: Trade-Winds Environmental Restoration, Inc.
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 3, 2000
Project Location:	Shea Stadium	**NYTL Lab. No.:**	00-102163
Project No.:	4386E	**Date Sampled:**	04/26/00
Material:	Soil	**Date Received:**	04/26/00
No. Samples:	One (1)	**Date Analyzed:**	04/28/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg)	Results (mg/kg)
1	00L-3632	Soil Composite	0.001	1626

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Analyst: _____ Dennis Deegan

Lab Director: _____ William Loch

NYTL New York Testing Laboratories, Incorporated
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Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore. NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 3, 2000
Project Site:	Shea Stadium	**NYTL Lab. No.:**	00-102163
Project No.:	Not Given	**Date Sampled:**	04/26/00
Material:	Soil	**Date Received:**	04/26/00
No. Samples:	One (1)	**Date Analyzed:**	04/28/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3632	Soil composite	0.001	0.09

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

Disclaimers:
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Analyst: Dennis Deegan

Lab Director: William Loch

NYTL New York Testing Laboratories, Incorporated
100 Sweeneydale Avenue, Bay Shore, New York 11706, Phone: (631) 952-7300, Fax: 952-7441

Report To: Trade-Winds Environmental Restoration
100 Sweeneydale Avenue
Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 4, 2000
Project Site:	Bayside Substation	**NYTL Lab. No.:**	00-102192
Project No.:	Not Given	**Date Sampled:**	04/27/00
Material:	Composite Soil & Decon Water	**Date Received:**	04/27/00
No. Samples:	Two (2)	**Date Analyzed:**	04/29/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3651	Decon Water	0.001	<0.001
2	00L-3652	Soil Composite	0.001	0.04

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 4, 2000
Project Location:	Bayside Substation	**NYTL Lab. No.:**	00-102192
Project No.:	Not Given	**Date Sampled:**	04/27/00
Material:	Composite Soil & Decon Water	**Date Received:**	04/27/00
No. Samples:	Two (2)	**Date Analyzed:**	04/29/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg – mg/L)	Results (mg/kg – mg/L)
1	00L-3651	Decon water	0.001	0.008
2	00L-3652	Soil Composite	0.001	268

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 9, 2000
Project Site:	Port Washington Substation	**NYTL Lab. No.:**	00-102219
Project No.:	Not Given	**Date Sampled:**	05/01/00
Material:	Soil & Water	**Date Received:**	05/02/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/03/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3683	Soil Composite	0.001	<0.001
2	00L-3684	Decon Water	0.001	<0.001

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 9, 2000
Project Location:	Port Washington Substation	**NYTL Lab. No.:**	00-102219
Project No.:	Not Given	**Date Sampled:**	05/01/00
Material:	Soil & Water	**Date Received:**	05/02/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/03/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg)	Results (mg/kg)
1	00L-3683	Soil Composite	0.02	52
2	00L-3684	Decon Water	0.001	<0.001

Results preceded by ≈<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 10, 2000
Project Location:	Massapequa Substation	**NYTL Lab. No.:**	00-102249
Project No.:	Not Given	**Date Sampled:**	05/03/00
Material:	Soil & Water	**Date Received:**	05/03/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/05/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg mg/L)	Results (mg/kg mg/L)
1	00L-3814	Soil Composite	0.02	403
2	00L-3815	Decon Water	0.001	0.06

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 10, 2000
Project Site:	Massapequa Substation	**NYTL Lab. No.:**	00-102249
Project No.:	Not Given	**Date Sampled:**	05/03/00
Material:	Soil & Water	**Date Received:**	05/03/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/05/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3814	Soil Composite	0.001	0.12
2	00L-3815	Decon Water	0.001	<0.001

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100 Sweeneydale Avenue
Bay Shore. NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 10, 2000
Project Location:	Hempstead Substation # 3	**NYTL Lab. No.:**	00-102259
Project No.:	Not Given	**Date Sampled:**	05/04/00
Material:	Soil & Water	**Date Received:**	05/04/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/05/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg)	Results (mg/kg)
1	00L-3816	Soil Composite	0.02	3263
2	00L-3817	Decon Water	0.001	0.01

