RESULTS OF SEWER SAMPLING PROGRAM AND OIL/WATER SEPARATOR INSPECTION AND EVALUATION

Sunnyside Yard
Queens, New York

September 6, 1994

Prepared for:

National Railroad Passenger Corporation
Washington, D.C.

Prepared by:

ROUX ASSOCIATES, INC.
1377 Motor Parkway
Islandia, New York 11788

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

ROUX

1377 MOTOR PARKWAY
ISLANDIA, NEW YORK 11788
TEL 516 232-2600 FAX 516 232-9898

September 6, 1994

Richard Gardineer, P.E.
Regional Hazardous Waste Engineer Region 2
New York State Department of Environmental Conservation
47-40 21st Street
Long Island City, New York 11101

Re: Results of Sewer Sampling Program and Oil/Water Separator Inspection and Evaluation, Sunnyside Yard, Queens, New York

Dear Mr. Gardineer:

Please find enclosed two copies of the above-referenced document for your review. Due to the significant volume of the New York State Department of Environmental Conservation Analytical Services Protocols required sample data package (SDP), only one copy of the SDP and the Data Validation Report have been included as attachments to your enclosure. Additional copies can be provided at your request.

The SDP attachment contains the following analytical reports:

- SDG No.: Z 0375
  IEA I.D.: 30940-0375
- SDG No.: Z 0375
  IEA I.D.: 3094-0375 Addendum
- SDG No.: A 0375
  IEA I.D.: 30940-0375A
- SDG No.: A 0375
  IEA I.D.: 3094-0375A Addendum
- SDG No.: B 0375
  IEA I.D.: 30940-0375B

If you have any questions or require additional information, please do not hesitate to call.

Sincerely,

ROUX ASSOCIATES, INC.

Joseph D. Duminuco
Principal Hydrogeologist/
Project Manager

Enclosures

cc: C. Villarces, NYSDEC (w/o attachment)
A. Sigona, NYSDEC (w/o attachment)
R. Noonan, AMTRAK (w/o attachment)
C. Lin, AMTRAK (w/o attachment)
A. Fazio, P.E., AMTRAK (w/o attachment)
R. Lavell, AMTRAK (w/o attachment)
C. Warren, Esq., Berle, Kass & Case (w/o attachment)
G. Ridsdale, P.E., New Jersey Transit (w/o attachment)

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1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) is currently performing a Remedial Investigation and Feasibility Study (RI/FS), on behalf of the National Railroad Passenger Corporation (AMTRAK) and the New Jersey Transit Corporation (NJT), at the Sunnyside Yard, Queens, New York (Yard). This work is being performed in accordance with an Order on Consent, No. W2-0081-87-06, between the New York State Department of Environmental Conservation (NYSDEC), AMTRAK and the NJT.

During performance of the Phase II RI at the Yard, polychlorinated biphenyls (PCBs) were detected in three sewer-water and three sewer-sediment samples collected at selected manholes throughout the Yard. As a result, Roux Associates prepared the "Work Plan for the Additional Investigation of the Sewer System at the Sunnyside Yard, Queens, New York" (Work Plan) dated June 17, 1993 and revised August 10, 1993. This Work Plan was prepared to address the concerns of AMTRAK and the NYSDEC that PCBs may be leaving the Yard via the Yard-wide combined sewer system.

As shown in the Work Plan, the investigation of the sewer system was designed to follow a phased approach, which is outlined below.

- **Task 1** - limited investigation and sewer-sampling program to determine if PCBs were in the sewer and to identify sewer manhole locations requiring sediment removal.
- **Task 2** - sediment removal.
- **Task 3** - oil/water separator inspection and evaluation.
- **Task 4** - post-sediment removal monitoring to evaluate source(s) of PCBs (i.e., historical or continuing). If a continuing source(s) is indicated, additional work will be performed.

Thus far, Task 1 (Sewer Sampling) and Task 3 (Oil/Water Separator Inspection and Evaluation) have been completed and are discussed in this report along with recommendations for Task 2 (Sediment Removal) locations. Upon approval of the sediment removal locations by the NYSDEC, Task 2 will be implemented and the sewer system monitoring program (Task 4) will be initialized.

The remainder of this report is organized in the following manner:

- Section 2.0 - Scope of Work;
- Section 3.0 - Results;
- Section 4.0 - Recommendations; and
- Section 5.0 - References.

1.1 Background

The facility-wide sewer system at the Yard consists of two separate subsystems, the primary sewer system in the main section of the Yard (i.e., Area 1, the commissary area, body tracks, etc.) and the secondary sewer system in the western section of the Yard. The location of the Yard is shown in Figure 1. Details of the primary and secondary sewer systems are shown in Plate 1.

1.2 Previous Results

During performance of the Phase II RI at the Yard, sewer-water and sewer-sediment samples were collected on February 8 and 9, 1993 from seven manholes in the primary and secondary sewer systems.

As required by protocol, the concentrations of the analytical results included within this report are presented in the same units as the laboratory supplied tables. However, to avoid any confusion resulting from conversion errors, all concentrations have also been reported in parts per million (ppm). One milligram per kilogram (mg/kg) and one milligram per liter (mg/L) are equivalent to one ppm. One microgram per kilogram (μg/kg) and one microgram per liter (μg/L) are equivalent to one part per billion (ppb) and one ppm is equal to 1,000 ppb.

PCBs were detected in three of the seven sewer-water samples and all three of the sewer-sediment samples and ranged from 2.3 μg/L (0.0023 ppm) to 20.6 μg/L (0.0206 ppm) and 4,200 μg/kg (4.2 ppm) to 82,000 μg/kg (82.0 ppm), respectively.

Based upon a review of these results, it was determined that all of the manholes sampled in Area 1 at the Yard would require sediment removal and therefore, the additional investigation was performed entirely outside of Area 1.

1.3 Preliminary Sewer Survey Results

On May 19 and 20, 1993, Roux Associates, accompanied by a representative of AMTRAK's Building and Bridge Division, conducted a preliminary field survey of the Yard to locate the manholes which were identified on the AMTRAK-supplied sewer maps. The manholes that were located were opened and inspected to confirm pipe diameters, directions of flow, sediment accumulation, approximate velocity of flow(s), and water volume in the manholes. The locations and designations of these manholes are shown in Plate 1.

Roux Associates identified several discrepancies between the sewer maps and actual field conditions during the field survey. As necessary, the sewer maps were modified and were provided in the Work Plan. Additional investigations, including several telephone conversations with representatives of the New York City Department of Environmental Protection (NYCDEP), indicated that sewers located north of the Long Island Expressway in Queens County (i.e., the Yard) are thought to discharge to the NYCDEP Bowery Bay Sewage Treatment Plant in Astoria, Queens. Based upon this information, it was concluded that there is no current discharge from the Yard to the Dutch Kills and it has been concluded that historical drawings for the Yard prepared in the early 1900s are no longer accurate.

2.0 SCOPE OF WORK

The investigation of the sewer system was designed to follow a phased approach that would allow a timely collection of data and determination of sources. Two types of contaminant source areas may be present, alone, or in combination at the Yard. The investigation was designed to determine if the PCB detections resulted from historical events (i.e., past practices of waste handling) and associated residuals that may remain in the sewer system, or from continuing sources (e.g., infiltration from surface runoff of contaminated sediments, remobilization of historical discharges, interconnection with separate-phase petroleum contamination in Area 1, etc.).

