

# TASK 210: SUBSURFACE SITE INVESTIGATION

Volume 1

## **New Britain-Hartford Busway Inactive Line New Britain & Newington, Connecticut**

ConnDOT Assignment No. 202-3153  
ConnDOT Project No. 88-H034

Prepared for:



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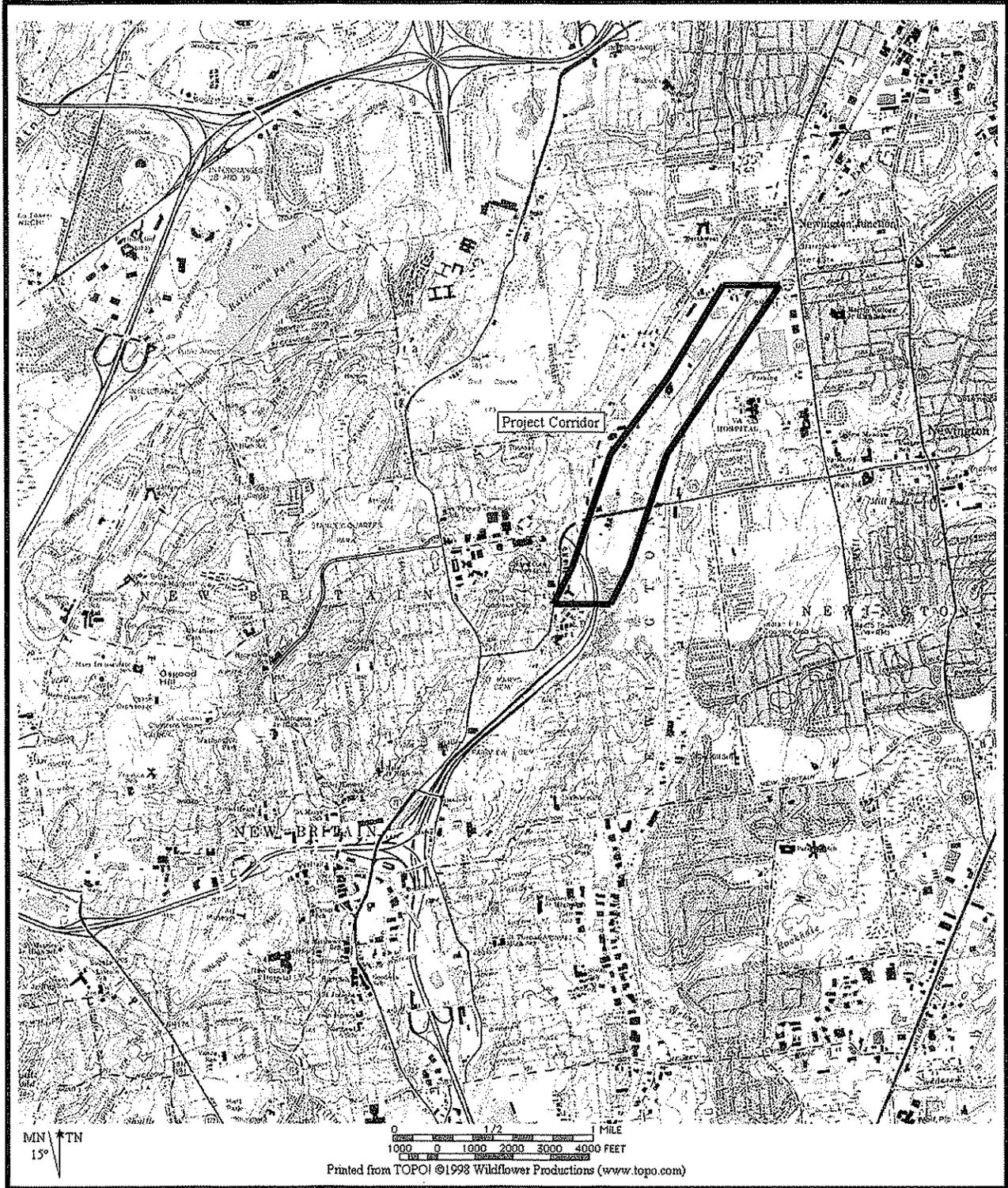
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## 1.0 INTRODUCTION

On behalf of the Connecticut Department of Transportation (ConnDOT), Maguire Group Inc. has conducted a Task 210 - Subsurface Site Investigation in association with the construction of the New Britain to Hartford Busway in New Britain and Newington, Connecticut (State Project No. 88-H034). The project will involve the construction of a dedicated roadway for transit buses and up to eleven (11) bus stations in the municipalities of New Britain, Newington, West Hartford, and Hartford. The proposed busway corridor will be constructed along an abandoned rail line in the southern portion of the project area, and adjacent to an active Amtrak railway in the northern portion of the project area. The corridor of land encompassed by this Task 210 – Subsurface Investigation is the inactive rail line beginning in the vicinity of 1285 East Street in New Britain and following the abandoned rail line northeast into Newington for a total length of approximately 9,500 feet (1.8 miles).

Based upon a review of the preliminary construction plans, it is anticipated that the project will involve rights-of-way taking, cut and fill activities, drainage structure improvements, and utility realignments. This Task 210 - Subsurface Site Investigation was conducted in areas of anticipated construction and/or right-of-way activities along the inactive rail corridor. Figure 1 depicts the project area.

The purpose of the Task 210 - Subsurface Site Investigation was to verify the absence or presence and location of subsurface contamination, and to assess the potential pollutant impacts to be encountered during construction. It is anticipated that Task 310 Plans and Specifications will subsequently be prepared to assess construction related activities (i.e. proper storage, classification, transport and disposal of contaminated materials), in relationship to the environmental conditions prevalent within the project limits, as well as to specify remedial work to be included in the Contract Bid Documents.



**FIGURE 1 - SITE LOCATION PLAN**  
**New Britain to Hartford Busway Inactive Line**  
**New Britain & Newington, Connecticut**

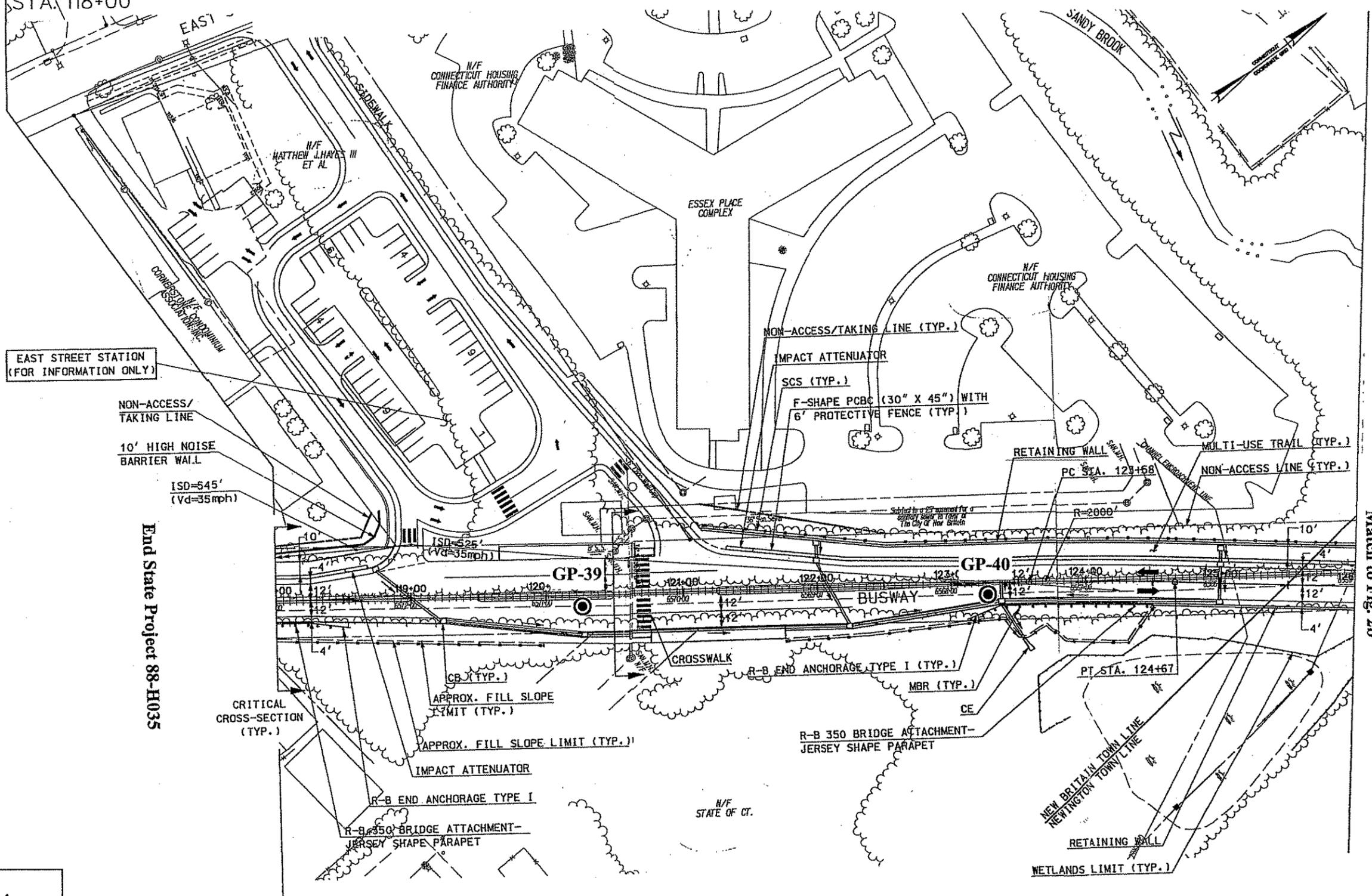
## 2.0 SITE DESCRIPTION

ConnDOT is proposing to construct a dedicated transit bus roadway between the cities of New Britain and Hartford, Connecticut. The 9.4-mile busway project will consist of the construction of a dedicated roadway for transit buses and up to eleven (11) bus stations in the municipalities of New Britain, Newington, West Hartford, and Hartford. The proposed busway corridor will be constructed along an abandoned rail line in the southern portion of the project area, and adjacent to an active Amtrak railway in the northern portion of the project area. The proposed busway stations will be studied under separate Task 220 – Exploratory Site Investigations.

The Task 210 - Subsurface Site Investigation was conducted in New Britain and Newington, Connecticut in areas of anticipated construction and/or right-of-way activities for the proposed busway along the 9,500 foot (1.8 mile) section of abandoned rail line. The project limits for this Task 210 begin in the vicinity of 1285 East Street in New Britain, proceeding northeast along the abandoned rail line, and ending in the vicinity of 91 Holmes Road in Newington. The two busway stations proposed for this portion of the project corridor will be located at 1285 East Street in New Britain and on a vacant parcel on Fenn Road in Newington. These sites will be investigated under separate Task 220 – Exploratory Site Investigations.

The abandoned rail corridor property is owned by the State of Connecticut, and properties adjacent to the abandoned rail line corridor consist of industrial, commercial, residential, and undeveloped land. Maguire Group Inc. completed a Task 110 – Corridor Land Use Evaluation for the project corridor dated February 28, 2006. The site area is depicted in Figures 2a through 2i - Task 210 Project Area & Sampling Locations.

BEGIN CONTRACT NO. 88-H034  
END CONTRACT NO. 88-H035  
STA. 118+00



EAST STREET STATION  
(FOR INFORMATION ONLY)

NON-ACCESS/  
TAKING LINE  
10' HIGH NOISE  
BARRIER WALL

ISD=545'  
(Vd=35mph)

End State Project 88-H035

ISD=525'  
(Vd=35mph)

GP-39

GP-40

BUSWAY

CROSSWALK

CB (TYP.)

APPROX. FILL SLOPE  
LIMIT (TYP.)

APPROX. FILL SLOPE LIMIT (TYP.)