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
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Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 10, 2000
Project Site:	Hempstead Substation # 3	**NYTL Lab. No.:**	00-102259
Project No.:	Not Given	**Date Sampled:**	05/04/00
Material:	Soil & Water	**Date Received:**	05/04/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/05/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3816	Soil Composite	0.001	0.24
2	00L-3817	Decon Water	0.001	<0.001

Results preceded by =<A are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
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Bay Shore, New York 11706

Project Name:	LIRR	**Report Date:**	May 15, 2000
Project Location:	Kew Garndens	**NYTL Lab. No.:**	00-102309
Project No.:	Not Given	**Date Sampled:**	05/09/00
Material:	Soil & Water	**Date Received:**	05/10/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/12/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg mg/L)	Results (mg/kg)
1	00L-3892	Soil Composite	0.01	93
2	00L-3893	Decon Water	0.001	0.012

Results preceded by =<A are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Bay Shore, NY 11706
Attention: Artie Baldwin

Prepared by: New York Testing Laboratories, Inc.
100 Sweeneydale Avenue
Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 15, 2000
Project Site:	Kew Gardens	**NYTL Lab. No.:**	00-102309
Project No.:	Not Given	**Date Sampled:**	05/09/00
Material:	Soil & Water	**Date Received:**	05/10/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/12/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3892	Soil-Composite	0.001	0.01
2	00L-3893	Decon Water	0.001	<0.001

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Attention: Artie Baldwin

Prepared by: New York Testing Laboratories. Inc.
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Bay Shore, New York 11706

PROJECT INFORMATION:

Project Name:	LIRR	**Report Date:**	May 19, 2000
Project Site:	Island Park Substation	**NYTL Lab. No.:**	00-102330
Project No.:	Not Given	**Date Sampled:**	05/11/00
Material:	Soil & Water	**Date Received:**	05/12/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/18/00

Submitted For: TCLP Mercury (Hg) Analysis per methods SW-846 1311 for Preparation and 7470 for Analysis

Sample No.	NYTL ID No.	Sample Descriptions	MDL (mg/L)	Results (mg/L)
1	00L-3972	Decon Water	0.001	<0.001
2	00L-3973	Soil Composite	0.001	0.002

Results preceded by =<,Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Prepared by: New York Testing Laboratories, Inc.
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Project Name:	LIRR	**Report Date:**	May 19, 2000
Project Location:	Island Park Substation	**NYTL Lab. No.:**	00-102330
Project No.:	Not Given	**Date Sampled:**	05/11/00
Material:	Soil & Water	**Date Received:**	05/12/00
No. Samples:	One (1) Each	**Date Analyzed:**	05/18/00

Submitted For: Total Mercury (Hg) Analysis per Methods SW-846 7470 for Preparation and for Analysis

Sample No.	NYTL ID No.	Sample Description	MDL (mg/kg mg/L)	Results (mg/kg)
1	00L-3972	Decon Water	0.001	0.004
2	00L-3973	Soil Composite	0.005	9.6

Results preceded by =<Δ are less than the level of reliable quantitation (LOQ). The value for LOQ is determined from the final dilution volume and Method Detection Limit (MDL).

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Lab Director: _____ William Loch

Appendix C

APPENDIX C

WASTE MANIFESTS

Bureau of Land Recycling and Waste Management
P.O. Box 8550
Harrisburg, PA 17105-8550

EP-LWM/31 REV. 2 97

OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.
OMB No. 2050-0039
Expires 9-30-99

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NYD980641625 — Manifest Document No. 4073

2. Page 1 of 1 — Information within the blue border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address
Long Island Railroad
P.O. Box 187
Jamaica, NY 11435

A. State Manifest Document Number PAE 8140773

B. State Gen. ID Site: Valley Stream SubStation Valley Stream, NY

4. Generator's Phone (718) 558-4526

5. Transporter 1 Company Name: Freehold Cartage, Inc. — 6. US EPA ID Number: NJD054126164

C. State Trans. ID: PA-AH0067

7. Transporter 2 Company Name — 8. US EPA ID Number

D. Transporter's Phone (732) 462-1001

E. State Trans. ID: PA-AH

9. Designated Facility Name and Site Address
Bethlehem Apparatus Company
935 Bethlehem Drive
Bethlehem, PA 18017

10. US EPA ID Number: PAD000453084

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone (610) 822-2611

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	J. Waste No.
a. RQ, Hazardous Waste Solid, N.O.S., 9, NA3077, PG III (Mercury)(D009) ERG# 171	20	CF	30 000	P	D009
b.					
c.					
d.					