Initially, a limited investigation and sewer-sampling program were performed to determine if PCBs were in the sewer and to define sewer locations requiring sediment removal. Once manholes requiring sediment removal are defined (See Sections 4.1 and 4.2), the sediment of concern will be removed from those selected locations (Task 2), and the manholes will be monitored to evaluate the source of the PCBs (i.e., historical or continuing). If contaminated sediment re-occurs following completion of the initial sediment removal and a continuing source is indicated, additional work will be performed to further define the source(s) of contamination. If necessary, an Interim Remedial Measure (IRM) will be proposed to address migration of PCBs from the Yard via the sewer system.

Based upon the Work Plan, the overall scope of work for the sewer system investigation was divided into the following four tasks:

- **Task 1:** Sewer Sampling;
- **Task 2:** Sediment Removal;
- **Task 3:** Oil/Water Separator Inspection and Evaluation; and
- **Task 4:** Sewer System Monitoring.

This report addresses the results of Tasks 1 and 3 and recommends sediment removal locations within the primary (including Area 1) and secondary sewer systems within the Yard to be performed as part of Task 2. This report provides the following:

- a description of the general methodology performed during the sewer-sampling and analyses program;

- the PCB analytical results of the Yard-wide sewer-sampling and analyses program (including the PCB analytical results of the Area 1 sewer sampling and analyses program performed during the Phase II RI);
- the results of the oil/water separator inspection and evaluation; and
- recommendations of locations for PCB-contaminated sediment removal from manholes within the primary and secondary sewer systems.

The following sections provide descriptions of the procedures and general methodology used to perform Tasks 1 and 3.

2.1 Yard-Wide Sewer Sampling

The proposed sewer-sampling program consisted of the collection of 19 sewer-water and 24 sewer-sediment samples in the primary system, and six sewer-water and six sewer-sediment samples in the secondary sewer system. It is important to note that actual samples collected were dependent upon the presence of sufficient quantities of sewer water and/or sewer sediment at the time of sampling. If sufficient quantities of sewer water and/or sewer sediment were not present in influent pipes at multiple influent sampling locations but sewer water and/or sewer sediment were present in the manhole, then the sample was collected from the manhole and noted as such.

During the Yard-wide sewer-sampling investigation, Roux Associates collected 11 sewer-water (unfiltered), three filtered sewer-water and 14 sewer-sediment samples in the primary sewer system, and three sewer-water (unfiltered), one filtered sewer-water and four sewer-sediment samples in the secondary sewer system. In summary, of the 25 sewer-water samples proposed, 18 were collected and of the 30 sewer-sediment samples, 18 were collected. However, three sewer-sediment samples collected from three manholes (MH-38, MH-59 and MH-72) were not analyzed due to the collection of insufficient sample volumes. The sample locations and analytical results of the sewer-sampling program are shown in Plates 2 and 3. The justifications for changes in sewer-water and sewer-sediment sampling locations in the primary and secondary systems are summarized in Tables 1 and 2, respectively.

The Sampling and Analysis Plan (SAP), included in Appendix A of the Work Plan, describes the types of samples collected (i.e., sewer water and sewer sediment) and the procedures followed (i.e., decontamination, sample collection) during the sewer sampling activities conducted at the Yard. As shown in Plate 1, several manholes across the Yard contain multiple pipes. To aid in the determination of possible source areas, six representative (five primary and one secondary sewer system) manholes were chosen for multiple influent sampling: MH-39, MH-40, MH-43, MH-52, MW-69 and MH-1 (Plates 2 and 3). However, only one sample was collected from MH-1 since there appeared to be only one influent source.

All samples collected were analyzed on a standard 28-day turnaround. Sewer-sediment samples were analyzed for PCBs by the United States Environmental Protection Agency (USEPA) Method 8080 in accordance with the 1991 NYSDEC Analytical Services Protocol (ASP). Sewer-water samples were analyzed for PCBs by the NYSDEC ASP Method 89-3. A summary of practical quantitation limits (PQLs) for sewer-sediment samples and method detection limits for sewer-water samples are included in Tables 8 and 9, respectively, of the Work Plan.

2.2 Oil/Water Separator Inspection and Evaluation

Roux Associates performed an inspection and evaluation of the oil/water separator located in Area 1, in accordance with the Work Plan. The oil/water separator is located at the northeast corner of the Engine House of Area 1 (Plate 4). This investigation was performed since no construction design of the separator existed, and the source of petroleum to and current operational status of the unit had not been determined. As part of this investigation, the oil/water separator was pumped out and examined to determine the condition and status of the system. The examination included taking detailed dimensional data, denoting inlet and outlet sizes and elevations, and observing the condition of the separator to determine if it was currently functioning as intended.

3.0 RESULTS

The following section provides the results of the sewer-sediment and sewer-water samples analyzed during the sewer-sampling program, and the results of the inspection and evaluation of the oil/water separator located in Area 1. In addition, the Phase II RI analytical results of the PCB sewer-water and sewer-sediment samples collected in Area 1 are provided. The Yard-wide and Area 1 sewer-sampling programs were designed to delineate the extent of PCB contamination in the primary and secondary sewer systems and based upon the results, determine the areas for sediment removal.

3.1 Yard-Wide Sampling

A summary of the analytical results for sewer-water and sewer-sediment samples collected in both the primary and secondary sewer systems are provided in Tables 3 through 6.

As evidenced in the analytical results, PCBs were detected in sewer-sediment samples collected within the primary and secondary sewer systems. Low levels of PCBs, ranging from 0.20 µg/L (0.0002 ppm) to 4.4 µg/L (0.0044 ppm), were observed in five of the unfiltered sewer-water samples collected in manholes within the primary sewer system. However, of the sewer-water samples collected (with corresponding sediment samples), PCBs were only observed in those manholes having PCBs in sewer-sediment samples. This could be in part due to suspending the contaminated sediment particles in the sewer water by agitation or sampling turbid water during the collection of sewer-water samples. PCBs were undetected in the sewer-water samples collected from the secondary sewer system.

3.2 Area 1 Sampling

During the Phase II RI at the Yard, sewer-water and sewer-sediment samples were collected from selected sewer manhole locations in Area 1. Tables 7 and 8 provide a summary of the analytical results for this work. Concentrations of PCBs were found in the two sewer-sediment samples and two of the five sewer-water samples collected during the Phase II RI at the Yard. Sewer-sample locations and the analytical results of the sewer-sampling program are shown in Plate 4. Based upon a review of the results of the Phase II RI sewer sampling and a current understanding of the Yard, it was determined that no additional sampling was needed in Area 1 to recommend areas for sediment removal.

3.3 Oil/Water Separator Inspection and Evaluation

Roux Associates performed an inspection and evaluation of the Area 1 oil/water separator on April 25, 27, and 28, 1994. As part of this investigation, the liquid contents of the oil/water separator were pumped out and upon completion of the pumping, an inspection was made to determine the condition and status of the system.

Day One of Investigation

On day one of the investigation, Roux Associates pumped out the liquid contents of the oil/water separator with the use of a light duty dewatering pump and flexible hose. The contents were transferred into four 55-gallon drums. During pumping operations, the dimensions of the tank were measured and tank characteristics were observed. The approximate location of the oil/water separator (between CB-3 and CB-4) and location of existing sewer piping in the area are shown in Plate 4.