IMPACT ATTENUATOR

R-B END ANCHORAGE TYPE I

R-B 350' BRIDGE ATTACHMENT-  
JERSEY SHAPE PARAPET

NON-ACCESS/TAKING LINE (TYP.)  
IMPACT ATTENUATOR  
SCS (TYP.)  
F-SHAPE PCBC (30" X 45") WITH  
6' PROTECTIVE FENCE (TYP.)

RETAINING WALL

PC STA. 123+68

MULTI-USE TRAIL (TYP.)  
NON-ACCESS LINE (TYP.)

PT. STA. 124+67

R-B 350' BRIDGE ATTACHMENT-  
JERSEY SHAPE PARAPET

N/F  
STATE OF CT.

RETAINING WALL

WETLANDS LIMIT (TYP.)

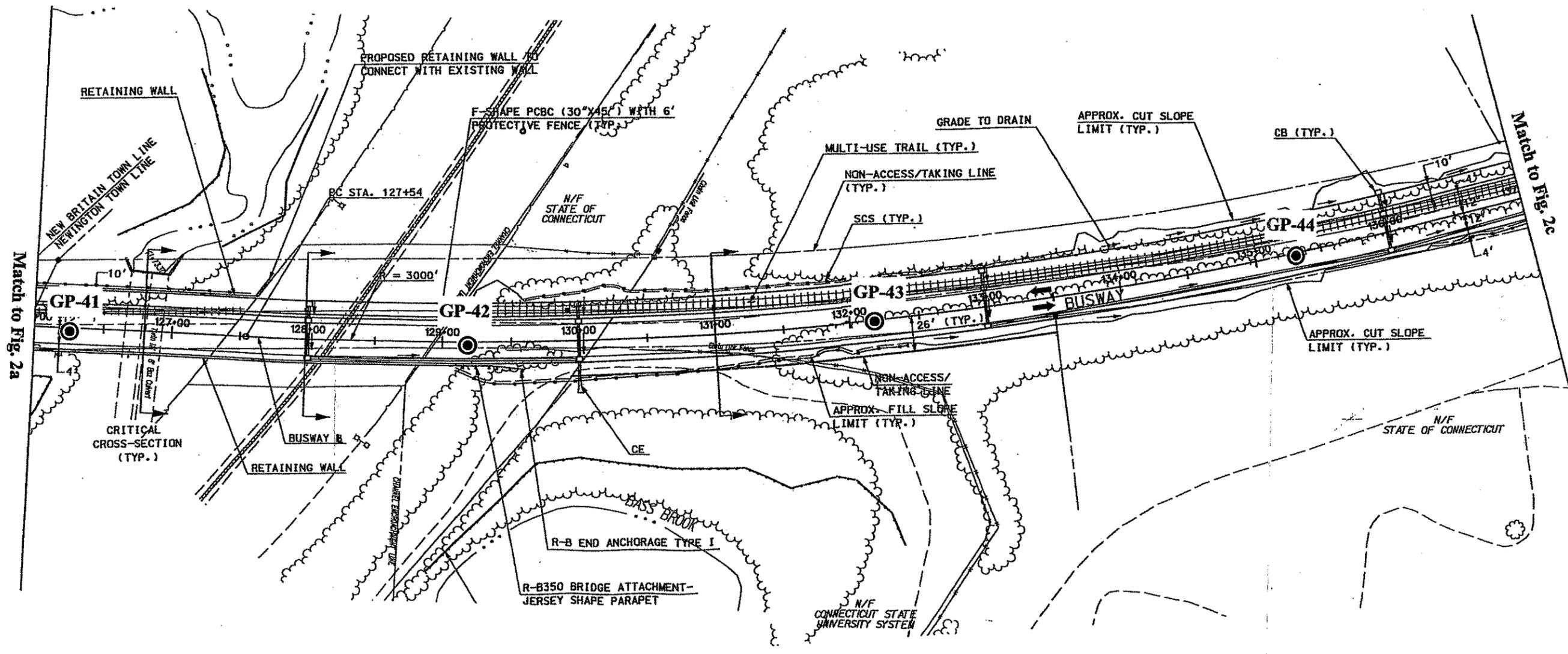
Match to Fig. 2b

### LEGEND

⊙ GP = Geoprobe Boring

Scale: 1" = 80'

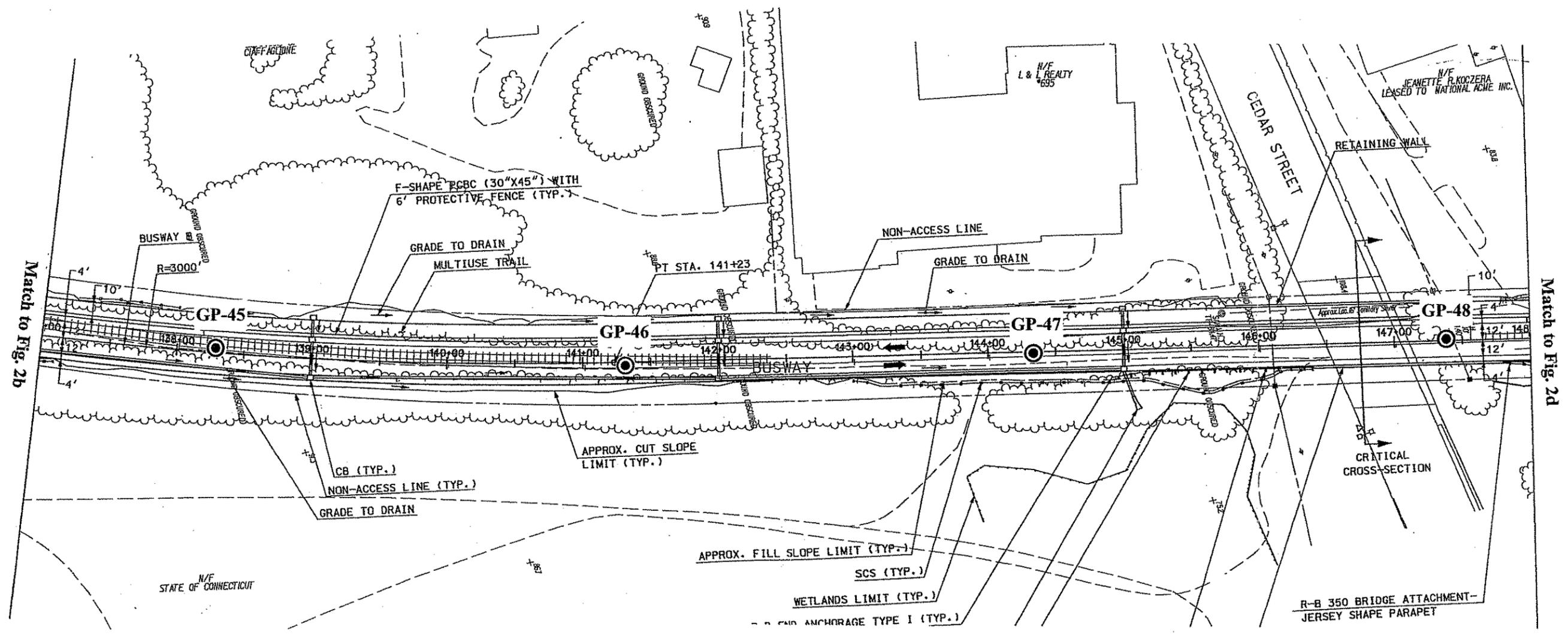
Figure 2a - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut



**LEGEND**

● GP = Geoprobe Boring  
 Scale: 1" = 80'

Figure 2b - Task 210 Project Area & Sampling Locations  
 New Britain to Hartford Busway Inactive Line  
 New Britain & Newington, Connecticut



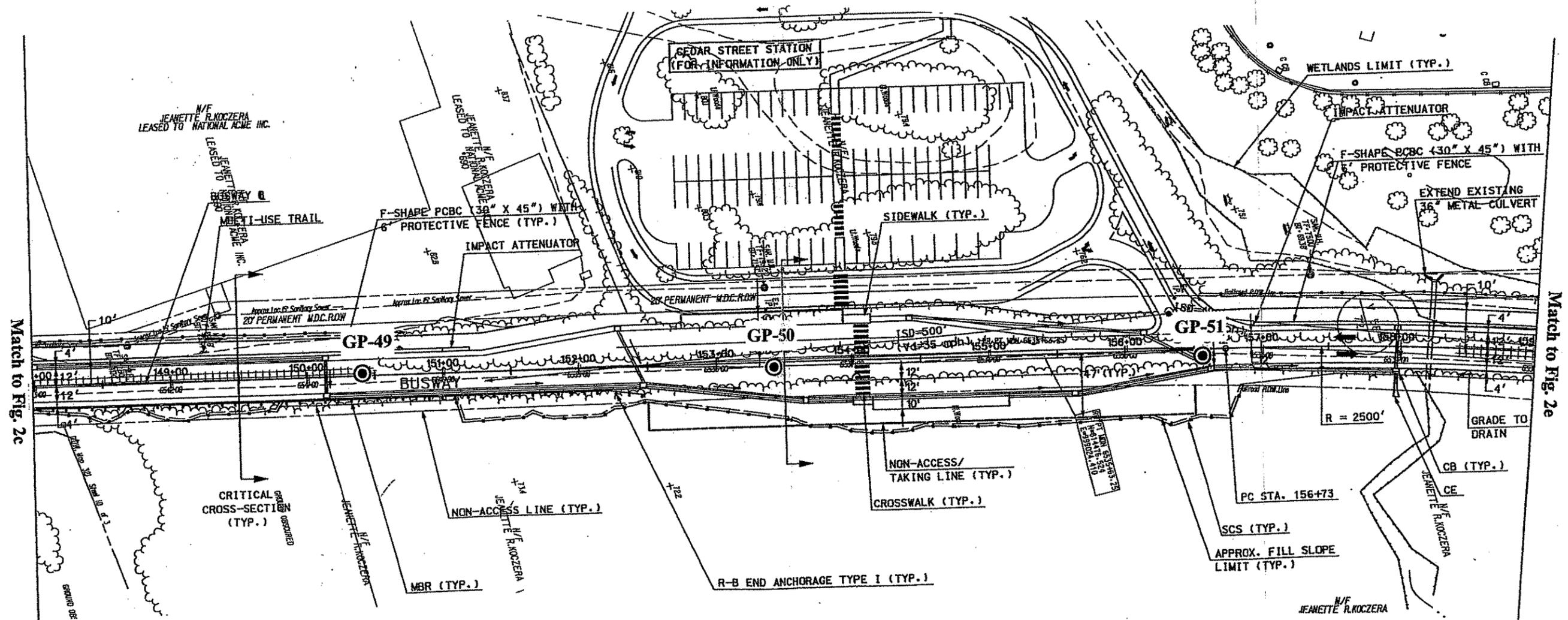
Match to Fig. 2b

Match to Fig. 2d

### LEGEND

- ⊙ GP = Geoprobe Boring
- Scale: 1" = 80'