GENERATOR

J. Additional Descriptions for Materials Listed Above

	Lab Pack	Physical State		Lab Pack	Physical State
a.		S	c.		
b.			d.		

K. Handling Codes for Wastes Listed Above

a. | c.

b. | d.

15. Special Handling Instructions and Additional Information
24hr Emergency contact: Trade Winds: 631-435-8900
11a) —

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: ACTING AGENT FOR LIRR CHARLES WHITTON — Signature — Month 04 Day 4 Year 00

TRANSPORTER

17. Transporter 1 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month / Day / Year

18. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month / Day / Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: ROBERT SCHLEFIEL — Signature — Month 04 Day 18 Year 00

PAE 8140773

7

PA Form 8700-22 (Rev. 1 88) Previous editions are obsolete

Copy 7 - Transporter Delivering Materials to TSD Facilities Retain This Copy

FREEHOLD CARTAGE INC.

P.O. BOX 5018 • FREEHOLD, NJ 07728-5010
(732) 462-1001 • FAX (732) 308-0954

173 BARTOW MUN. AIRPORT, BARTOW, FL 33830, PHONE (941) 533-4599, FAX (941) 533-1613
188 MONAHAN AVENUE, DUNMORE, PA 18512, PHONE (570) 346-7232, FAX (570) 342-7347
350 PIGEON POINT ROAD, NEW CASTLE, DE 19720, PHONE (302) 658-2005, FAX (302) 658-6229
156 DRIFTWOOD DRIVE, EUTAWVILLE, SC 29048, PHONE/FAX (803) 492-8585

43226 LIR319

MANIFEST

FCI EPA ID NO.: NJD054126164

K 27046

GENERATOR NAME/ADDRESS	PHONE (AREA CODE)	GENERATOR EPA ID NO.
L.I.R.R. Broome St. Lindenhurst LI. N.Y.	TRACTOR: 625 / TRAILER:	APPOINTMENT TIME:
FCI REP. LOADING (PRINT): Bill	PROCEDURE: Remove	BOX SPOTTED: / BOX REMOVED: 9771
TIME AT GENERATOR (MILITARY TIME ONLY): 09:00 ARRIVAL TIME / 09:40 DEPARTURE TIME		
COMMENTS OR DELAYS AT GENERATOR	EQUIPMENT USED	

BROKER:

PO#: WO#:

STATE MANIFEST NO.: N/A

NO.		PROPER U.S. D.O.T. SHIPPING NAME	U.S. D.O.T. HAZARDOUS CLASS	NA/UN NO.	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	WASTE NO	FORM
	1	Non Haz. Non Reg. Soil	—	—	—	01	CM	15	Y	—	S
	2										
	3										

APPROVAL # 200085

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (I.E., IDENTIFICATION SHIPMENT OF A NON-HAZARDOUS NATURE WHICH DOES NOT HAVE TO BE MANIFESTED)

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

Payment to the contractor for waste removal does not constitute payment to the carrier and if the contractor does not pay the carrier, the generator is obligated to pay the agreed / fee offered to the contractor.

PLEASE PRINT NAME/TITLE	GENERATOR'S SIGNATURE	DATE LOADED
John DOLL	X [signature] I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF ITS CONTENT.	5/17/00 MO. DAY YR.

TSDF NAME/ADDRESS	PHONE (AREA CODE)	TSDF EPA ID NO.
CBC Carteret, N.J.	TRACTOR: 625 / TRAILER:	APPOINTMENT TIME:
FCI REP. UNLOADING (PRINT): Bill	PROCEDURE: AUT	BOX SPOTTED: / BOX REMOVED:
TIME AT TSDF (MILITARY TIME ONLY): 11:58 ARRIVAL TIME / DEPARTURE TIME		
COMMENTS OR DELAYS AT TSDF	EQUIPMENT USED	

PLEASE PRINT NAME/TITLE	TSDF SIGNATURE	DATE
Carteret Biocycle Gen.	X [signature]	5/17/00

AR H-0257, PC 044
CT CT-HW-007
DE DE-HW-003, DE-SW-003
IL SWH-1540
ME ME-HWT-47, ME-WOT-47
MD HWH-167, 96-OP-1786
MA MA-294
MN 61372
MO H-1490
ND WH-429
NH TN4-0047
NJ 5-2265, 15639
NY NJ-113
NOVA SCOTIA, CANADA NSC 000 147
OH UPW-0190713-OH
OK 3358
ONTARIO, CANADA A 940843
PA PA-AH-0057
QUEBEC, CANADA QC-6ML-047
RI RI-535
TX 40705
WI 11602