The oil/water separator was observed to have the following structural characteristics:

- the oil/water separator was a steel subsurface dual chamber system, having two metal plates set at grade and covering each chamber;
- the overall tank dimensions were 64 inches long by 42 inches wide by 38 inches deep;
- the chambers were built along a common wall (lengthwise) with a 3-inch thick inner wall separating the two units;
- the inner wall contained a 6-inch diameter (approximate size) penetration which was horizontally located in the center of the wall, with its invert located approximately 26 inches from the top of the tank;
- a 3-inch diameter pipe was also located along the chamber's width off center between the two chambers, which was believed to have been designed to provide structural support for both units;
- the inlet chamber of the oil/water separator contained an inlet pipe which was assumed to be connected to a nearby upgradient catch basin (CB-3), and a screened surface drainage inlet, designed to prevent debris from entering the chamber during a rain storm event; and
- the outlet chamber contained a subsurface outlet pipe which was assumed to be connected to a downgradient catch basin (CB-4).

Once the liquid in the oil/water separator was pumped out to the extent possible, Roux Associates observed a dark brown and black sludge-like sediment in the bottom of each of the two chambers. An oily sheen had been observed in both chambers prior to pump out, and was still observed upon completion of pumping. The sludge was observed to have an oily odor. A slightly higher level of sludge was observed in the outlet chamber which proceeded to flow into the inlet chamber. The depth to sludge in the inlet chamber was observed to be approximately 34 inches from the top of the tank to the top of the sludge. The depth to sludge in the outlet chamber varied but was less than 34 inches from the top of the tank to the top of the sludge.

Day Two of Investigation

On the second day of the investigation, Roux Associates remeasured the depth to sludge in the inlet chamber. The measured depth to sludge from the top of the tank was approximately 32 inches. No additional water was observed in the tank. The tank appeared to be leakproof and the slight difference in measurements from day one to day two appeared to result from the equalization of sludge volume in both chambers, rather than a leak in the tank.

Final Day of Investigation

Roux Associates observed a high water level in both chambers on the final day of the investigation. The measured depth to water from the top of the tank was approximately 14.5 inches. Since it had rained the evening before, the additional water appeared to be derived from storm-water drainage. The storm water was believed to have entered through the screened surface drain inlet and the inlet pipe (assumed to be connected to CB-3). The liquid contents were observed to be brown and black in color, which was most likely derived from the sludge on the bottom of the chambers. No defined drainage swales were observed on the surface draining in the direction of the screened surface drainage inlet.

4.0 RECOMMENDATIONS

In accordance with the Work Plan, a sediment removal program is recommended for the Yard. The detections of PCBs in sewer-water samples most likely resulted from the collection of solid particles containing PCBs with the sewer-water samples. Since PCBs are insoluble in water, and typically adhere or bind to sediment and particulates which were observed to accumulate in certain sewer manholes and catch basins, these locations are designated for sediment removal activities.

The following sections recommend areas for sediment removal based upon the PCBs detected in sewer samples collected within the primary and secondary sewer systems (including Area 1).

4.1 Yard-Wide Sediment Removal

Based upon a review of the analytical results of the Yard-wide sewer-sampling program, proposed sediment removal locations for the primary and secondary sewer systems (excluding Area 1) have been determined. Ten locations for sediment removal have been selected in the primary sewer system and three locations have been selected in the secondary sewer system. Specifically, the removal program consists of the pumping out of a total of 12 manholes and one catch basin which are identified in Plate 5. The sediment removal locations were selected based upon the detection of PCBs in sewer-sediment and sewer-water samples. The justifications for the proposed sediment removal locations are summarized in Table 9.

4.2 Area 1 Sediment Removal

Based upon a review of the results of PCB sampling of sewer sediment collected during the Phase II RI and previous experience at the Yard, ten locations have been recommended for sediment removal in Area 1. The locations, which include four manholes and six catch basins are shown in Plate 6. Sediment will be pumped out of the selected manholes and catch basins from the Area 1 sewer system by the method described below. The justifications for the sediment removal locations in Area 1 are summarized in Table 10.

Upon NYSDEC approval, the sediment removal program both in Area 1 and Yard-wide will be implemented by an AMTRAK-approved remediation contractor. The contractor will remove sediment from the manholes and catch basins through the use of a vacuum truck or similar pumping mechanism, capable of pumping out sediment, debris and any associated liquids from the bottom of manholes and catch basins. Prior to pumping out the manholes, the contractor will block off upstream piping (if possible) with sandbags or an inflatable bladder to prevent excessive inflow and pump out standing liquids into the vacuum truck. The remaining sediment in the manholes will then be removed manually and stored in drums by contractor personnel. The contractors will be properly trained and will enter the manholes in accordance with approved confined space entry procedures. After cleaning out the manhole, the sandbags or bladder in the upstream piping will be removed to allow continued flow. In addition, to further minimize the volume of water pumped from the manholes and catch basins, this operation will not be performed during a heavy rain event. Once the program is completed, sediment and any water collected during the process will be disposed of in accordance with applicable regulations. In addition, a letter report shall be submitted to the NYSDEC summarizing the sediment removal program and results.

4.3 Oil/Water Separator

Based upon the results of the oil/water separator inspection and evaluation at the Yard, Roux Associates recommends that the oil/water separator in Area 1 be properly abandoned. Based upon a phone conversation with a NYCDEP representative, the existing system would not meet current NYCDEP permit standards for oil/water separator construction. In addition, the build up of sludge in the chambers, and the potential for oil to be discharged into the sewer system could potentially reoccur in the future. Since the Engine House is no longer an active facility and train maintenance in the area of the oil/water separator is minimal, it is recommended that the oil/water separator be abandoned during the future Area 1 construction activities and remediation work. However, the sludge in the oil/water separator will be pumped out during the initiation of the Area 1 sediment removal program.

5.0 REFERENCES

Roux Associates, Inc. 1993. Work Plan for the Additional Investigation of the Sewer System at the Sunnyside Yard, Queens, New York. June 17, 1993, revised August 10, 1993.

TABLES

Table 1. Summary of Actual Primary Sewer-Sampling Program, Sunnyside Yard, Queens, New York.

Sampling Location	Sampling Date	Water Sample Designation	Filtered Water Sample Designation	Sediment Sample Designation	Justification for Change to Sampling Plan (if applicable)
MH-2	4/26/94	MHW-2 (4x8) N	MHWF-2 (4x8) N	MHS-2 (Bottom)	
MH-22	4/27/94				No sediment or water were present
MH-29	4/27/94	MHW-29 (Bottom)		MHS-29 (Bottom)	
MH-35	4/27/94			MHS-35 (Bottom)	
MH-37	4/27/94			MHS-37 (Bottom)	
MH-38	4/27/94			MHS-38 (Bottom)	Although sediment sample was collected, laboratory analyses could not be performed due to insufficient sample volume.
MH-39	4/26/94	MHW-39 (Bottom) MHW-39 (24) S			No water or sediment were present in (24) N. No access to (18). No sediment was present in (24) S or manhole.
MH-40	4/25/94	MHW-40 (48) E MHW-40 (4x8) S	MHWF-40 (48) E	MHS-40 (48) E MHS-40 (4x8) S	
MH-42	4/26/94			MHS-42 (Bottom)	
MH-43	4/27/94	MHW-43 (Bottom)			Water only accessible in center of manhole. No sediment in manhole.
MH-45	4/28/94			MHS-45 (Bottom)	
MH-49	4/26/94				No sediment in manhole.
MH-51	4/26/94				Insufficient sediment volume available in manhole.
MH-52	4/26/94	MHW-52 (18) SE MHW-52 (42) SW MHW-52 (10) N	MHWF-52 (42) SW	MHS-52 (Bottom)	Water sample was taken from additional pipe (10) N. Insufficient sediment volume available. Only 1 sediment sample was taken.
MH-54	4/25/94				Manhole not accessible due to site contraints.
MH-55	4/26/94			MHS-55 (Bottom)	
MH-69	4/27/94	MHW-69 (Bottom)		MHS-69 (18) NE MHS-69 (36) E	Water only sampled at center of manhole since water was stagnant.
MH-72	4/27/94			MHS-72 (Bottom)	Sediment sample taken at this location since no sediment sample was taken at MH-43. Although sediment sample was collected, laboratory analyses could not be performed due to insufficient sample volume.