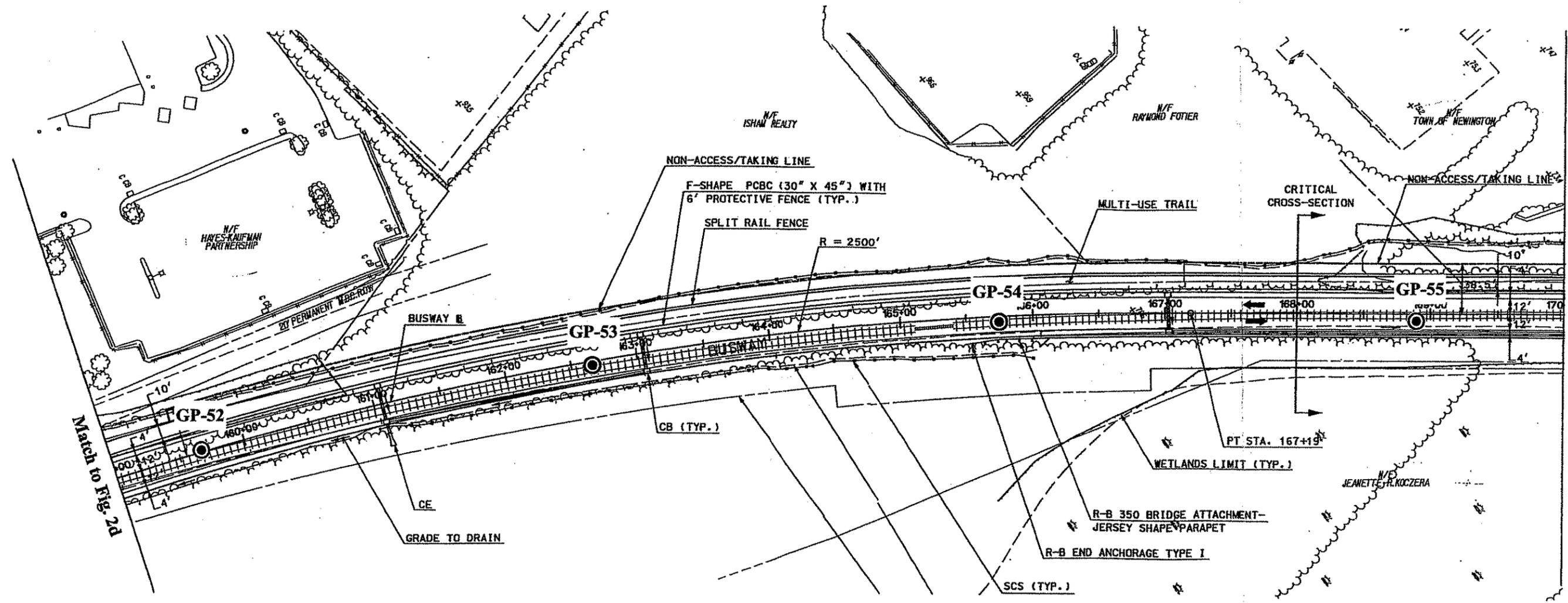
Figure 2c - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut



**LEGEND**

- GP = Geoprobe Boring
- Scale: 1" = 80'

Figure 2d - Task 210 Project Area & Sampling Locations  
 New Britain to Hartford Busway Inactive Line  
 New Britain & Newington, Connecticut



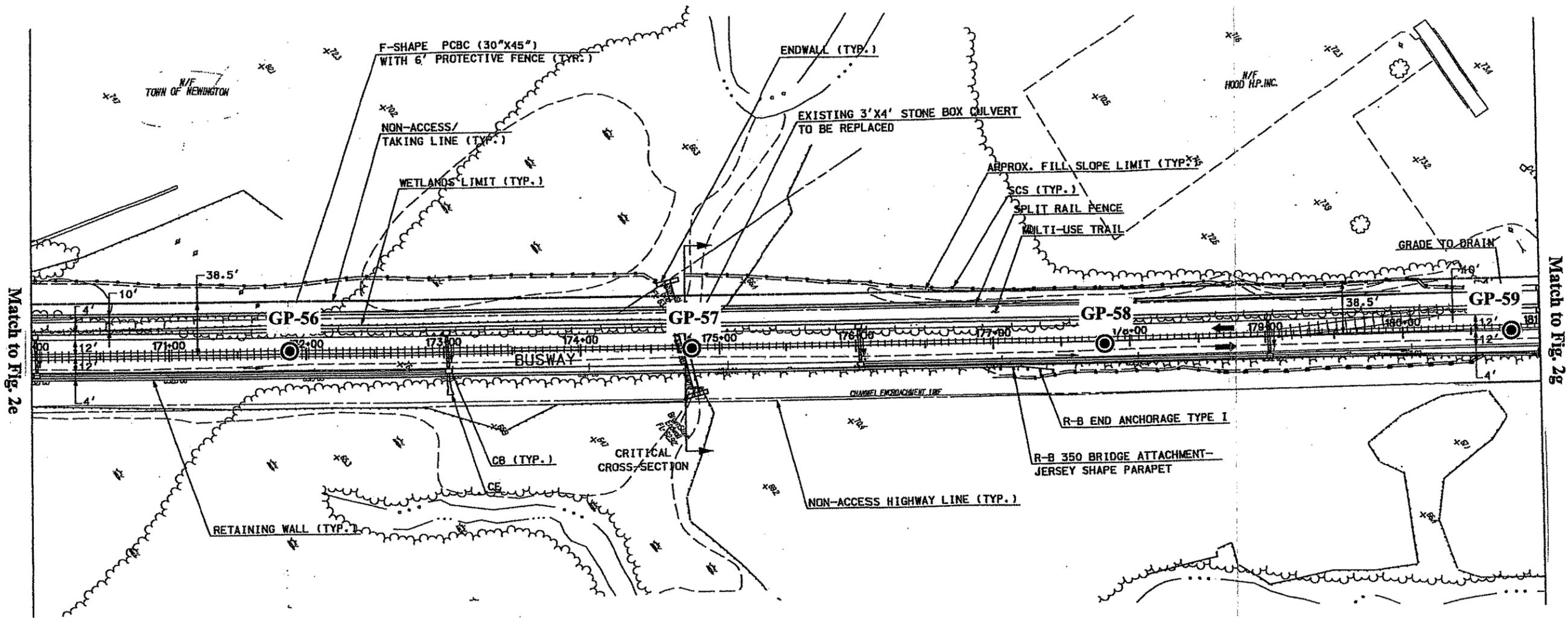
Match to Fig. 2d

Match to Fig. 2f

**LEGEND**

- GP = Geoprobe Boring
- Scale: 1" = 80'

Figure 2e - Task 210 Project Area & Sampling Locations  
 New Britain to Hartford Busway Inactive Line  
 New Britain & Newington, Connecticut

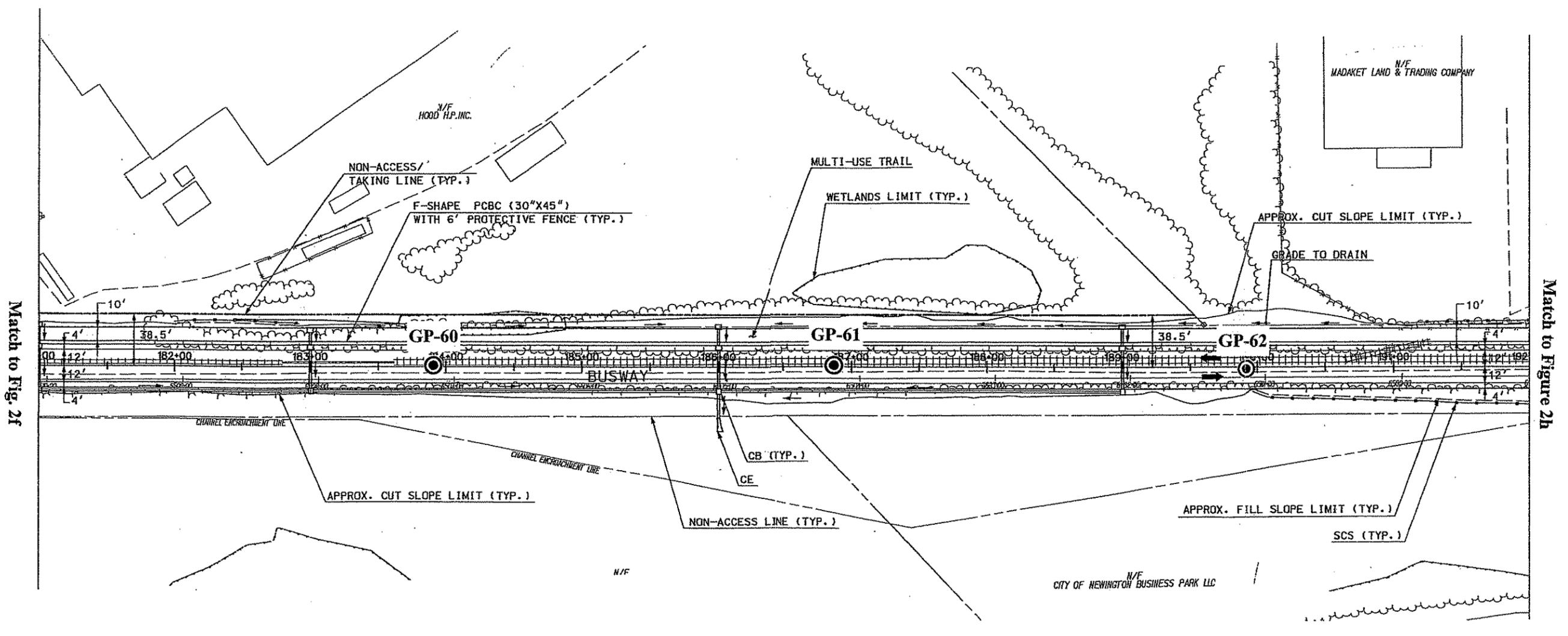


**LEGEND**

⊙ GP = Geoprobe Boring

Scale: 1" = 80'

Figure 2f - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut



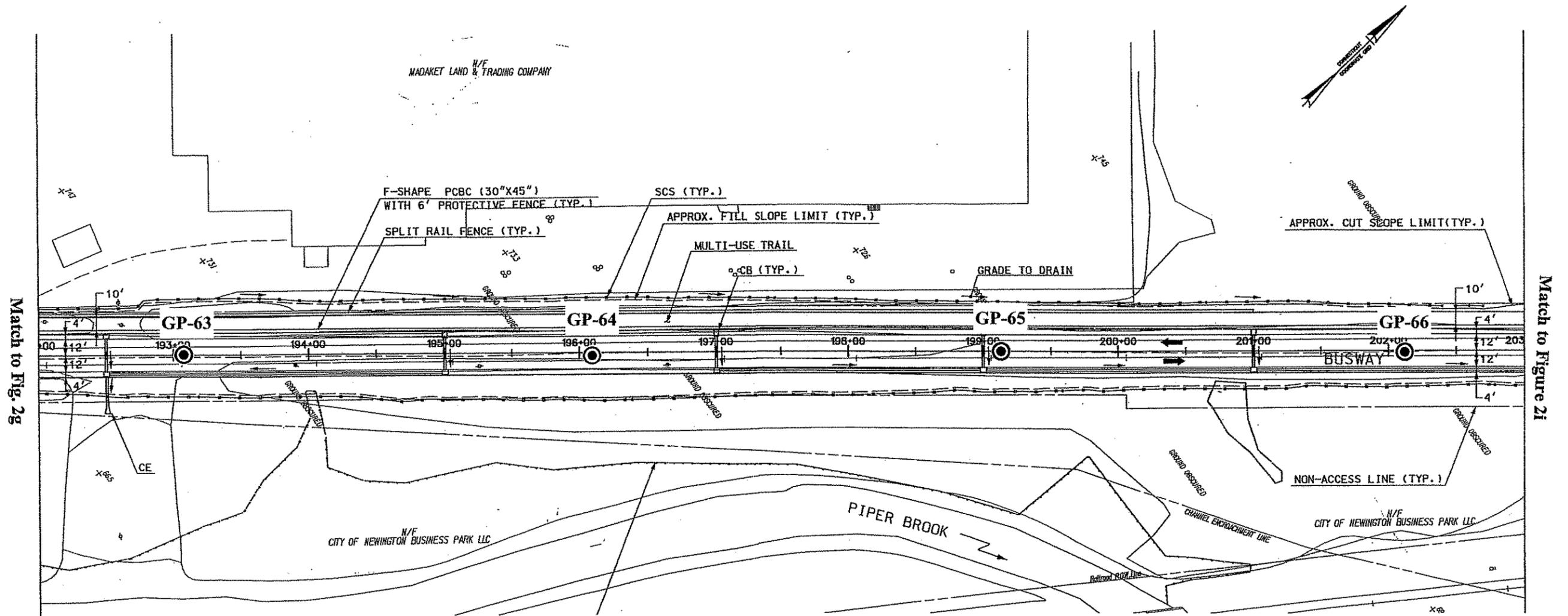
Match to Fig. 2f

Match to Figure 2h

### LEGEND

- GP = Geoprobe Boring
- Scale: 1" = 80'