White - FCI Original
Yellow - FCI Billing
Blue - FCI Office/Customer
Green - Retained by TSDF
Gold - Retained by Generator

K 27046

Carteret Biocycle Corporation

8541

24 Middlesex Avenue • Carteret, NJ 07008
(732) 541-8909

GENERATOR: L.I.R.R. Lindenhurst L.I

APPROVAL #: 200185

TRANSPORTER: FCI

TRUCK #: 625

MANIFEST #: 01

DATE: 5-17-00

46650lb gross
GROSS WEIGHT

28200lb gross
TARE WEIGHT

SIGNATURE AND INFORMATION MUST BE LEGIBLE ON ALL COPIES

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF SOLID AND HAZARDOUS WASTE MANAGEMENT
P.O. Box 7035
Indianapolis, IN 46207-7035

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.) Form Approved: OMB No. 2050-0039. Expires 9-30-99

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID Number: N·Y·D·9·8·0·6·4·1·6·2·5
Manifest Document No.: 8·4·0·6·3
2. Page 1 of 1
Information in the shaded areas is not required by Federal Law, but Items D, F, H, I and K are required by State Law.

3. Generator's Name and Mailing Address:
Long Island Railroad
PO Box 187
Jamaica, NY 11439

A. State Manifest Document Number: INA1384063

4. Generator's Telephone Number: (718) 558-4524

B. State Generator's ID: Far Rockaway Substation

5. Transporter 1 Company Name: Trade Winds
6. U.S. EPA ID Number: N·Y·R·0·0·0·0·6·5·1·6·9
C. State Transporter's ID: XTW682NY
D. Transporter's Phone: (631) 435-8900

7. Transporter 2 Company Name: Freehold Cartage Inc.
8. U.S. EPA ID Number: N·J·D·0·5·4·1·2·6·1·6·4
E. State Transporter's ID: 0410CLME
F. Transporter's Phone: (732) 462-1001

9. Designated Facility Name and Site Address:
Pollution Control Industries of Indiana, Inc.
4343 Kennedy Avenue
East Chicago, IN 46312
10. U.S. EPA ID Number: I·N·D·0·0·0·6·4·6·9·4·3
G. State Facility's ID:
H. Facility's Phone: (219)397-3951

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol.	Waste No.
a. RQ, Hazardous Waste Solids, N.O.S., 9,NA3077, PGIII(D009)(Mercury) ERG#171	01	DM	075.00	P	D009
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above: 11a) 169913 NJ
K. Handling Codes for Wastes Listed Above: 501

15. Special Handling Instructions and Additional Information: 24 hour emergency Contact IRT 516-816-4765
Decal-08079 N-Y-NT-113

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed /Typed Name	Signature	Date (Month / Day / Year)
On Behalf of Metro Express		06 23 00

TRANSPORTER

17. Transporter 1 - Acknowledgement of Receipt of Materials

Printed /Typed Name	Signature	Date (Month / Day / Year)
Geo R Rose		06 23 00

18. Transporter 2 - Acknowledgement of Receipt of Materials

Printed /Typed Name	Signature	Date (Month / Day / Year)
Kate Wenick	K. Wenick	06 28 00

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest (except as noted in Item 19).

Printed /Typed Name	Signature	Date (Month / Day / Year)
Todd Weaver	Todd Weaver	07 3 00

In case of a spill, call the Indiana Office of Environmental Response at 317/233-7745 (after hours) and the National Response Center at 800 / 424-8802 or 202 / 426-2675.