Table 2. Summary of Actual Secondary Sewer-Sampling Program, Sunnyside Yard, Queens, New York.

Sampling Location	Sampling Date	Water Sample Designation	Filtered Water Sample Designation	Sediment Sample Designation	Justification Change (if applicable)
MH-1	4/28/94	MHW-1 (Bottom)	MHWF-1 (Bottom)	MHS-1 (Bottom)	Multiple samples were not collected since there appeared to be only one influent source.
MH-59	4/28/94	MHW-59 (Bottom)		MHS-59 (Bottom)	Water sample was taken at this location since MH-61 was not found in field. Although sediment sample was collected, laboratory analyses could not be performed due to insufficient sample volume.
MH-61	4/28/94				Not found in field. Believed to have been buried during trench construction.
MH-65	4/28/94			MHS-65 (Bottom)	
MH-75	4/28/94				Not found in field and the NYCDEP was not available to confirm manhole location.
CB-28	4/28/94	CBW-28 (Bottom)		CBS-28 (Bottom)	Water and sediment samples taken at this location since MH-61 was not found in field.

Table 3. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Water Samples Collected in the Primary Sewer System, Sunnyside Yard, Queens, New York.

Sample Designation:	MHW-2 (4x8)N	MHWF-2 (4x8)N	MHW-29 (Bottom)	MHW-39 (Bottom)	MHW-39 (24)S	MHW-40 (4x8)S
Sample Date:	4/26/94	4/26/94	4/27/94	4/26/94	4/26/94	4/25/94
(PCB) Compounds (Concentrations in ug/L)						
Aroclor-1016	0.065 UJ	0.065 UJ	0.50 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1221	0.065 UJ	0.065 UJ	0.50 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1232	0.065 UJ	0.065 UJ	0.50 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1242	0.065 UJ	0.065 UJ	0.50 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1248	0.065 UJ	0.065 UJ	0.50 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1254	0.23 J	0.065 UJ	1.0 U	0.065 UJ	0.065 U	0.065 U
Aroclor-1260	0.43 J	0.065 UJ	1.0 U	0.20 J	0.065 U	0.065 U

Sample Designation:	MHW-40 (48)E	MHWF-40 (48)E	MHW-43 (Bottom)	MHW-43 DUP (Bottom)	MHW-52 (10)N	MHW-52 (18)SE
Sample Date:	4/25/94	4/25/94	4/27/94	4/27/94	4/26/94	4/26/94
(PCB) Compounds (Concentrations in ug/L)						
Aroclor-1016	0.065 U	0.065 U	0.065 UJ	0.065 U	0.065 U	0.065 U
Aroclor-1221	0.065 U	0.065 U	0.065 UJ	0.065 U	0.065 U	0.065 U
Aroclor-1232	0.065 U	0.065 U	0.065 UJ	0.065 U	0.065 U	0.065 U
Aroclor-1242	0.065 U	0.065 U	0.065 UJ	0.065 U	0.065 U	0.065 U
Aroclor-1248	0.065 U	0.065 U	0.065 UJ	0.065 U	0.065 U	0.065 U
Aroclor-1254	0.24 J	0.065 U	0.065 UJ	0.22 J	0.065 U	0.065 U
Aroclor-1260	0.27 J	0.065 U	0.065 UJ	0.56 J	0.065 U	0.065 U

Sample Designation:	MHW-52 (42)SW	MHWF-52 (42)SW	MHW-69 (Bottom)
Sample Date:	4/26/94	4/26/94	4/28/94
(PCB) Compounds (Concentrations in ug/L)			
Aroclor-1016	0.065 U	0.065 UJ	0.50 U
Aroclor-1221	0.065 U	0.065 UJ	0.50 U
Aroclor-1232	0.065 U	0.065 UJ	0.50 U
Aroclor-1242	0.065 U	0.065 UJ	0.50 U
Aroclor-1248	0.065 U	0.065 UJ	0.50 U
Aroclor-1254	0.065 U	0.065 UJ	1.0 U
Aroclor-1260	0.065 U	0.065 UJ	4.4

ug/L - Micrograms per liter
U - Indicates that the compound was analyzed for but not detected.
DUP - Duplicate sample
F - Filtered sample
J - Estimated value

Table 4. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Sediment Samples Collected in the Primary Sewer System, Sunnyside Yard, Queens, New York.

Sample Designation:	MHS-2 (Bottom)	MHS-29 (Bottom)	MHS-35 (Bottom)	MHS-37 (Bottom)	MHS-40 (4x8)S	MHS-40 (48)E	MHS-42 (Bottom)
Sample Date:	4/26/94	4/27/94	4/28/94	4/28/94	4/25/94	4/25/94	4/26/94
(PCB) Compounds (Concentrations in ug/kg)							
Aroclor-1016	1,200 U	100 U	170 U	510 U	1,000 U	1,000 U	2,100 U
Aroclor-1221	1,200 U	100 U	170 U	510 U	1,000 U	1,000 U	2,100 U
Aroclor-1232	1,200 U	100 U	170 U	510 U	1,000 U	1,000 U	2,100 U
Aroclor-1242	1,200 U	100 U	700	510 U	1,000 U	1,000 U	2,100 U
Aroclor-1248	2,000 J	100 U	170 U	510 U	2,100 J	5,200 J	13,000 J
Aroclor-1254	2,400 U	200 U	340 U	1,000 U	2,000 U	2,000 U	4,300 U
Aroclor-1260	9,900 J	170 J	250 J	9,400	13,000 J	11,000 J	38,000 J

Sample Designation:	MHS-45 (Bottom)	MHS-52 (Bottom)	MHS-55 (Bottom)	MHS-69 (18)NE	MHS-69 (36)E
Sample Date:	4/28/94	4/26/94	4/26/94	4/28/94	4/28/94
(PCB) Compounds (Concentrations in ug/kg)					
Aroclor-1016	110 U	110 U	1,000 U	1,100 U	2,000 U
Aroclor-1221	110 U	110 U	1,000 U	1,100 U	2,000 U
Aroclor-1232	110 U	110 U	1,000 U	1,100 U	2,000 U
Aroclor-1242	110 U	110 U	1,000 U	1,100 U	2,000 U
Aroclor-1248	53 J	110 U	1,000 U	1,100 U	2,000 U
Aroclor-1254	700 J	1,600 J	13,000 J	2,100 U	4,100 U
Aroclor-1260	750 J	1,300 J	12,000 J	4,700	29,000 J

ug/kg - Micrograms per kilogram
U - Indicates that the compound was analyzed for but not detected.
J - Estimated value

Table 5. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Water Samples Collected in the Secondary Sewer System, Sunnyside Yard, Queens, New York.

Sample Designation:	MHW-1 (Bottom)	MHWF-1 (Bottom)	MHW-59 (Bottom)	CBW-28 (Bottom)
Sample Date:	4/28/94	4/28/94	4/28/94	4/28/94
(PCB) Compounds (Concentrations in ug/L)				
Aroclor-1016	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1221	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1232	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1242	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1248	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1254	0.065 U	0.065 U	0.065 U	0.065 UJ
Aroclor-1260	0.065 U	0.065 U	0.065 U	0.065 UJ

ug/L - Micrograms per liter
U - Indicates that the compound was analyzed for but not detected.
F - Filtered sample
J - Estimated value

Table 6. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Sediment Samples Collected in the Secondary Sewer System, Sunnyside Yard, Queens, New York.