Figure 2g - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut



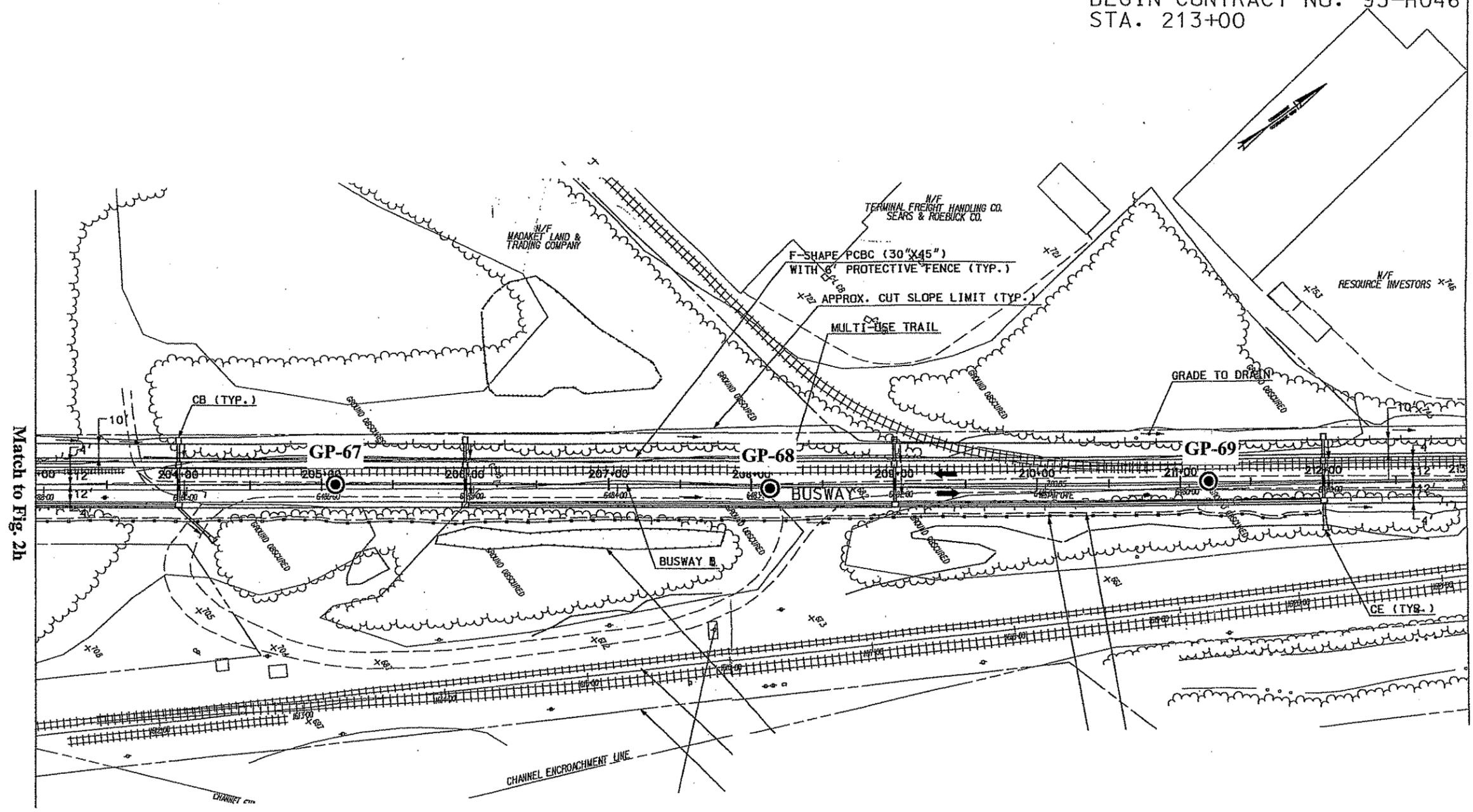
### LEGEND

⊙ GP = Geoprobe Boring

Scale: 1" = 80'

Figure 2h - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut

END CONTRACT NO. 88-H034  
BEGIN CONTRACT NO. 93-H046  
STA. 213+00



### LEGEND

● GP = Geoprobe Boring  
 Scale: 1" = 80'

Figure 2i - Task 210 Project Area & Sampling Locations  
New Britain to Hartford Busway Inactive Line  
New Britain & Newington, Connecticut

### **3.0 LOCAL ENVIRONMENT & RECEPTORS**

#### **3.1 Groundwater & Topography**

The CTDEP's "Environmental GIS Data for Connecticut" depicts the groundwater classification for the southern portion of the project corridor as "GA". The "GA" groundwater classification indicates that the groundwater is within the area of influence of private and potential public water supply wells. The groundwater is assumed suitable for direct human consumption without the need for treatment. The groundwater classification changes to "GB" to the east of the New Britain and Newington town line. The "GB" groundwater classification indicates that the groundwater is within an urbanized area of intense industrial activity where a public water supply source is available. The groundwater may not be suitable for human consumption due to waste discharges, spills or leaks of chemicals, or land use impacts. The properties within the project corridor are connected to the public water distribution system and the majority of the properties are connected to the municipal sewer system.

Groundwater was encountered at depths ranging from 3 to 9 feet below grade in the GP-44, GP-45, GP-46, and GP-55 to GP-69 borings.

The project corridor is relatively flat and is located within the Park Regional Basin, within the Connecticut Major Drainage Basin. The Piper Brook runs throughout the project corridor flowing in a northeasterly direction. In the southern portion of the project corridor, the Piper Brook is a Class "A" surface water body, which indicates that it may be used for potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other legitimate uses including navigation. In the vicinity of Cedar Street in Newington, Piper Brook changes to a Class "B" surface water body, which indicates that the surface water body does not meet one or more designated Class "A" standards due to pollution.

### 3.2 Geology

The CTDEP's "Environmental GIS Data for Connecticut" indicates that the soil in the southern portion of the project corridor is described as Sand (very coarse to fine sand in well sorted layers) and Fines (well sorted thin layers of alternating silt and clay or thicker layers of very fine sand and silt). Proceeding north along the railroad corridor, the surficial geology changes to stacked alluvial units described as Alluvium/Sand & Gravel, Sand/Fines, and Swamp/Fines. The Alluvium is described as flood plain alluvium consisting of sand, gravel, silt and some organic material, and the Swamp deposits are described as muck and peat that contain minor amounts of sand, silt, and clay. The soil in the northern portion of the project corridor changes back to Fines.

The Bedrock Geological Map of Connecticut, compiled by John Rodgers in 1985, indicates that the bedrock unit underlying the project corridor is the Portland Arkose, which is described as a red-brown arkosic sandstone.

Soils encountered during this investigation consisted of fill comprised of gravel, ash and cinders underlain by red-brown silt units with varying amounts of sand, gravel, clay and cobbles. Sampler refusal on either bedrock or sandstone cobbles occurred at depths ranging from 4 to 10 feet below grade in the GP-39, GP-40, GP-54 and GP-55 borings.

## 4.0 SUBSURFACE INVESTIGATION

Based upon the busway corridor's former use as an active railroad, and the current and former industrial and commercial nature of the project area, a comprehensive sampling program was conducted. The following subsections detail the investigation.

#### **4.1 Geoprobe® Soil Borings & Soil Sample Analyses**

On April 17, 18, 24, 25, and 26, 2006, thirty-one (31) Geoprobe® soil borings (GP-39 to GP-69) were advanced in areas of proposed construction activities within the project corridor. The Geoprobe® borings were advanced by Logical Environmental Solutions, under the direction of MGI. The locations of the Geoprobe® soil borings are depicted on Figures 2a through 2i - Task 210 Project Area & Sampling Locations.

The Geoprobe® soil borings were advanced to twelve (12) feet below grade or sampler refusal utilizing a 4-foot long, 2-inch diameter Macro Core Sampler with dedicated acetate liners. The soil samples from each boring were visually inspected in the field for staining, and described as to physical characteristics and soil type. In addition, the soil samples were screened in the field for total volatile organic compounds utilizing a Photovac photoionization detector (PID). Soil boring logs were generated in the field by Maguire field personnel. The boring logs denote the types of soil encountered, the depth to groundwater and/or bedrock, the total depth reached in each boring, and the highest observed PID reading. Copies of the boring logs are included at the end of this report in Appendix A.

Based upon field screening results and visual observations, one (1) soil sample from each boring was placed in glassware supplied by Spectrum Analytical Laboratory, and stored in an ice-filled cooler. The first macro core sample from each boring was segregated and split into a 0' to 2' sample and a 2' to 4' sample. The soil sample collected from 2' to 4' below grade was selected for laboratory analyses if field screening and visual observation did not indicate the presence of contaminants in the other sample intervals. The analyses for each soil sample included volatile organic compounds (VOCs) utilizing EPA Method 8260, base neutral/acid extractable semi-volatile compounds (BNAs) utilizing EPA Method 8270, petroleum hydrocarbons utilizing the Connecticut ETPH method, pesticides and polychlorinated biphenyls (PCBs) utilizing EPA Method 8081A and 8082, herbicides utilizing EPA Method 8151, and total and SPLP RCRA 8 metals.

All Geoprobe® soil borings were back-filled and patched upon completion utilizing clean sand and/or hydrated bentonite. All down-hole sampling equipment was decontaminated in accordance with Maguire's March 2006 Task 210 - Subsurface Site Investigation Work Plan. Field sampling protocols were performed in accordance with the CTDEP's Guidance for Collecting & Preserving Soil & Sediment Samples for Laboratory Determination of Volatile Organic Compounds document dated March 1, 2006.

#### **4.2 Groundwater Grab Sample Collection & Groundwater Analyses**

Six (6) groundwater grab samples (GP-45 GW, GP-55 GW, GP-58 GW, GP-62 GW, GP-64 GW and GP-69 GW) were collected from selected borings in which groundwater was encountered. The groundwater grab samples were collected by placing dedicated PVC screen and riser casing into the borehole approximately four (4) feet into the groundwater table. Dedicated polyethylene tubing was inserted into the casing and groundwater was drawn through the tubing using a low-flow peristaltic pump. The groundwater samples were placed in laboratory supplied glassware, and stored in an ice-filled cooler. The groundwater samples were analyzed at Spectrum Analytical Laboratory for VOCs (EPA Method 8260), BNAs (EPA Method 8270), petroleum hydrocarbons (Connecticut ETPH), pesticides & PCBs (EPA Method 8081A & 8082), herbicides (EPA Method 8151), and total RCRA 8 metals.

#### **4.3 Project Quality Assurance/Quality Control Practices**

To assess the collection of samples in the field in terms of the sampling techniques and decontamination procedures followed, quality control and quality assurance samples were collected on three days of the sampling activities. Three trip blank samples were prepared by Spectrum Analytical Laboratory and three field blanks were collected in the field. The field and trip blank samples were stored with the daily samples in the sample cooler until subsequent delivery to the laboratory. The FB-1 and FB-3 field blank samples were collected by pouring laboratory supplied de-ionized water through an acetate liner and macro-core cutting shoe, and collecting the rinsate in appropriate sample containers. The FB-2 field blank sample was

collected by directly pouring the laboratory supplied de-ionized water into the appropriate sample containers to check the quality of the de-ionized water, glassware, and laboratory sample handling and analytical procedures. The field blank samples were analyzed for the same parameters as the daily samples and the trip blank sample was analyzed for VOCs.

All samples collected in the field were stored in a manner that preserved the integrity of the sample chemistry. Samples intended for organic analyses were stored in an ice-filled cooler until delivery to the laboratory. Chain-of-Custody (COC) forms were filled out and accompanied all samples collected as a legal record of possession of the sample. The COC was initiated in the field and accompanied the containers during sample collection, transportation to the lab, analysis, and final disposal of the sample. All sampling equipment was either dedicated to a specific sample or was decontaminated prior to and between each use. Sampling equipment was not placed near solvents, gasoline, or materials that may have impacted the sample integrity.