INA 1384063

EPA Form 8700-22 Previous editions are obsolete
State Form 45273 (R2/8-98)

COPY 7. TRANSPORTER 1 COPY

JUN 05 2001 WED 04:26 PM

3. Generator's Name and Mailing Address: Long Island Railroad
PO Box 167
Jamaica, NY 11435

4. Generator's Phone: (718) 558-4526

A. State Manifest Document Number: PAE 9140784

B. State Gen. ID: Floral Park Yard

5. Transporter 1 Company Name: Freehold Cartage, Inc.

6. US EPA ID Number: N J D 0 5 4 1 2 6 1 6 4

C. State Trans. ID: PA-AH 0067

7. Transporter 2 Company Name:

8. US EPA ID Number:

D. Transporter's Phone: (732) 462-1001

E. State Trans. ID: PA-AH

9. Designated Facility Name and Site Address: Bethlehem Apparatus
1890 Front Street
Hellertown, PA 18055

10. US EPA ID Number: P A D 0 0 2 3 9 0 9 6 1

F. Transporter's Phone: ( )

G. State Facility's ID:

H. Facility's Phone: (610) 838-7034

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Hazardous Waste Solids, N.O.S., 9, NA3077, PG III (Mercury)(D009) ERG# 171	0 0 1	C F	0 0 0 018	Y	D009
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

	Lab Pack	Physical State		Lab Pack	Physical State
a.		S	c.		
b.			d.		

K. Handling Codes for Wastes Listed Above: a. NY= B S01 c.

b. d.

15. Special Handling Instructions and Additional Information: 24 hour emergency contact: Trade Winds 631-435-8900

11a) Shipment # T1958-2

DECAL # 087102
PLATE # 040337

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Geo. Sottile		04	25	00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
FRANCIS J PINKOWSKI		04	25	00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
GENE KLIK		04	26	00

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Todd Rizzuto	Todd Rizzuto	04	26	00

Form 8700-22 (Rev. 9/88) Previous editions are obsolete

Copy 7 - Transporter Delivering Materials to TSD Facilities Retain This Copy

7

GENERATOR

PAE 9140784

EP-LR/M51 REV 3 97

P.O. Box 8550
Harrisburg, PA 17105-8550
OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.
OMB No. 2050-0039
Expires 9-30-99

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N Y D 9 8 0 6 4 1 6 2 5 | Manifest Document No. 4 1 1 8 2

2. Page 1 of 1 | Information within the blue border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address
Long Island Railroad
PO Box 187
Jamaica, NY 11435

4. Generator's Phone (718) 558-4526

A. State Manifest Document Number PAE 9141182

B. State Gen. ID Floral Park Substation

5. Transporter 1 Company Name: Freehold Cartage, Inc. | 6. US EPA ID Number: N J D 0 5 4 1 1 2 6 1 6 4

C. State Trans. ID PA-AH 0067

7. Transporter 2 Company Name: [illegible] | 8. US EPA ID Number: [illegible]

D. Transporter's Phone (732) 462-1001

E. State Trans. ID PA-AH 0067

9. Designated Facility Name and Site Address
Bethlehem Apparatus
1890 Front Street
Hellertown, PA 18055

10. US EPA ID Number: P A D 0 0 2 3 9 0 9 6 1

F. Transporter's Phone ( ) [illegible]

G. State Facility's ID

H. Facility's Phone (610) 838-7034

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Hazardous Waste Solids, N.O.S., 9, NA3077, PG III (Mercury)(D009) ERG# 171	0001	CF	000018	Y	D009
b.					
c.					
d.					

J. Additional Descriptors for Materials Listed Above

	Lab Pack	Physical State		Lab Pack	Physical State
a.		S	c.		
b.			d.		

K. Handling Codes for Wastes Listed Above

a.	NY=B S01	c.	
b.		d.	

15. Special Handling Instructions and Additional Information 24 hour emergency response Trade Winds 631-435-8900
11a) Shipcent # T1958-3

16. GENERATORS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed Typed Name	Signature	MONTH	DAY	YEAR
Greg Sotiro	[signature]	04	15	

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Typed Name	Signature	MONTH	DAY	YEAR
[illegible]	[signature]	04	15	

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Typed Name	Signature	MONTH	DAY	YEAR
[illegible]	[signature]	04	17	

TRANSPORTER

19. Discrepancy Indication Space

FACILITY

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed Typed Name	Signature	MONTH	DAY	YEAR
Todd Pilcauts	[signature]	04	20	

EPA Form 8700-22 (Rev. 9 88 Previous editions are obsolete)

7

Copy 7 - Transporter Delivering Materials to TSD Facilities Retain This Copy

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NYD980641625 | Manifest No.: 40784

2. Page 1 of 1 | Information within the solid line border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address: Long Island Railroad, PO Box 187, Jamaica, NY 11435