Sample Designation:	MHS-1 (Bottom)	MHS-65 (Bottom)	CBS-28 (Bottom)
Sample Date:	4/28/94	4/28/94	4/28/94
(PCB) Compounds (Concentrations in ug/kg)			
Aroclor-1016	530 U	150 U	96 U
Aroclor-1221	530 U	150 U	96 U
Aroclor-1232	530 U	150 U	96 U
Aroclor-1242	530 U	150 U	96 U
Aroclor-1248	530 U	220	96 U
Aroclor-1254	1,800	300 U	230
Aroclor-1260	1,700	440	260

ug/kg - Micrograms per kilogram
U - Indicates that the compound was analyzed for but not detected.

Table 7. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Water Samples Collected During Phase II Investigation of Area 1, Sunnyside Yard, Queens, New York.

Sample Designation:	MHW-3	MHW-5	MHW-6	MHW-7	MHW-8
Sample Date:	2/8/93	2/8/93	2/8/93	2/8/93	2/9/93
(PCB) Compounds (Concentrations in ug/L)					
Aroclor-1016	0.065 U	0.065 U	0.067 U	0.32 U	0.33 U
Aroclor-1221	0.065 U	0.065 U	0.067 U	0.32 U	0.33 U
Aroclor-1232	0.065 U	0.065 U	0.067 U	0.32 U	0.33 U
Aroclor-1242	0.065 U	0.065 U	0.067 U	0.32 U	0.33 U
Aroclor-1248	0.065 U	0.065 U	0.067 U	2.6	0.33 U
Aroclor-1254	0.32 UV	0.065 U	0.48 UV	5.9	9.6 JV
Aroclor-1260	0.31 UV	0.065 U	0.33 UV	6.3	11 JV

ug/L - Micrograms per liter
U - Indicates that the compound was analyzed for but not detected.
J - Estimated Value
V - Qualifier added and/or value altered during data validation.

Table 8. Summary of Polychlorinated Biphenyl Compound Concentrations Detected in Sewer-Sediment Samples, Collected During Phase II Investigation of Area 1, Sunnyside Yard, Queens, New York.

Sample Designation:	MHS-3	MHS-8DL
Sample Date:	2/8/93	2/9/93
(PCB) Compounds (Concentrations in ug/kg)		
Aroclor-1016	4,100 U	430 U
Aroclor-1221	8,400 U	870 U
Aroclor-1232	4,100 U	430 U
Aroclor-1242	3,000 JV	430 U
Aroclor-1248	4,100 U	430 U
Aroclor-1254	29,000 V	1,300 JV
Aroclor-1260	22,000 V	2,900 V

ug/kg - Micrograms per kilogram (parts per billion)
U - Indicates that the compound was analyzed for but not detected.
J - Estimated value.
V - Qualifier added and/or value altered during validation.

NOTE: Some samples were analyzed at a secondary (higher) dilution and are designated DL. Based upon data validation, either the primary or secondary results of some Aroclor species are considered to be more representative of actual conditions.

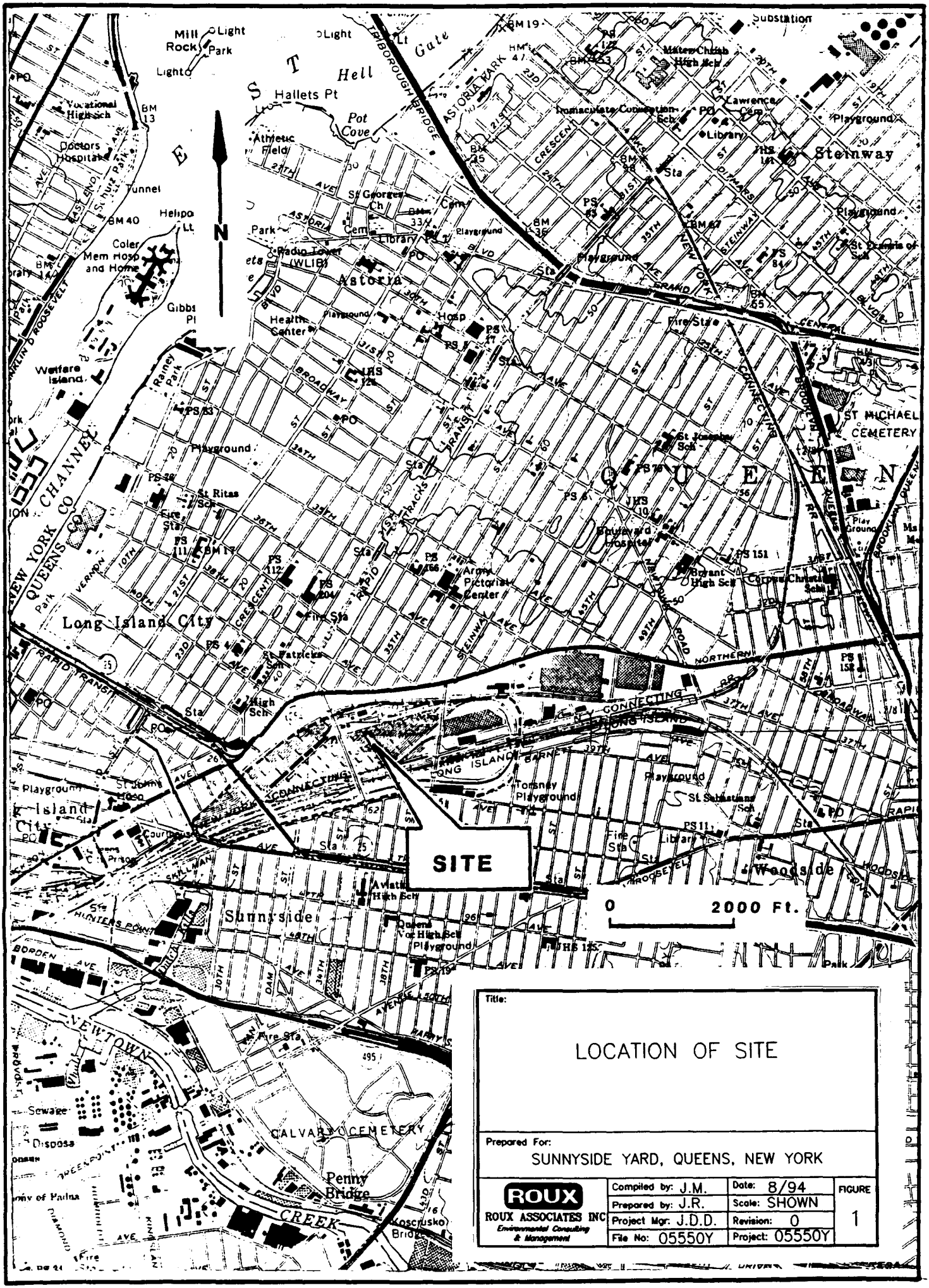
Table 9. Summary of the Sediment Removal Justifications for the Primary and Secondary Sewer Systems, Sunnyside Yard, Queens, New York.