## **5.0 DISCUSSION OF SAMPLE RESULTS**

### **5.1 Regulatory Criteria**

The CTDEP adopted Remediation Standard Regulations (Regulations of Connecticut State Agencies, Section 22a-133k-1 to 3 and 22a-133q-1) as of January 31, 1996. The Remediation Standard Regulations (RSRs) apply to any site undergoing voluntary remediation under Public Acts 95-183 or 95-190, a transfer of an "establishment" under Public Act 95-183, or any site as ordered by the CTDEP Commissioner. The Regulations also outline the processes for establishing alternative site-specific numerical standards for certain sites, upon approval by the CTDEP.

The RSRs criteria applicable to the soil and groundwater sampled during this investigation are summarized below. The application of these RSRs to the results of the laboratory analyses from this investigation is discussed in subsections 5.2 and 5.3 of this section.

**Soils Criteria:** The RSRs are organized into two sets of criteria: the Direct Exposure Criteria (DEC) and the Pollutant Mobility Criteria (PMC). The DEC and PMC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation. Please refer to the RSRs for a complete explanation of the Regulations.

#### Direct Exposure Criteria

The purpose of the Direct Exposure Criteria (DEC) is to protect human health from risks associated with the direct contact with or ingestion of various common soil contaminants. The DEC are applicable to soil within approximately fifteen (15) feet of the ground surface. Concentrations of contaminants are evaluated based upon mass-based analyses and different criteria are established for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of a land use restriction on the property.

The DEC is not applicable to inaccessible soils, including soil more than four (4) feet below the ground surface, two (2) feet below pavement greater than three (3) inches thick, or below an existing building, provided that an Environmental Land Use Restriction (ELUR) is placed in effect for the property.

#### Pollutant Mobility Criteria

The purpose of the Pollutant Mobility Criteria (PMC) is to evaluate the potential for contaminants to leach from the soil in concentrations that may degrade groundwater quality. Different numerical criteria are established for GA and GAA groundwater areas, versus GB groundwater areas.

**Groundwater Criteria:** Contaminants in the groundwater are compared either to background quality or the Groundwater Protection Criteria (GPC), the Volatilization Criteria, as well as the Surface Water Protection Criteria (SWPC). The GPC, Volatilization Criteria, and SWPC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation.

### Groundwater Protection Criteria

The purpose of the Groundwater Protection Criteria is to protect the groundwater quality in areas that have the potential to use groundwater as a drinking water resource (GA & GAA groundwater classification areas).

### Volatilization Criteria

The purpose of the Volatilization Criteria standard is to ensure that volatile organic compounds (VOCs) in groundwater do not pose an unacceptable risk to human health due to the inhalation of VOCs that may enter into a structure on the property. The Volatilization Criteria only apply when impacted groundwater is located within fifteen (15) feet of the ground surface or any structure. Different criteria exist for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of an ELUR on the property.

### Surface Water Protection Criteria

The purpose of the Surface Water Protection Criteria (SWPC) standards are to ensure that groundwater discharging to a surface water body will not adversely effect surface water quality.

## **5.2 Results of Soil Sample Analyses**

Soil samples collected during the advancement of the Geoprobe® borings were sent to Spectrum Analytical Laboratory for laboratory analyses. Summaries of the laboratory results from the Geoprobe® boring soil samples are presented in Tables 1(a) to 1(h), which are located at the end of this report, and copies of the soil sample analytical results are included in Appendix B. The following summarizes the results of the analyses conducted on the soil samples.

Varying concentrations of petroleum hydrocarbons were detected in all of the samples from Below Reporting Limits (BRL) to 243 parts per million (ppm). None of the soil samples contained petroleum hydrocarbons at concentrations that exceed any applicable CTDEP RSR criteria.

The VOCs 1,1-dichloroethene, cis-1,2-dichloroethene, naphthalene, toluene, trichloroethene, 1,2,4-trimethylbenzene, and xylenes were detected at low concentrations in the GP-45, GP-47, GP-51, GP-52, GP-55, GP-58, GP-61, GP-67, and GP-69 soil samples. However, the concentrations of VOCs detected in the samples do not exceed any applicable CTDEP RSR criteria. No other VOCs were detected in any of the soil samples.

Several BNA compounds were detected at varying total concentrations ranging from BRL to 31.54 ppm. Four (4) soil samples contained concentrations of BNAs that exceed applicable CTDEP RSR Criteria. The 2 to 4 foot soil sample from boring GP-58 contained the compounds benzo(a)pyrene (1.3 ppm), benzo(b)fluoranthene (1.97 ppm), benzo(k)fluoranthene (1.5 ppm), and chrysene (1.39 ppm) at concentrations that exceed their respective GB PMC. In addition, the compounds benzo(a)pyrene and benzo(b)fluoranthene were detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

The 1 to 3 foot soil sample from boring GP-67 contained the compounds benzo(a)pyrene (1.2 ppm), benzo(b)fluoranthene (1.07 ppm), benzo(k)fluoranthene (1.05 ppm), and chrysene (1.1 ppm) at concentrations that exceed their respective GB PMC. The compounds benzo(a)pyrene and benzo(b)fluoranthene were also detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

The 1 to 3 foot soil sample from boring GP-68 contained the compounds benzo(a)pyrene (1.06 ppm), benzo(b)fluoranthene (1.27 ppm), benzo(k)fluoranthene (1.23 ppm), and chrysene (1.33 ppm) at concentrations that exceed their respective GB PMC. The compounds benzo(a)pyrene and benzo(b)fluoranthene were also detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

The 1 to 3 foot soil sample from boring GP-69 contained the compounds benzo(a)anthracene (2.3 ppm), benzo(a)pyrene (2.81 ppm), benzo(b)fluoranthene (3.45 ppm), benzo(k)fluoranthene (2.68 ppm), chrysene (2.88 ppm), and indeno(1,2,3-cd)pyrene (1.36 ppm) at concentrations that exceed their respective GB PMC. The compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene were also detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

Herbicides, pesticides, and PCBs were not detected in any of the soil samples. Total concentrations of the metals arsenic, barium, cadmium, chromium, lead, mercury, and silver were detected at varying concentrations in the soil samples throughout the project corridor. The following three (3) soil samples contained total arsenic at concentrations that exceed the CTDEP Residential and Commercial/Industrial DEC of 10 ppm: GP-46, 2' to 4' (34.5 ppm); GP-67, 1' to 3' (21.7 ppm); and GP-69, 1' to 3' (12.7 ppm). No other soil sample contained total metals at concentrations that exceed any applicable CTDEP RSR criteria.

Leachable concentrations (via SPLP) of barium, chromium, and lead were detected at varying concentrations in the soil samples throughout the project corridor. However, the concentrations of leachable metals detected in the soil samples do not exceed any applicable CTDEP RSR criteria.

### **5.3 Results of Groundwater Grab Sample Analyses**

The groundwater grab samples (GP-45 GW, GP-55 GW, GP-58 GW, GP-62 GW, GP-64 GW, and GP-69 GW) collected during the investigation were sent to Spectrum Analytical Laboratory for analyses. Summaries of the laboratory results from the groundwater grab samples are presented in Tables 2(a) to 2(c), which are located at the end of this report, and copies of the groundwater grab sample analytical results are included in Appendix C. The following summarizes the results of the analyses conducted on the groundwater grab samples.

The groundwater samples did not contain detectable concentrations of petroleum hydrocarbons, pesticides, PCBs, and herbicides. The GP-64 GW sample contained the VOC cis-1,2-dichloroethene at a concentration of 1.1 parts per billion (ppb), which does not exceed any applicable CTDEP RSR criteria. No other VOCs were detected in the groundwater samples.

The BNA compounds benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene were detected at varying concentrations in the GP-55 GW, GP-58 GW, and GP-62 GW samples. The GP-58 GW sample contained benzo(b)fluoranthene (0.35 ppb) at a concentration that exceeds its SWPC of 0.3 ppb. No other BNAs were detected at concentrations that exceed any applicable CTDEP RSR criteria.

Total arsenic, barium, cadmium, chromium, lead, and mercury were detected at varying concentrations in the groundwater samples. Total arsenic was detected in the GP-45 GW (0.0326 ppm), GP-64 GW (0.0052 ppm), and GP-69 GW samples at concentrations that exceed its SWPC of 0.004 ppm. The GP-69 GW sample also contained total chromium (0.297 ppm) at an elevated concentration that exceeds its SWPC of 0.11 ppm. Total lead was detected in the GP-45 GW (0.163 ppm), GP-55 GW (0.0185 ppm), GP-58 GW (0.0192 ppm), GP-62 GW (0.117 ppm), and GP-69 GW (0.202 ppm) samples at elevated concentrations that exceed its SWPC of 0.013 ppm. In addition, total mercury was detected in the GP-45 GW (0.00091 ppm) sample at a slightly elevated concentration that exceeds its GPC of 0.0004 ppm. No other metals were detected at total concentrations that exceed any applicable CTDEP RSR criteria.

#### **5.4 Quality Assurance/Quality Control Samples**

The trip blank samples (TB-1 to TB-3) did not contain detectable concentrations of VOCs. In addition, the field blank samples (FB-1 to FB-3) did not contain detectable concentrations of contaminants. Copies of the analytical reports associated with the quality assurance/quality control samples are included in Appendix D.

## 6.0 DISCUSSION OF AFFECTED RESOURCES

Based upon the results of laboratory analyses performed on the soil and groundwater samples for this Task 210 investigation, three (3) areas of environmental concern (AOECs) for soil and a corridor-wide Groundwater Area of Environmental Concern (GWAEOEC) have been identified where contaminants are present at concentrations that exceed applicable CTDEP RSR criteria. In addition, six (6) low-level areas of environmental concern (LLAOECs) have been identified, where contaminants were detected at concentrations below applicable CTDEP RSR standards, but above laboratory detection limits. The locations of the AOECs, GWAEOEC, and LLAOECs within the project corridor are discussed in the following sections.

### 6.1 Soil Areas of Environmental Concern

#### AOEC #1: Sample GP-46:

Analytical results from the soil sample collected from boring GP-46 indicate the presence of total arsenic contamination at elevated concentrations in shallow soil ranging from 2 to 4 feet below grade. The contamination detected exceeds the Residential DEC and Commercial/Industrial DEC.

#### AOEC #2: Sample GP-58:

Analytical results from the soil sample collected from boring GP-58 indicate the presence of BNA compound contamination at slightly elevated concentrations in soil ranging from 2 to 4 feet below grade. The contamination detected exceeds the GB PMC, Residential DEC, and Commercial/Industrial DEC.

#### AOEC #3: Samples GP-67, GP-68, & GP-69:

Analytical results from the soil samples collected from borings GP-67, GP-68, and GP-69 indicate the presence of BNA compound and total arsenic contamination at slightly elevated concentrations in shallow soil ranging from 1 to 3 feet below grade. The contamination detected exceeds the GB PMC, Residential DEC, and Commercial/Industrial DEC.

## 6.2 Groundwater Area of Environmental Concern

Analytical results from the GP-45 GW, GP-55 GW, GP-58 GW, GP-62 GW, GP-64 GW, and GP-69 GW groundwater samples indicate the presence of arsenic, chromium, lead and mercury at total concentrations that exceed the CTDEP's SWPC. Therefore, all construction dewatering fluids generated within the project corridor shall be considered contaminated and must be pumped to approved containers for filtration or sediment settling, and sampled prior to discharge or disposal in accordance with applicable regulations and permit requirements.

## 6.3 Low Level Areas of Environmental Concern

### **LLAOEC #A:**        Sample GP-45:

Analytical results from the soil sample collected from boring GP-45 indicate the presence of VOCs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 2 to 4 feet below grade.

### **LLAOEC #B:**        Sample GP-47:

Analytical results from the soil sample collected from boring GP-47 indicate the presence of VOCs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 2 to 4 feet below grade.

### **LLAOEC #C:**        Samples GP-50, GP-51 & GP-52:

Analytical results from the soil samples collected from borings GP-50, GP-51, and GP-52 indicate the presence of VOCs, petroleum hydrocarbons, and BNAs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 2 to 4 feet below grade.