4. Generator's Phone: (718) 558-4526

A. State Manifest Document Number: PAG 215820

B. State Gen. ID: Shea Substation

5. Transporter 1 Company Name: Freehold Cartage, INC. | 6. US EPA ID Number: NJD054126164

C. State Trans. ID: PA-AH 0067

7. Transporter 2 Company Name | 8. US EPA ID Number

D. Transporter's Phone: 732) 462-1001

E. State Trans. ID: PA-AH 0067

9. Designated Facility Name and Site Address: Bethlehem Apparatus, 1890 Front Street, Hellertown, PA 10855 | 10. US EPA ID Number: PAD002390961

F. Transporter's Phone: ( )

G. State Facility's ID

H. Facility's Phone: 610) 838-7034

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	RQ, Hazardous Waste Solids, N.O.S., 9, NA3077, PG III (Mercury)(D009) ERG#171	019	CF	0 0 0 019	Y	D009
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: a. NY= B SO1 | b. | c. | d.

15. Special Handling Instructions and Additional Information: 24 hour emergency contact: Trade Winds 631-435-8900

11a) Shipment # T1958-04

TRAFFIC DEPARTMENT # A-7731

0454817 metal Plate NJDEP-2216-089679

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

	Printed/Typed Name	Signature	Month	Day	Year
16. International Shipments	Michael Mazur (Acting Agent for LIRR)		5	24	00
17. Transporter Acknowledgment of Receipt of Materials	Robert C. Buccola		05	24	00
Transporter 2 Acknowledgment of Receipt of Materials	Byron Van Note		05	25	00

18. Discrepancy Indication Space

19. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 18.

Printed/Typed Name	Signature	Month	Day	Year
Duane Bano		05	25	00

PAG 215820

PA Form 8700-22 (Rev. 1/98) Previous editions are obsolete

COPY 1 - TSD: MAIL TO PA DEP

1

GENERATOR

TRANSPORTER

In case of an emergency or spill immediately call the National Response Center (800) 424-8802 and the PA DEP (717) 787-4343

Harrisburg, PA 17105-8550
OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

OFFICIAL PENNSYLVANIA MANIFEST FORM

1. Generator's US EPA ID No. NYD980641625	Manifest Document No. 40784
2. Page 1 of 1	Information within the bold red border is not required by Federal law but may be required by State law.
3. Generator's Name and Mailing Address: Long Island Railroad, PO Box 187, Jamaica, NY 11435	A. State Manifest Document Number: PAG 215819
4. Generator's Phone: (718) 558-4526	B. State Gen. ID: BAYSIDE Substation
5. Transporter 1 Company Name: Freehold Cartage, Inc.	6. US EPA ID Number: NJD054126164
	C. State Trans. ID: PA-AH 0067
7. Transporter 2 Company Name	8. US EPA ID Number
	D. Transporter's Phone: (732) 462-1001
9. Designated Facility Name and Site Address: Bethlehem Apparatus, 1890 Front Street, Hellertown, PA 18055	10. US EPA ID Number: PAD002390961
	E. State Trans. ID: PA-AH
	F. Transporter's Phone: ( )
	G. State Facility's ID
	H. Facility's Phone: (610) 838-7034

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Hazardous Waste Solids, N.O.S., 9, NA3077, PG III (Mercury) (D009) ERG# 171	5	CF	0 0 5	Y	D009
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: a. NY= B S01 b. c. d.

15. Special Handling Instructions and Additional Information: 24 hour emergency contact: Trade Winds 631-435-8900
11a) Shipment # T1958-4
Traffic Department # A-7731
045810 DOE Lic. Plate: NJDEP-2265-089679

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
On Behalf of Arthur Baldwin		05	26	00

17. Transportation: Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Robert C. Bascombe		05	26	00

Printed/Typed Name	Signature	Month	Day	Year
Bryan VanNote	Bryan VanNote	05	30	00

18. Discrepancy Indication Space

19. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 18.