Manhole/Catch Basin Designation	Justification
MH-1 MH-65	Eliminate contaminated sediments from manholes located on south side of Thompson Avenue in secondary sewer system and to evaluate the source(s) of PCBs
MH-2 MH-52 MH-55	Eliminate contaminated sediments from manholes located on west side of primary sewer system and to evaluate the source(s) of PCBs
MH-35 MH-37 MH-40 MH-42	Eliminate contaminated sediments from manholes located on west side of Honeywell Street in primary sewer system and to evaluate the source of PCBs
MH-69	Eliminate contaminated sediments from manhole located on southwest side of the New Commissary Building and to evaluate the source of PCBs
MH-45	Eliminate contaminated sediments from manhole located northeast of Honeywell Street and Skillman Avenue intersection and to evaluate the source of PCBs
MH-29	Eliminate contaminated sediments from manhole located on north side of Wheel House and to evaluate the source of PCBs
CB-28	Eliminate contaminated surface runoff sediments from catch basin in secondary sewer system north of Thompson Avenue and to evaluate the source(s) of PCBs

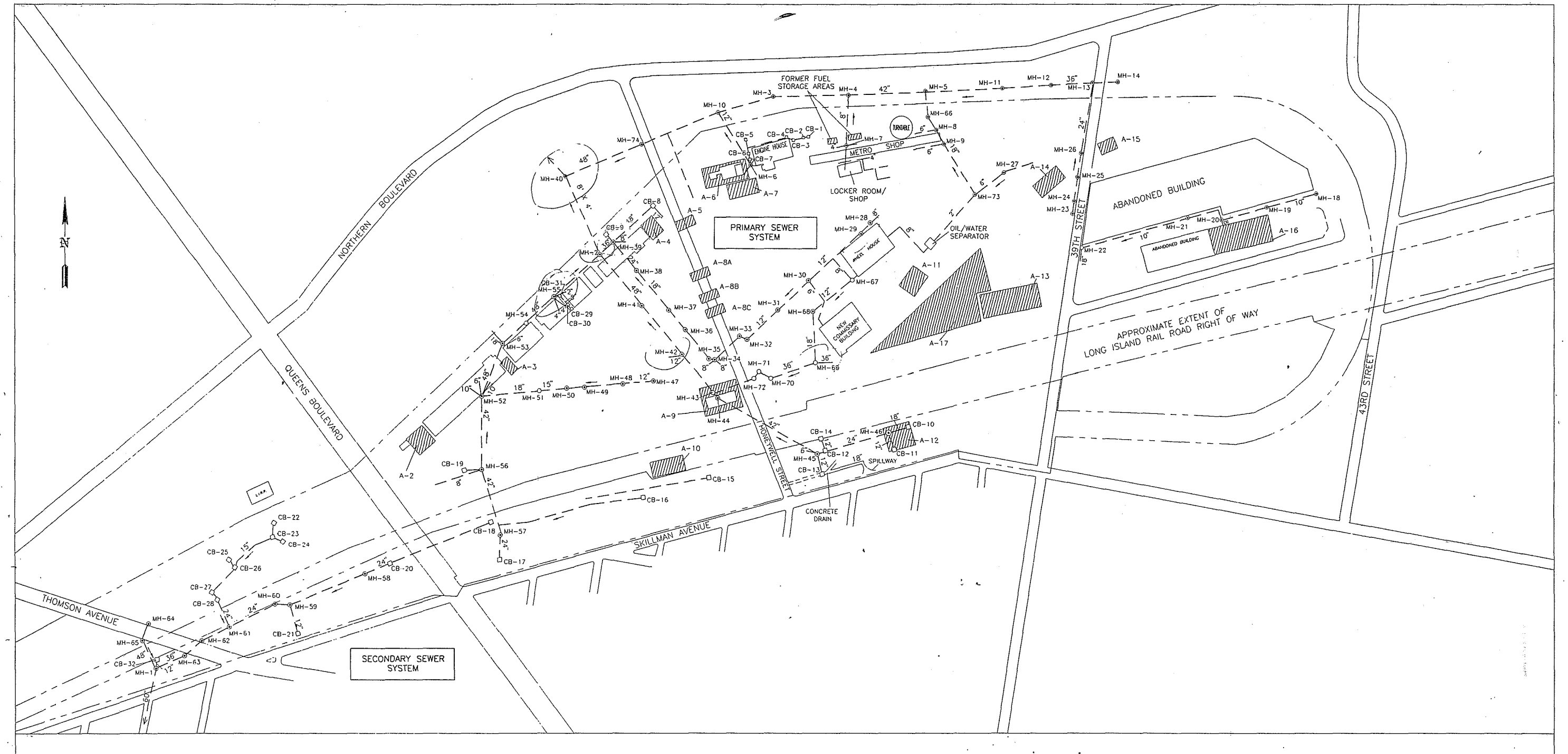
Table 10. Summary of Proposed Area 1 Sediment Removal Location Justifications, Sunnyside Yard, Queens, New York.

Manhole/Catch Basin Location	Justification
CB-1 CB-2 CB-3 CB-4	Eliminate contaminated surface runoff from catch basins at the east side of the Engine House in the vicinity of the former fuel transfer area and to evaluate the source(s) of PCBs
CB-6 CB-7	Eliminate contaminated surface runoff sediments from catch basins at the west side of the Engine House in the vicinity of the drum storage area and to evaluate the source(s) of PCBs
MH-3	Eliminate contaminated sediments from manhole located on Long Island Railroad property to the north of area and to evaluate the source(s) of PCBs
MH-5	Eliminate potentially contaminated sediments downgradient of contaminated sediments in MH-8 and to evaluate the source(s) of PCBs
MH-7 MH-8	Eliminate contaminated sediments from manholes located adjacent to the Metro Shop and to evaluate the source(s) of PCBs

FIGURES


SITE
0 2000 Ft.
Long Island City
Sunnyside
Astoria
Woodside
Steinway
Hallets Pt
Pot Cove
Mill Rock Park
Welfare Island
Penny Bridge
CALVARY CEMETERY
ST MICHAEL CEMETERY
QUEENSBORO BRIDGE
TRIBOROUGH BRIDGE
NEW YORK CO
QUEENS CO
CHANNEL
EAST RIVER
Title:
LOCATION OF SITE
Prepared For:
SUNNYSIDE YARD, QUEENS, NEW YORK
ROUX
ROUX ASSOCIATES INC
Environmental Consulting & Management
Compiled by: J.M.
Date: 8/94
Prepared by: J.R.
Scale: SHOWN
Project Mgr: J.D.D.
Revision: 0
File No: 05550Y
Project: 05550Y
FIGURE
1

PLATES



EXPLANATION

- DIRECTION OF SEWER FLOW
- APPROXIMATE LOCATION AND DIAMETER OF SEWER (12")
- CB-1 GRATE COVER CATCH BASIN LOCATION AND DESIGNATION
- MH-1 SOLID COVER MANHOLE LOCATION AND DESIGNATION
- MH-22 GRATE COVER MANHOLE LOCATION AND DESIGNATION
- A-2 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN
- APPROXIMATE PROPERTY BOUNDARY

NOTES. LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.

SEWER LINE CONNECTING MH-14 THROUGH MH-17 PREVIOUSLY IDENTIFIED ON ENGINEERING DIAGRAMS WAS NOT LOCATED DURING FIELD SURVEY AND IS PRESUMED NOT TO HAVE BEEN CONSTRUCTED. THEREFORE IT DOES NOT APPEAR ON THIS PLATE.