**LLAOEC #D:**        Samples GP-54, GP-55 & GP-56:

Analytical results from the soil samples collected from borings GP-54, GP-55, and GP-56 indicate the presence of VOCs, petroleum hydrocarbons, and BNAs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 1 to 4 feet below grade.

**LLAOEC #E:**        Samples GP-60 & GP-61:

Analytical results from the soil samples collected from borings GP-60 and GP-61 indicate the presence of VOCs and petroleum hydrocarbons at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 2 to 4 feet below grade.

**LLAOEC #F:**        Samples GP-63 & GP-64:

Analytical results from the soil samples collected from borings GP-63 and GP-64 indicate the presence of petroleum hydrocarbons and BNAs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 2 to 4 feet below grade.

## 7.0 RECOMMENDATIONS

The results of the Task 210 – Subsurface Site Investigation for the construction of the New Britain to Hartford Busway in New Britain and Newington, Connecticut (State Project No. 88-H034) indicate the presence of BNA and total arsenic contamination in shallow soil samples collected from the project area, at concentrations that exceed applicable CTDEP RSR criteria. The contamination was detected in soils ranging in depth from 1 to 4 feet below grade. In addition, groundwater collected from the project corridor is also contaminated with total arsenic, total chromium, total lead, and total mercury at concentrations that exceed applicable RSR criteria. Three (3) Areas of Environmental Concern (AOECs) for soil, a project-wide Groundwater Area of Environmental Concern (GWAEOEC), and six (6) Low-Level Areas of Environmental Concern (LLAOECs) have been identified within the project corridor. Special considerations for treatment/disposal, dewatering activities, and worker health and safety must be given to these areas in order to ensure compliance with all local, State and Federal laws. Task 310 Plans and Specifications are therefore recommended for the areas of construction within the Areas of Environmental Concern, Groundwater Area of Environmental Concern, and Low-Level Areas of Environmental Concern described in Section 6.0 above.

## 8.0 LIMITATIONS

All work product and reports provided by Maguire Group Inc. (MGI) in connection with the performance of this Task 210 - Subsurface Site Investigation are subject to the following limitations:

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services provided to ConnDOT.
2. In preparing this report, MGI has relied on certain information provided by State and local officials and information and representations made by other parties referenced therein, and on information contained in the files of State and/or local agencies made available to MGI at the time of this investigation. To the extent that such files are missing, incomplete or not provided to MGI, MGI is not responsible. Although there may have been some degree of overlap in the information provided by these various sources, MGI did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this investigation.
3. The conclusions and recommendations contained in this report are based in part upon the data from subsurface explorations. The nature and extent of variations between these explorations may not become evident until further explorations are completed. If variations or other latent conditions become evident, it will be necessary to re-evaluate the conclusions and recommendations of this report.
4. The water level readings made for this investigation were made at the times and conditions stated on the boring logs. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, passage of time and other factors. Should additional data become available in the future, these data should be reviewed by MGI, and the conclusions and recommendations presented herein modified accordingly.

5. Where quantitative laboratory analyses have been conducted by an outside certified laboratory, MGI has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these tests.
6. If the conclusions and recommendations contained in this report are based, in part, upon various types of chemical data then the conclusions and recommendations are contingent upon the validity of such data. These data have been reviewed and interpretations made in the report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by MGI and the conclusions and recommendations presented herein modified accordingly.
7. Chemical analyses were performed for specific parameters during the course of this investigation, as described in the text. However, it should be noted that testing for all known chemical constituents was not performed. The conclusions and recommendations contained in this report are based only upon the chemical constituents for which testing was accomplished.

The following qualifications apply to the undersigned's opinion:

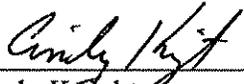
The activities described and opinions included herein are based on information gathered during this exploratory site investigation which was limited in scope in adherence to the terms of our agreement. The professional opinion provided herein is based on the information described in this report.

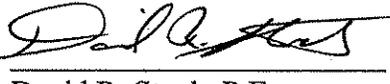
The information contained herein was prepared for the use of ConnDOT solely in conjunction with the task descriptions for this assignment. The conclusions and recommendations set forth in this report are based on site conditions at the time of the investigation. Future studies and findings could change the contents of this report. The professional opinions presented in this report have been developed by using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental engineering consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

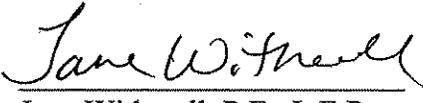
Prepared by:

Approved by:

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# TABLES

**TABLE 1(a) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-39 2'-4' (GA)	GP-40 2'-4' (GA)	GP-41 2'-4' (GA)	GP-42 4'-8' (GB)	CTDEP PMC GA/GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	BRL	500/1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081A (ppm)	BRL	BRL	BRL	BRL		
PCBs - Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Herbicides - Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals - ppm						
Arsenic	5.47	3.37	8.04	3.88		10/10 ppm
Barium	31.3	36.9	66.5	58.3		4,700/140,000 ppm
Cadmium	0.374	0.302	BRL	BRL		34/1,000 ppm
Chromium	11.6	14.2	9.66	18.0		100/100 ppm
Lead	21.0	9.85	23.9	8.63		500/1,000 ppm
Silver	1.59	1.63	1.2	1.45		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0244	BRL	0.019	0.0138	1.0/10.0 ppm	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(b) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D. Sample Depth: (Groundwater Classification)	GP-43 2'-4' (GB)	GP-44 2'-4' (GB)	GP-45 2'-4' (GB)	GP-46 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	31.7	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
Toluene	BRL	BRL	0.104	BRL	67 ppm	500/1,000 ppm
BNAs- Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides – Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides – Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals – ppm						
Arsenic	4.01	5.73	5.18	34.5		10/10 ppm
Barium	43.2	48.7	74.4	51.3		4,700/140,000 ppm
Cadmium	BRL	BRL	0.316	BRL		34/1,000 ppm
Chromium	16.7	8.7	17.4	8.58		100/100 ppm
Lead	9.46	38.4	12.0	31.3		500/1,000 ppm
Mercury	0.443	0.124	0.126	0.19		20/610 ppm
Silver	1.5	1.4	2.22	BRL		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0306	0.0224	0.0261	0.0204	10.0 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(c) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-47 2'-4' (GB)	GP-48 2'-4' (GB)	GP-49 2'-4' (GB)	GP-50 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	35.2	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
1,1-Dichloroethene	0.0095	BRL	BRL	BRL	1.4 ppm	1/9.5 ppm
cis-1,2-Dichloroethene	0.105	BRL	BRL	BRL	14 ppm	500/1,000 ppm
Trichloroethene	0.0342	BRL	BRL	BRL	1 ppm	56/520 ppm
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides - Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals - ppm						
Arsenic	7.71	7.11	5.48	7.27		10/10 ppm
Barium	99.9	60.6	68.7	49.0		4,700/140,000 ppm
Cadmium	BRL	0.278	0.268	0.432		34/1,000 ppm
Chromium	23.8	13.2	16.5	14.7		100/100 ppm
Lead	20.2	40.0	25.7	29.5		500/1,000 ppm
Mercury	BRL	0.927	1.07	BRL		20/610 ppm
Silver	1.89	1.2	1.31	BRL		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0798	0.0604	0.0432	0.368	10.0 ppm	
Chromium	0.0072	0.0058	BRL	BRL	0.5 ppm	
Lead	BRL	0.0148	BRL	BRL	0.15 ppm	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(d) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-51 2'-4' (GB)	GP-52 2'-4' (GB)	GP-53 4'-8' (GB)	GP-54 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	68.8	BRL	BRL	BRL	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
Naphthalene	0.0946	0.0929	BRL	BRL	56 ppm	1,000/2,500 ppm
Toluene	0.063	0.118	BRL	BRL	67 ppm	500/1,000 ppm
Xylenes	BRL	0.0766	BRL	BRL	19.5 ppm	500/1,000 ppm
BNAs - Method 8270 (ppm)						
Acenaphthylene	0.194	BRL	BRL	BRL	84 ppm	1,000/2,500 ppm
Benzo(a)anthracene	0.469	BRL	BRL	BRL	1 ppm	1/7.8 ppm
Benzo(a)pyrene	0.507	BRL	BRL	BRL	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.633	BRL	BRL	0.251	1 ppm	1/7.8 ppm
Benzo(g,h,i)perylene	0.237	BRL	BRL	BRL	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	0.589	BRL	BRL	0.244	1 ppm	8.4/78 ppm
Chrysene	0.518	BRL	BRL	BRL	1 ppm	84/780 ppm
Fluoranthene	0.591	BRL	BRL	BRL	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	0.261	BRL	BRL	BRL	1 ppm	1/7.8 ppm
Pyrene	0.622	BRL	BRL	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	4.621	BRL	BRL	0.495		
Pesticides - Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides - Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals - ppm						
Arsenic	8.29	6.81	5.05	3.18		10/10 ppm
Barium	82.0	90.8	52.6	110		4,700/140,000 ppm
Cadmium	0.451	0.447	0.465	0.512		34/1,000 ppm
Chromium	13.4	14.3	18.8	11.9		100/100 ppm
Lead	22.5	20.4	7.23	26.1		500/1,000 ppm
Mercury	0.149	BRL	BRL	BRL		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0142	0.0718	0.0068	0.0288	10.0 ppm	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(e) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-55 1'-3' (GB)	GP-56 2'-4' (GB)	GP-57 4'-6' (GB)	GP-58 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	BRL	35.7	BRL	92.7	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
Naphthalene	0.0999	BRL	BRL	0.164	56 ppm	1,000/2,500 ppm
Toluene	0.0773	BRL	BRL	BRL	67 ppm	500/1,000 ppm
1,2,4-Trimethylbenzene	0.0668	BRL	BRL	BRL	70 ppm	500/1,000 ppm
BNAs - Method 8270 (ppm)						
Acenaphthylene	BRL	BRL	BRL	0.534	84 ppm	1,000/2,500 ppm
Anthracene	BRL	BRL	BRL	0.298	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	BRL	BRL	BRL	0.969	1 ppm	1/7.8 ppm
Benzo(a)pyrene	BRL	0.317	BRL	1.3	1 ppm	1/1 ppm
Benzo(b)fluoranthene	BRL	0.318	BRL	1.97	1 ppm	1/7.8 ppm
Benzo(g,h,i)perylene	BRL	0.207	BRL	0.562	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	BRL	0.305	BRL	1.5	1 ppm	8.4/78 ppm
Carbazole	BRL	BRL	BRL	0.227	1 ppm	31/290 ppm
Chrysene	BRL	0.207	BRL	1.39	1 ppm	84/780 ppm
Dibenz(a,h)anthracene	BRL	BRL	BRL	0.276	1 ppm	1/1 ppm
Fluoranthene	0.298	0.290	BRL	0.906	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	BRL	BRL	BRL	0.681	1 ppm	1/7.8 ppm
Phenanthrene	BRL	BRL	BRL	0.232	40 ppm	1,000/2,500 ppm
Pyrene	0.234	0.345	BRL	1.31	40 ppm	1,000/2,500 ppm
Total BNAs	0.532	1.989	BRL	12.155		
Pesticides - Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides - Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals - ppm						
Arsenic	3.54	2.96	2.32	3.28		10/10 ppm
Barium	50.5	68.2	104	63.8		4,700/140,000 ppm
Cadmium	0.514	0.603	0.668	0.682		34/1,000 ppm
Chromium	10.4	16.6	19.9	19.4		100/100 ppm
Lead	56.5	16.4	9.97	20.5		500/1,000 ppm
Mercury	0.612	BRL	BRL	BRL		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0229	0.0312	0.0334	BRL	10.0 ppm	
Chromium	0.0062	BRL	BRL	BRL	0.5 ppm	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(f) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-59 1'-3' (GB)	GP-60 2'-4' (GB)	GP-61 2'-4' (GB)	GP-62 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	BRL	31.6	57.6	BRL	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
Naphthalene	BRL	BRL	0.115	BRL	56 ppm	1,000/2,500 ppm
BNAs- Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides - Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals - ppm						
Arsenic	2.24	3.23	4.95	2.74		10/10 ppm
Barium	51.6	65.5	48.6	42.8		4,700/140,000 ppm
Cadmium	0.466	0.509	0.491	0.367		34/1,000 ppm
Chromium	12.6	12.9	13.2	7.46		100/100 ppm
Lead	17.2	21.6	23.7	23.9		500/1,000 ppm
Mercury	0.0596	0.0554	0.0732	0.0629		20/610 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.006	0.0082	0.0065	BRL	10.0 ppm	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(g) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-63 2'-4' (GB)	GP-64 2'-4' (GB)	GP-65 4'-8' (GB)	GP-66 2'-4' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	74.6	0.004	BRL	BRL	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)						
Benzo(b)fluoranthene	0.527	BRL	BRL	BRL	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	0.636	BRL	BRL	BRL	1 ppm	8.4/78 ppm
Fluoranthene	0.559	BRL	BRL	BRL	56 ppm	1,000/2,500 ppm
Pyrene	0.763	BRL	BRL	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	2.485	BRL	BRL	BRL		
Pesticides – Method 8081A (ppm)	BRL	BRL	BRL	BRL		
Herbicides – Method 8151 (ppb)	BRL	BRL	BRL	BRL		
Total RCRA 8 Metals – ppm						
Arsenic	3.93	5.75	5.86	6.67		10/10 ppm
Barium	52.9	87.0	132	157		4,700/140,000 ppm
Cadmium	0.381	0.748	0.333	0.368		34/1,000 ppm
Chromium	7.77	15.8	22.4	27.7		100/100 ppm
Lead	31.3	56.2	10.3	10.4		500/1,000 ppm
Mercury	0.243	0.0949	BRL	BRL		20/610 ppm
Silver	1.12	BRL	BRL	BRL		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						
Barium	0.0097	0.0159	0.0392	0.0334	10.0 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 1(h) - Results of Geoprobe Boring Soil Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Boring I.D.: Sample Depth: (Groundwater Classification)	GP-67 1'-3' (GB)	GP-68 1'-3' (GB)	GP-69 1'-3' (GB)	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/Commercial & Industrial
CT ETPH - (ppm)	193	109	243	1,000 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)					
Naphthalene	0.0945	BRL	0.0991	56 ppm	1,000/2,500 ppm
Toluene	0.0905	BRL	0.076	67 ppm	500/1,000 ppm
BNAs - Method 8270 (ppm)					
Acenaphthylene	BRL	0.574	1.32	84 ppm	1,000/2,500 ppm
Anthracene	BRL	BRL	1.25	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	0.795	0.879	2.3	1 ppm	1/7.8 ppm
Benzo(a)pyrene	1.2	1.06	2.81	1 ppm	1/1 ppm
Benzo(b)fluoranthene	1.07	1.27	3.45	1 ppm	1/7.8 ppm
Benzo(g,h,i)perylene	0.758	BRL	1.26	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	1.05	1.23	2.68	1 ppm	8.4/78 ppm
Chrysene	1.1	1.33	2.88	1 ppm	84/780 ppm
Fluoranthene	1.75	2.09	5.43	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	BRL	BRL	1.36	1 ppm	1/7.8 ppm
Phenanthrene	BRL	BRL	2.12	40 ppm	1,000/2,500 ppm
Pyrene	1.81	1.85	4.68	40 ppm	1,000/2,500 ppm
Total BNAs	9.533	10.283	31.54		
Pesticides – Method 8081A (ppm)	BRL	BRL	BRL		
Herbicides – Method 8151 (ppb)	BRL	BRL	BRL		
Total RCRA 8 Metals – ppm					
Arsenic	21.7	4.99	12.7		10/10 ppm
Barium	50.3	64.5	174		4,700/140,000 ppm
Cadmium	0.442	0.465	0.397		34/1,000 ppm
Chromium	12.5	12.2	9.06		100/100 ppm
Lead	38.0	26.7	75.5		500/1,000 ppm
Mercury	BRL	0.0676	BRL		20/610 ppm
Silver	4.61	1.18	1.35		340/10,000 ppm
SPLP RCRA 8 Metals - ppm					
Barium	0.011	0.006	0.0426	10.0 ppm	
Lead	0.0076	BRL	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 2(a) - Results of Groundwater Grab Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Sample I.D.:	GP-45 GW	GP-55 GW	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb)	BRL	BRL		
BNAs - EPA Method 8270 (ppb)				Not Applicable
Benzo(g,h,i)perylene	BRL	0.056	No Standard	
Indeno(1,2,3-cd)pyrene	BRL	0.411	No Standard	
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	Not Applicable
Herbicides - EPA Method 8151 (ppb)	BRL	BRL		
Total RCRA 8 Metals - ppm				Not Applicable
Arsenic	<i>0.0326</i>	BRL	<b>0.004 ppm</b>	
Barium	0.386	0.149	No Standard	
Cadmium	0.0028	BRL	0.006 ppm	
Chromium	0.0938	BRL	0.11 ppm	
Lead	<i>0.163</i>	<i>0.0185</i>	<b>0.013 ppm</b>	
Mercury	<i>0.00091</i>	BRL	<b>0.0004 ppm</b>	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 2(b) - Results of Groundwater Grab Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Sample I.D.:	GP-58 GW	GP-62 GW	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb)	BRL	BRL		
BNAs - EPA Method 8270 (ppb)				Not Applicable
Benzo(b)fluoranthene	<i>0.35</i>	BRL	<b>0.3 ppb</b>	
Benzo(g,h,i)perylene	0.738	BRL	No Standard	
Benzo(k)fluoranthene	0.238	BRL	0.3 ppb	
Indeno(1,2,3-cd)pyrene	0.838	0.388	No Standard	
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	Not Applicable
Herbicides - EPA Method 8151 (ppb)	BRL	BRL		
Total RCRA 8 Metals - ppm				Not Applicable
Barium	0.0982	0.516	No Standard	
Chromium	0.0315	0.0516	0.11 ppm	
Lead	<i>0.0192</i>	<i>0.117</i>	<b>0.013 ppm</b>	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**TABLE 2(c) - Results of Groundwater Grab Sample Analyses  
New Britain to Hartford Busway Inactive Line  
New Britain, Connecticut**