Printed/Typed Name	Signature	Month	Day	Year
Todd Rizzuto	Todd Rizzuto	05	30	00

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

COPY 1 - TSD: MAIL TO PA DEP

1

In case of accident, emergency or spill immediately call the National Response Center (800) 424-8802 and PEMA (717) 787-4343

526-30
526-31 526-32

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: N/A

Manifest Document No.: 052400

2. Page 1 of 1

3. Generator's Name and Mailing Address:
Long Island Railroad
PO Box 187
Jamaica, NY 11435

4. Generator's Phone: (718) 558-4526

Site:
Port Washington Substation

5. Transporter 1 Company Name: Freehold Cartage, Inc.

6. US EPA ID Number: NJD054126164

A. State Transporter's ID: 052-2127

B. Transporter 1 Phone: 732-462-1001

7. Transporter 2 Company Name:

8. US EPA ID Number:

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address:
Republic Environmental Suystems, Inc.
33 Industry Drive
Bedford, OH 44146

10. US EPA ID Number: OHD055522429

E. State Facility's ID:

F. Facility's Phone: 440-786-7800

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vo
a. Mercury decon water Non-DOT Regulated Material	4	D M	800	G
b. Mercury PPE Non-DOT Regulated Material	4	D M	700	G
c. Mercury Spill Clean-up Non-DOT Regulated Material	15	Boxes	22,500	P
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above
11a) OD25506
11b)
11c)

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

NON-HAZARDOUS WASTE

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: [illegible] Signature: [illegible] Date: Month 5 Day 25

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Thos R Coleman Jr Signature: Thos R Coleman Date: Month 05 Day 25

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Date: Month Day

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: [illegible] Signature: [illegible] Date: Month 05 Day 26

F14 Printed by Labelmaster, An American Labelmark Co., Chicago, IL 60648 (800) 621-5808

P.O. Box 8550
Harrisburg, PA 17105-8550

OFFICIAL PENNSYLVANIA MANIFEST FORM

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NYD980641625
Manifest Document No.: 40784
2. Page 1 of 1

A. State Manifest Document Number: PAG 215818
B. State Gen. ID: Passaqua sub station

3. Generator's Name and Mailing Address: Long Island Railroad, PO Box 187, Jamaica, NY 11435
4. Generator's Phone: (718) 558-4526

5. Transporter 1 Company Name: Freehold Cartage, Inc.
6. US EPA ID Number: NJD054126164
C. State Trans. ID: PA-AH 0067
D. Transporter's Phone: (732) 462-1001

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Trans. ID: PA-AH
F. Transporter's Phone: ( )

9. Designated Facility Name and Site Address: Bethlehem Apparatus, 1890 Front Street, Hellertown, PA 18055
10. US EPA ID Number: PAD002390961
G. State Facility's ID:
H. Facility's Phone: (610) 838-7034

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Hazardous Waste Solids, N.O.S., 9, NA3077, PG III (Mercury)(D009) ERG# 171	2/1	CF	310 4 11	Y	D009
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: NY=B; a. S01

15. Special Handling Instructions and Additional Information: 24 hour emergency contact: Trage Winds 631-435-8900
11a)

0454817 mr. Lie Phan, NJDEP-2265-889679

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
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Printed/Typed Name: on Behalf of Arthur Baldwin | Signature: [signature] | Month Day Year: 05 26 00

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Robert C. Burcagha | Signature: [signature] | Month Day Year: 05 26 00

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Bryan Van Natc | Signature: [signature] | Month Day Year: 05 30 00

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Todd Rizzuto | Signature: [signature] | Month Day Year: 05 30 00

612-3

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: N/A

Manifest Document No.: 30613

2. Page 1 of

3. Generator's Name and Mailing Address: Long Island Railroad
PO Box 187
Jamaica, NY 11435

Site: Hempstead

4. Generator's Phone (718) 558-4526

5. Transporter 1 Company Name: Trade Winds Envir. Restor.

6. US EPA ID Number: NYR000065169

A. State Transporter's ID

B. Transporter 1 Phone: 631 435-8900

7. Transporter 2 Company Name: Freehold Cartage, Inc.

8. US EPA ID Number: NJD054126164

C. State Transporter's ID: 04210 ME

D. Transporter 2 Phone: 732 462-1001

9. Designated Facility Name and Site Address:
Republic Environmental Systems
33 Industry Drive
Bedford, OH 44146

10. US EPA ID Number: OHD055522429

E. State Facility's ID

F. Facility's Phone: 440 786-7800

	11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a.	Mercury decon water Non-DOT Regulated Material N/A	N/A	N/A DM	N/A	N/A
b.	Mercury PPE & Soil Non-DOT Regulated Material	12	DM	18,000	
c.					
d.					