0 200 400 FEET

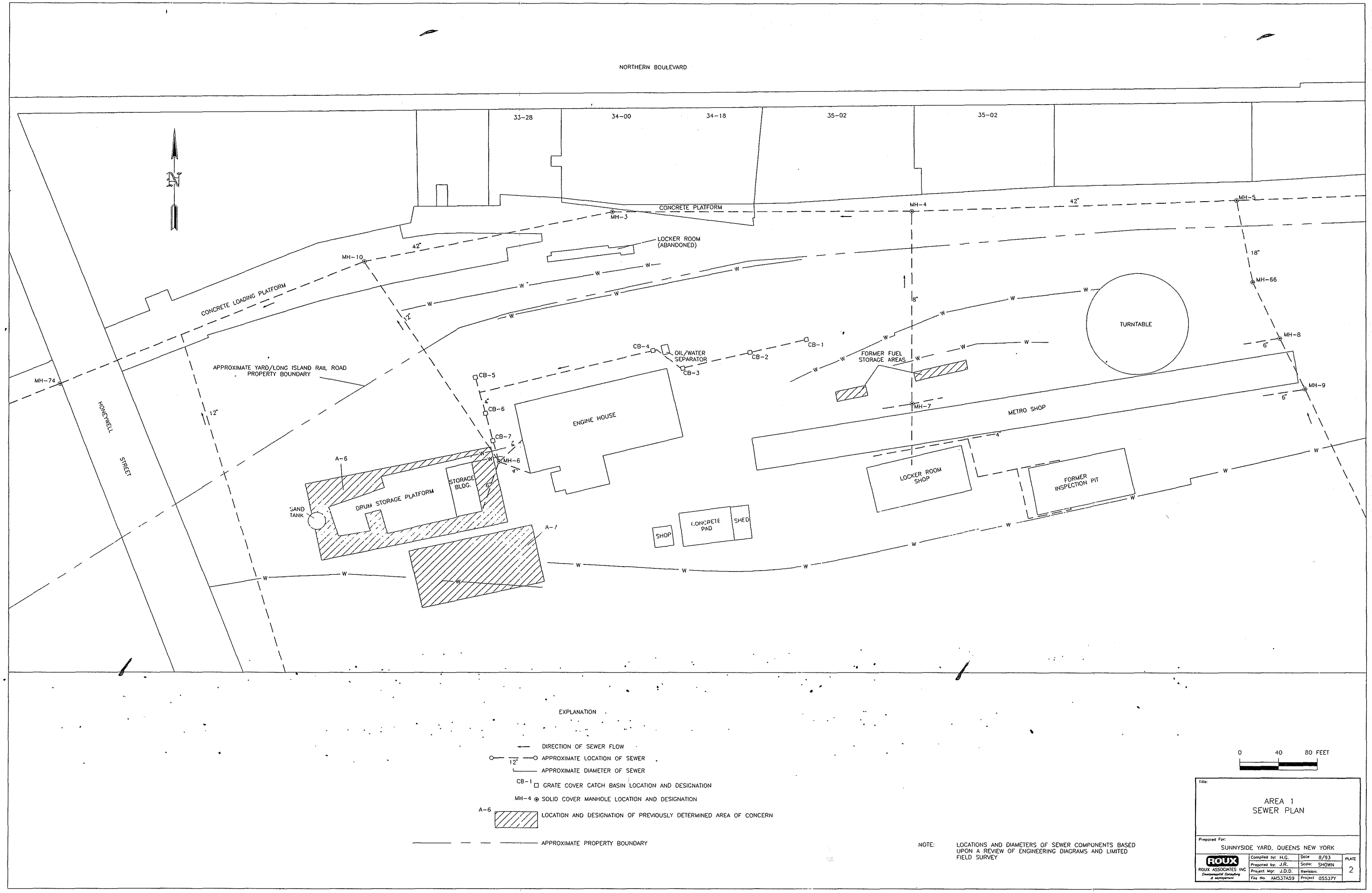
Title

FACILITY WIDE SEWER PLAN

Prepared For
SUNNYSIDE YARD, QUEENS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: J.M.	Date: 8/94	PLATE	
Prepared by: J.R.	Scale: SHOWN		
Project Mgr: J.D.D.	Revision: 0		1
File No: AM550A01	Project: 05550Y		



EXPLANATION

- DIRECTION OF SEWER FLOW
- 12" APPROXIMATE LOCATION OF SEWER / APPROXIMATE DIAMETER OF SEWER
- CB-1 GRATE COVER CATCH BASIN LOCATION AND DESIGNATION
- MH-4 SOLID COVER MANHOLE LOCATION AND DESIGNATION
- A-6 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN
- APPROXIMATE PROPERTY BOUNDARY

NOTE: LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY

0 40 80 FEET

Title:

AREA 1
SEWER PLAN

Prepared For:

SUNNYSIDE YARD, QUEENS NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: H.G.	Date: 8/93	PLATE
Prepared by: J.R.	Scale: SHOWN	2
Project Mgr. J.D.D.	Revision:	
File No. AM537A59	Project 055377	

MHW-39 (BOTTOM)	4/26/94
POLYCHLORINATED BIPHENYLS AROCLOR-1260	0.20 J

MHW-39 (24)S	4/26/94
POLYCHLORINATED BIPHENYLS	ND

MHW-29 (BOTTOM)	4/27/94
POLYCHLORINATED BIPHENYLS	ND

MHW-40 (48)E	4/25/94
POLYCHLORINATED BIPHENYLS	
AROCLOR-1254	0.24 J
AROCLOR-1260	0.27 J

MHW-40 (4x8)S	4/25/94
POLYCHLORINATED BIPHENYLS	ND

MHW-2 (4x8)N	4/26/94
POLYCHLORINATED BIPHENYLS	
AROCLOR-1254	0.23 J
AROCLOR-1260	0.43 J

MHW-52 (10)N, (18)SE, (42)SW	4/26/94
POLYCHLORINATED BIPHENYLS	ND

CBW-28 (BOTTOM)	4/28/94
POLYCHLORINATED BIPHENYLS	ND

MHW-1 (BOTTOM)	4/28/94
POLYCHLORINATED BIPHENYLS	ND

MHW-59 (BOTTOM)	4/28/94
POLYCHLORINATED BIPHENYLS	ND

MHW-43 (BOTTOM)	4/27/94
POLYCHLORINATED BIPHENYLS	ND

MHW-43 DUPLICATE (BOTTOM)	4/27/94
POLYCHLORINATED BIPHENYLS	
AROCLOR-1254	0.22 J
AROCLOR-1260	0.56 J

MHW-69 (BOTTOM)	4/28/94
POLYCHLORINATED BIPHENYLS	
AROCLOR-1260	4.4

NORTHERN BOULEVARD
QUEENS BOULEVARD
THOMSON AVENUE
SKILLMAN AVENUE
39TH STREET
43RD STREET
HONEYWELL STREET
FORMER FUEL STORAGE AREAS
PRIMARY SEWER SYSTEM
SECONDARY SEWER SYSTEM
ENGINE HOUSE
METRO SHOP
LOCKER ROOM/ SHOP
WHEEL HOUSE
OIL/WATER SEPARATOR
NEW COMMISSARY BUILDING
ABANDONED BUILDING
ABANDONED BUILDING
APPROXIMATE EXTENT OF LONG ISLAND RAIL ROAD RIGHT OF WAY
CONCRETE DRAIN
SPILLWAY
LIRR

EXPLANATION

- DIRECTION OF SEWER FLOW
- APPROXIMATE LOCATION AND DIAMETER OF SEWER
- CB-1 GRATE COVER CATCH BASIN LOCATION AND DESIGNATION
- MH-1 SOLID COVER MANHOLE LOCATION AND DESIGNATION
- MH-22 GRATE COVER MANHOLE LOCATION AND DESIGNATION
- A-2 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN
- APPROXIMATE PROPERTY BOUNDARY

NOTES: LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.