Sample I.D.:	GP-64 GW	GP-69 GW	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb) cis-1,2-Dichloroethene	1.1	BRL	No Standard	860/No Standard
BNAs - EPA Method 8270 (ppb)	BRL	BRL		
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	Not Applicable
Herbicides - EPA Method 8151 (ppb)	BRL	BRL		
Total RCRA 8 Metals - ppm				Not Applicable
Arsenic	<i>0.0052</i>	<i>0.0938</i>	<b>0.004 ppm</b>	
Barium	0.0283	1.68	No Standard	
Chromium	BRL	<i>0.297</i>	<b>0.11 ppm</b>	
Lead	BRL	<i>0.202</i>	<b>0.013 ppm</b>	

BRL - Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

**APPENDIX A**  
**Boring Logs**

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**  
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 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoproses*

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-39
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-17-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0	[Symbol: Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)]	Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)	1.0	0	Macro Core 0'-2'
1.5		Brown fine to coarse SAND, trace Silt	1.5		
2.0	[Symbol: Dark-Brown to Black fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)]	Dark-Brown to Black fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)	3.0	0	Macro Core 2'-4'
3.0		Red-Brown fine to medium SAND, little Silt	4.0		
4.0		Refusal at 4' on Red-Brown SANDSTONE			
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 4'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-40
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-17-06

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 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)	1.0	0	Macro Core 0'-2'
1.0		Brown fine to coarse SAND, trace Silt	1.5		
2.0		Dark-Brown to Black fine to coarse SAND, little fine to coarse Gravel, trace Silt, Ash & Cinders (FILL)	3.0	0	Macro Core 2'-4'
3.0					
4.0		Red-Brown SILT, trace fine to medium Sand	6.0	0	Macro Core 4'-6'
5.0					
6.0		Refusal at 6' on Red-Brown SANDSTONE			
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 6'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**

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*Truck, Portable & ATV/Backhoe-Mounted Geoprobes*

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-41
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0		Brown fine to coarse SAND, trace Silt	2.5		
2.0				1.7	Macro Core 2'-4'
3.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
4.0		grades to			
5.0		Red-Brown fine SAND & SILT, trace medium Sand & fine to coarse Gravel		1.1	Macro Core 4'-8'
6.0					
7.0					
8.0					
9.0				0	Macro Core 8'-12'
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

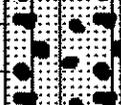
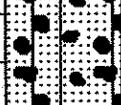
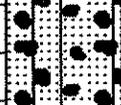
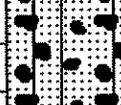
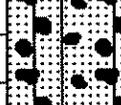
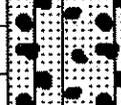
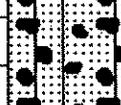
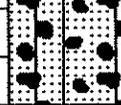
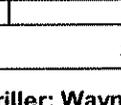
**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-42
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0		Brown fine to coarse SAND, trace Silt	2.5		
2.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble	0.3	0.3	Macro Core 2'-4'
3.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble	0.4	0.4	Macro Core 4'-8'
4.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
5.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
6.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
7.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
8.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble			
9.0		Red-Brown fine SAND & SILT, trace medium Sand & fine to coarse Gravel			
10.0		Red-Brown fine SAND & SILT, trace medium Sand & fine to coarse Gravel			
11.0		Red-Brown fine SAND & SILT, trace medium Sand & fine to coarse Gravel			
12.0		End of Boring at 12'	12.0		Macro Core 8'-12'

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



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<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-43
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Brown to Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0		Black ASH & CINDERS with some fine to coarse Sand, trace fine to coarse Gravel	2.5		
2.0		Red-Brown fine to medium SAND, little Silt, trace fine Gravel	6.0	0.1	Macro Core 4'-8'
3.0		Red-Brown SILT, trace fine Sand & Clay (moist)	12.0		
4.0		End of Boring at 12'			

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-44
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0		Brown to Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS with some fine to coarse Sand, trace fine to coarse Gravel (moist)	3.0	0	Macro Core 2'-4'
4.0					
5.0					
6.0				0	Macro Core 4'-8'
7.0					
8.0		Red-Brown SILT, trace fine to medium Sand, fine to coarse Gravel & Clay (wet)			
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



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<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-45
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Brown to Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0		Black ASH & CINDERS with some fine to coarse Sand, trace fine to coarse Gravel (moist)	3.0	1.5	Macro Core 2'-4'
2.0					
3.0					
4.0					
5.0					
6.0				0.1	Macro Core 4'-8'
7.0		Red-Brown SILT, trace fine to medium Sand, fine to coarse Gravel & Clay (wet)			
8.0					
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-46
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Brown to Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS with some fine to coarse Sand, trace fine to coarse Gravel (moist)	3.0	0.3	Macro Core 2'-4'
4.0				0	Macro Core 4'-8'
7.0		Red-Brown SILT, trace fine to medium Sand, fine to coarse Gravel & Clay (wet)		0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Project:** New Britain-Hartford Busway

**Boring:** GP-47

**Location:** New Britain & Newington, CT

**Inspector:** C. Criscuolo

**Client:** Maguire Group Inc.

**Date:** 4-18-06

**Logical Environmental Solutions**

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*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0		Black fine to coarse SAND, little Ash & Cinders	2.0		
2.0		Red-Brown fine to coarse SAND, trace Silt & fine Gravel	2.5		
3.0		Red-Brown fine to medium SAND, some Silt, trace fine to coarse Gravel	4.5	0.3	Macro Core 2'-4'
4.0					
5.0					
6.0				0	Macro Core 4'-8'
7.0					
8.0		Red-Brown SILT, trace fine Sand & Clay (moist)			
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

**Driller:** Wayne Lineberry

**Depth to Water:** Dry

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 12'