G. Additional Descriptions for Materials Listed Above
11a) N/A
11b) ND #6034
JOB# 4454E 319

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

GENERATOR

Printed/Typed Name: ON Behalf of ARthur Baldwin
Signature:
Date: Month 06 Day 06 Yr 0

17. Transporter 1 Acknowledgement of Receipt of Materials

TRANSPORTER

Printed/Typed Name: Geo R Rose II
Signature:
Date: Month 6 Day 7 Yr 0

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Mark Gavin
Signature:
Date: Month 06 Day 08 Yr 0

19. Discrepancy Indication Space

FACILITY

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: [illegible]
Signature:
Date: Month 06 Day [illegible] Yr

F14 Printed by Labelmaster, An American Labelmark Co., Chicago, IL 60646 (800) 621-5808

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Rev

617-25

NON-HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: N/A

Manifest Document No.: 052600

2. Page 1 of

3. Generator's Name and Mailing Address: Long Island Railroad, PO Box 187, Jamaica, NY 11435

4. Generator's Phone: (718) 558-4526

Site: Kew Gardens Substatio

5. Transporter 1 Company Name: Freehold Cartage, Inc.

6. US EPA ID Number: NJD054126164

A. State Transporter's ID: 0480588

B. Transporter 1 Phone: 732-462-1001

7. Transporter 2 Company Name: TRADE WINDS ENVIRO.

8. US EPA ID Number: NYR000065769

C. State Transporter's ID: XR4682

D. Transporter 2 Phone: 631-435-89

9. Designated Facility Name and Site Address: Republic Environmental Systems, Inc., 33 Industry Drive, Bedford, OH 44146

10. US EPA ID Number: OHD055522429

E. State Facility's ID:

F. Facility's Phone: 440-786-7800

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14 Unit Wt./Vol.
a. Mercury decon water, Non-DOT Regulated Material	01	D M	0055	G
b. Mercury PPE, Non-DOT Regulated Material	01	D M	0055	G
c. Mercury Spill Clean-up, Non-DOT Regulated Material	12	CF ~~D M~~	24,000	P
d.				

G. Additional Descriptions for Materials Listed Above

11a) 002500

11b) NO25920

11c) NO25896

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

NY=NJ13 Dec. 00822

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Arthur P. Baldwin on Behalf of LIRR — Signature — Date: Month 06 Day 01

17. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: ROBERT C. BUSCAGLIA — Signature — Date: Month 06 Day 01

18. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: LARRY A VETTER — Signature — Date: Month 06 Day 01

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Brian E Williams — Signature — Date: Month 06 Day

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N/A

Manifest Document No. 30612

2. Page 1 of

3. Generator's Name and Mailing Address: Long Island Railroad, PO Box 187, Jamaica, NY 11435

Site: Island Park

4. Generator's Phone (718) 558-4526

5. Transporter 1 Company Name: Trade Winds Envir. Restor.

6. US EPA ID Number: NYR000065169

A. State Transporter's ID

B. Transporter 1 Phone: 631 435-8900

7. Transporter 2 Company Name: Freehold Cartage, Inc.

8. US EPA ID Number: NJD054126164

C. State Transporter's ID: 04 28210 ME

D. Transporter 2 Phone: 732 462-1001

9. Designated Facility Name and Site Address: Republic Environmental Systems, 33 Industry Drive, Bedford, OH 44146

10. US EPA ID Number: OHD055522429

E. State Facility's ID

F. Facility's Phone: 440 786-7800

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. ~~Mercury decon water Non-DOT Regulated Material~~ N/A	N/A	N/A ~~DM~~	N/A	N/A
b. Mercury PPE & Soil Non-DOT Regulated Material	5	DM	7500	[illegible]
c.				
d.				

G. Additional Descriptions for Materials Listed Above

11a) N/A

11b) ~~D~~D 26024

319

JOB # 4476E

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: ON BeHALF OF ARTHUR Baldwin — Signature: [signature] — Date Month/Day/Year: 06 06 0[illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Geo R Roe II — Signature: [signature] — Date Month/Day/Year: 6 7 [illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: MARK GALVID — Signature: [signature] — Date Month/Day/Year: 06 08 [illegible]

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: David Brown in Behalf of RES — Signature: [signature] — Date Month/Day: 6 21

GENERATOR / TRANSPORTER / FACILITY

NON-HAZARDOUS WASTE