**Page:** 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-48
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

**Logical Environmental Solutions**  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0		Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black fine to coarse SAND, little Ash & Cinders	2.5		
3.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	3.5	0	Macro Core 2'-4'
4.0					
6.0				0	Macro Core 4'-8'
8.0		Red-Brown SILT, trace fine Sand & Clay (moist)			
10.0				0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**  
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*Truck, Portable & ATV/Backhoe-Mounted Geoproses*

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-49
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-18-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0 - 1.0		Red-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
1.0 - 2.5		Black fine to coarse SAND, little Ash & Cinders	2.5		
2.5 - 4.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	4.0	0	Macro Core 2'-4'
4.0 - 6.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	6.0	0	Macro Core 4'-8'
6.0 - 8.0		Red-Brown SILT, little Clay, trace fine Sand (moist)	8.0		
8.0 - 10.0		Red-Brown SILT, little Clay, trace fine Sand (moist)	10.0	0	Macro Core 8'-12'
10.0 - 12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobes*

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-50
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-24-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0	Macro Core 2'-4'
4.0		Red-Brown fine to coarse SAND, some Silt, little fine to coarse Gravel	5.0		
6.0				0	Macro Core 4'-8'
8.0		Red-Brown SILT, little Clay, trace fine Sand (moist)			
10.0				0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Project:** New Britain-Hartford Busway      **Boring:** GP-51  
**Location:** New Britain & Newington, CT      **Inspector:** C. Criscuolo  
**Client:** Maguire Group Inc.      **Date:** 4-24-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0.7	Macro Core 2'-4'
4.0		Red-Brown fine to coarse SAND, some Silt, little fine to coarse Gravel	5.0		
6.0				0	Macro Core 4'-8'
8.0		Red-Brown SILT, little Clay, trace fine Sand (moist)			
10.0				0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-52
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-24-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	1.1	Macro Core 2'-4'
4.0		Red-Brown fine to coarse SAND, some Silt, little fine to coarse Gravel	5.0		
6.0				0.3	Macro Core 4'-8'
8.0		Red-Brown SILT, little Clay, trace fine Sand (moist)			
10.0				0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-53
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-24-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0.2	Macro Core 2'-4'
4.0		Red-Brown fine to coarse SAND, some Silt, little fine to coarse Gravel	6.0	0.3	Macro Core 4'-8'
8.0		Red-Brown SILT, little Clay, trace fine Sand (moist)	8.0	0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

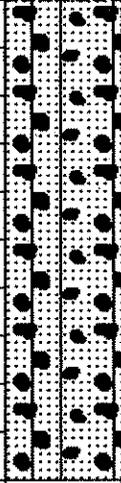
**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-54
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06

  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0.5	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	5.0	0.5	Macro Core 2'-4'
5.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')	10.0	0.2	Macro Core 4'-8'
8.0				0.1	Macro Core 8'-10'
10.0		Refusal at 10' on Weathered SANDSTONE			
11.0					
12.0					

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> Dry	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 9'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-55
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0.5	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	5.0	0.5	Macro Core 2'-4'
3.0					
4.0					
5.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')	10.0	0.2	Macro Core 4'-8'
6.0					
7.0					
8.0					
9.0				0.1	Macro Core 8'-10'
10.0					
11.0		Refusal at 10' on Weathered SANDSTONE			
12.0					

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 9'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 10'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



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<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-56
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	5.0	0	Macro Core 2'-4'
5.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')	12.0	0	Macro Core 4'-8'
8.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')			Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 9'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

<u>Project:</u> New Britain-Hartford Busway	<u>Boring:</u> GP-57
<u>Location:</u> New Britain & Newington, CT	<u>Inspector:</u> C. Criscuolo
<u>Client:</u> Maguire Group Inc.	<u>Date:</u> 4-25-06

  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0	Macro Core 2'-4'
5.0			5.0		
5.0			6.0	0.1	Macro Core 4'-8'
8.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')	10.0	0	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<u>Driller:</u> Wayne Lineberry	<u>Depth to Water:</u> 9'	<u>Boring Dia.:</u> 2"
<u>Rig:</u> Geoprobe 540U	<u>Boring Depth:</u> 12'	<u>Page:</u> 1 of 1

# GEOPROBE SOIL BORING LOG



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<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-58
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0.1	Macro Core 0'-2'
1.0		Black ASH & CINDERS, little fine to coarse Gravel	1.9		Macro Core 2'-4'
2.0			5.0		
3.0		Red-Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel & Cobble (wet at 9')	6.0	0.5	Macro Core 4'-8'
4.0			8.0		
5.0			10.0	0	Macro Core 8'-12'
6.0		End of Boring at 12'	11.0		
7.0			12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 9'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



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<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-59
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0.1	Macro Core 0'-2'
1.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0.1	Macro Core 2'-4'
2.0					
3.0					
4.0					
5.0					
6.0				0	Macro Core 4'-8'
7.0					
8.0					
9.0					
10.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)			
11.0					
12.0		End of Boring at 12'	12.0	0	Macro Core 8'-12'

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

**Project:** New Britain-Hartford Busway

**Boring:** GP-60

**Location:** New Britain & Newington, CT

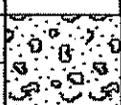
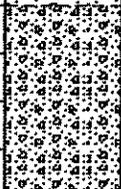
**Inspector:** C. Criscuolo

**Client:** Maguire Group Inc.

**Date:** 4-25-06

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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	3.0	0.3	Macro Core 2'-4'
4.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)	6.0	0	Macro Core 4'-8'
8.0			10.0	0	Macro Core 8'-12'
11.0			12.0		
12.0			End of Boring at 12'		

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

**Driller:** Wayne Lineberry

**Depth to Water:** 3'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 12'

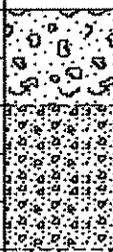
**Page:** 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-61
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-25-06



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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	1.0	0.1	Macro Core 0'-2'
2.0		Black ASH & CINDERS, little fine to coarse Gravel	2.5		
3.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)		0.4	Macro Core 2'-4'
6.0			0	Macro Core 4'-8'	
8.0			0	Macro Core 8'-12'	
12.0			0	Macro Core 8'-12'	
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 4'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**

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*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

**Project:** New Britain-Hartford Busway

**Boring:** GP-62

**Location:** New Britain & Newington, CT

**Inspector:** C. Criscuolo

**Client:** Maguire Group Inc.

**Date:** 4-25-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		Macro Core 0'-2'
1.0				0.1	
2.0		Black ASH & CINDERS, little fine to coarse Gravel			Macro Core 2'-4'
3.0			3.0	0.4	
4.0		Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand	4.0		Macro Core 4'-8'
5.0				0	
6.0					
7.0					
8.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)			Macro Core 8'-12'
9.0				0	
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

**Driller:** Wayne Lineberry

**Depth to Water:** 4'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 12'

**Page:** 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**

354 South River Road

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*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

**Project:** New Britain-Hartford Busway

**Boring:** GP-63

**Location:** New Britain & Newington, CT

**Inspector:** C. Criscuolo

**Client:** Maguire Group Inc.

**Date:** 4-26-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0 - 0.5		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		
0.5 - 2.0		Black ASH & CINDERS, little fine to coarse Gravel		0	Macro Core 0'-2'
2.0 - 3.0			3.0		
3.0 - 4.0		Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand	4.0	0.3	Macro Core 2'-4'
4.0 - 6.0				0	Macro Core 4'-8'
6.0 - 8.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)			
8.0 - 10.0				0	Macro Core 8'-12'
10.0 - 12.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:** and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

**Driller:** Wayne Lineberry

**Depth to Water:** 4'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 12'

**Page:** 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-64
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-26-06

  
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Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		
1.0		Black ASH & CINDERS, little fine to coarse Gravel		0	Macro Core 0'-2'
2.0					
3.0		Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand		0	Macro Core 2'-4'
4.0					
5.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet)		0	Macro Core 4'-8'
6.0					
7.0					
8.0					
9.0				0	Macro Core 8'-12'
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 4'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-65
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-26-06

  
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*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.0	DB	Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		Macro Core 0'-2'
1.0	B	Black ASH & CINDERS, little fine to coarse Gravel	2.0	0	
2.0	RB	Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand	2.5		Macro Core 2'-4'
3.0	B		4.0	0	
4.0	B		6.0	0	Macro Core 4'-8'
5.0	B		8.0	0	
6.0	B		10.0	0	Macro Core 8'-12'
7.0	B		12.0	0	
8.0	B	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 4')			
9.0	B				
10.0	B				
11.0	B				
12.0	B	End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 4'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG

**Project:** New Britain-Hartford Busway

**Boring:** GP-68

**Location:** New Britain & Newington, CT

**Inspector:** C. Criscuolo

**Client:** Maguire Group Inc.

**Date:** 4-26-06

  
**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		
1.0		Black ASH & CINDERS, little fine to coarse Gravel	2.5	0.1	Macro Core 0'-2'
2.0		Red-Brown fine to coarse SAND & GRAVEL, little Silt	3.0	0.1	Macro Core 2'-4'
3.0					
4.0					
5.0					
6.0				0	Macro Core 4'-8'
7.0					
8.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')			
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

**Driller:** Wayne Lineberry

**Depth to Water:** 3'

**Boring Dia.:** 2"

**Rig:** Geoprobe 540U

**Boring Depth:** 12'

**Page:** 1 of 1

# GEOPROBE SOIL BORING LOG



**Logical Environmental Solutions**

354 South River Road

Tolland, CT 06084

*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-66
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-26-06

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5		Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		Macro Core 0'-2'
1.0		Black ASH & CINDERS, little fine to coarse Gravel	2.0	0	
2.0		Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand	2.5		Macro Core 2'-4'
3.0			4.0	0	
4.0			6.0		Macro Core 4'-8'
5.0			8.0	0	
6.0			10.0		Macro Core 8'-12'
7.0		Red-Brown SILT, little Clay and fine to coarse Sand (wet at 4')	12.0	0	
8.0					
9.0					
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 4'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-67
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-26-06

**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoprobes*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5	[Symbol: Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt]	Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		
1.0	[Symbol: Black ASH & CINDERS, little fine to coarse Gravel]	Black ASH & CINDERS, little fine to coarse Gravel	2.0	0.3	Macro Core 0'-2'
2.0	[Symbol: Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand]	Red-Brown SILT, little fine to coarse Gravel & fine to coarse Sand	2.5		
3.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	4.0	0.3	Macro Core 2'-4'
4.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	6.0	0	Macro Core 4'-8'
6.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	8.0		
8.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	10.0	0	Macro Core 8'-12'
10.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	11.0		
11.0	[Symbol: Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')]	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	12.0		
12.0		End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1

# GEOPROBE SOIL BORING LOG



<b>Project:</b> New Britain-Hartford Busway	<b>Boring:</b> GP-69
<b>Location:</b> New Britain & Newington, CT	<b>Inspector:</b> C. Criscuolo
<b>Client:</b> Maguire Group Inc.	<b>Date:</b> 4-26-06

**Logical Environmental Solutions**  
 354 South River Road  
 Tolland, CT 06084  
*Truck, Portable & ATV/Backhoe-Mounted Geoprobos*

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
0.5	•••••	Dark-Brown fine to coarse SAND, little fine to coarse Gravel, trace Silt	0.5		Macro Core 0'-2'
2.5	•••••	Black ASH & CINDERS, little fine to coarse Gravel	2.5	0.5	
3.0	•••••	Red-Brown fine to coarse SAND & GRAVEL, little Silt	3.0	0.5	Macro Core 2'-4'
6.0	•••••	Red-Brown SILT, little Clay and fine to coarse Sand (wet at 3')	6.0	0.2	Macro Core 4'-8'
8.0	•••••		8.0	0	Macro Core 8'-12'
10.0	•••••		10.0	0	
12.0	•••••	End of Boring at 12'	12.0		

**Soil Description:**    and = 35-50%    some = 20-35%    little = 10-20%    trace = 1-10%

<b>Driller:</b> Wayne Lineberry	<b>Depth to Water:</b> 3'	<b>Boring Dia.:</b> 2"
<b>Rig:</b> Geoprobe 540U	<b>Boring Depth:</b> 12'	<b>Page:</b> 1 of 1