SEWER LINE CONNECTING MH-14 THROUGH MH-17 PREVIOUSLY IDENTIFIED ON ENGINEERING DIAGRAMS WAS NOT LOCATED DURING FIELD SURVEY AND IS PRESUMED NOT TO HAVE BEEN CONSTRUCTED THEREFORE, IT DOES NOT APPEAR ON THIS PLATE.

DIAMETER OF PIPE (IN INCHES)
LOCATION OF PIPE ENTERING MANHOLE (EAST)
SAMPLING DATE
MANHOLE SAMPLE DESIGNATION

MHW-40 (48)E	4/25/94
POLYCHLORINATED BIPHENYLS	
AROCLOR-1254	0.24 J
AROCLOR-1260	0.27 J

CONCENTRATION OF POLYCHLORINATED BIPHENYLS (PCBs) DETECTED IN SEWER WATER

NOTES: SEWER WATER RESULTS REPORTED IN MICROGRAMS PER LITER (PARTS PER BILLION).
ND - NOT DETECTED
J - ESTIMATED VALUE

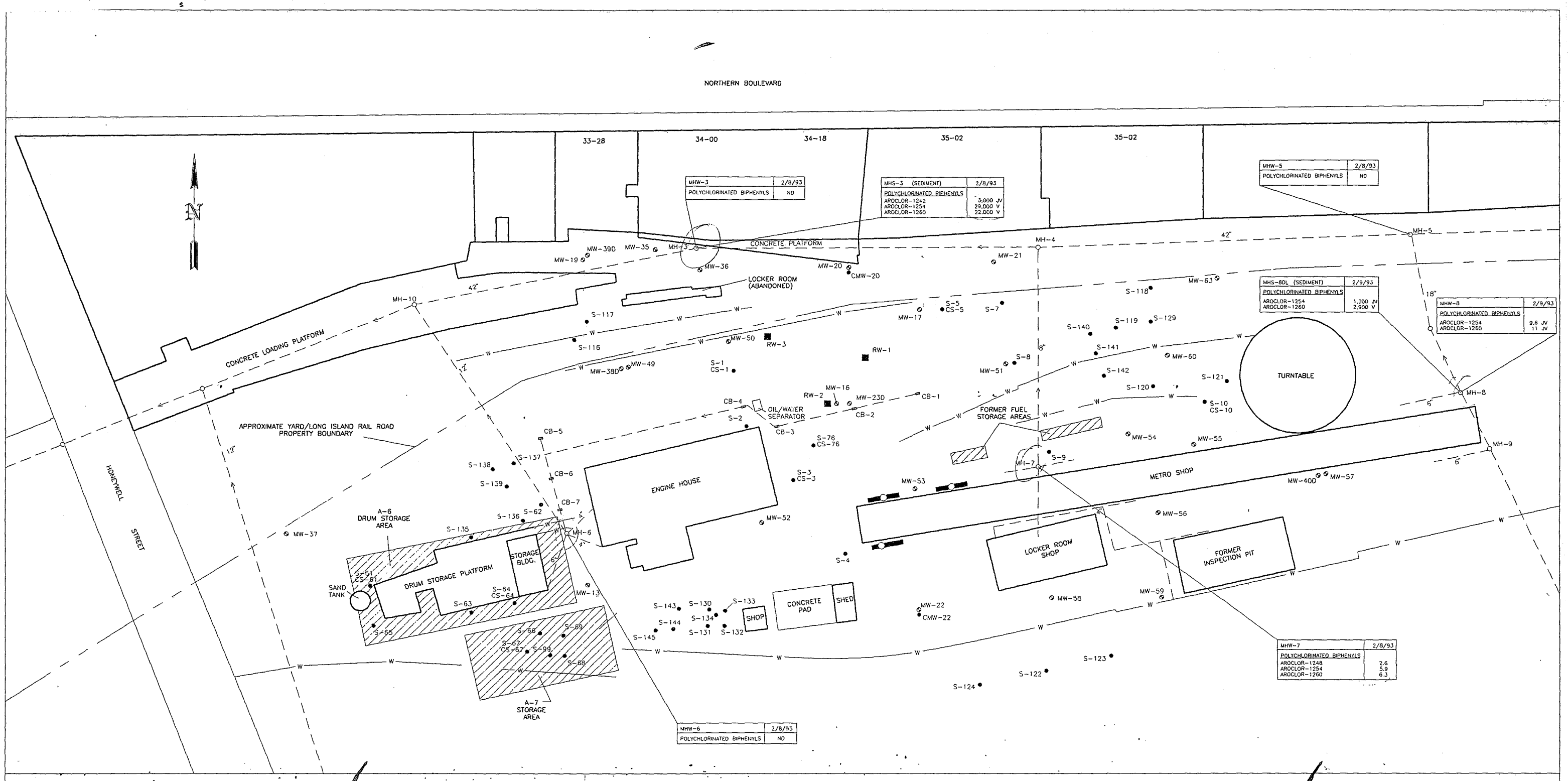
0 200 400 FEET

Title:
FACILITY WIDE CONCENTRATIONS OF POLYCHLORINATED BIPHENYLS DETECTED IN SEWER WATER DURING SEWER INVESTIGATION

Prepared For:
SUNNYSIDE YARD, QUEENS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: J.M.	Date: 8/94	PLATE
Prepared by: J.R.	Scale: SHOWN	3
Project Mgr: J.D.D.	Revision: 0	
File No AM550C03	Project: 05550Y	



EXPLANATION

- MW-22 — EXISTING MONITORING WELL LOCATION AND DESIGNATION
- RW-2 — EXISTING RECOVERY WELL (INTERIM REMEDIAL MEASURE) LOCATION AND DESIGNATION
- S-1 / CS-1 — EXISTING SOIL BORING LOCATION AND DESIGNATION
- 42" — APPROXIMATE LOCATION AND DIAMETER OF SEWER
- MH-6 — SEWER MANHOLE LOCATION AND DESIGNATION
- INFERRED LOCATIONS OF CATCH BASINS TAKEN FROM ENGINEERING DIAGRAMS.
- W — APPROXIMATE LOCATION OF RETAINING WALL
- RECOVERY TRENCH LOCATION
- A-6 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN

MANHOLE SAMPLE DESIGNATION

MHW-7	2/8/93 — SAMPLING DATE
POLYCHLORINATED BIPHENYLS	
AROCLOR-1248	2.6
AROCLOR-1254	5.9
AROCLOR-1260	6.3 — CONCENTRATION OF POLYCHLORINATED BIPHENYLS (PCBs) DETECTED IN SEWER WATER OR SEWER SEDIMENT

NOTES:
SEWER WATER RESULTS REPORTED IN MICROGRAMS PER LITER (PARTS PER BILLION).
SEWER SEDIMENT RESULTS REPORTED IN MICROGRAMS PER KILOGRAM (PARTS PER MILLION).
ND – NOT DETECTED
J – ESTIMATED VALUE
V – QUALIFIER ADDED AND/OR VALUE ALTERED DURING VALIDATION
SOME SAMPLES WERE ANALYZED AT A SECONDARY (HIGHER) DILUTION AND ARE DESIGNATED DL. BASED UPON DATA VALIDATION, EITHER THE PRIMARY OR SECONDARY RESULTS OF SOME AROCLOR SPECIES ARE CONSIDERED TO BE MORE REPRESENTATIVE OF ACTUAL CONDITIONS.
LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.

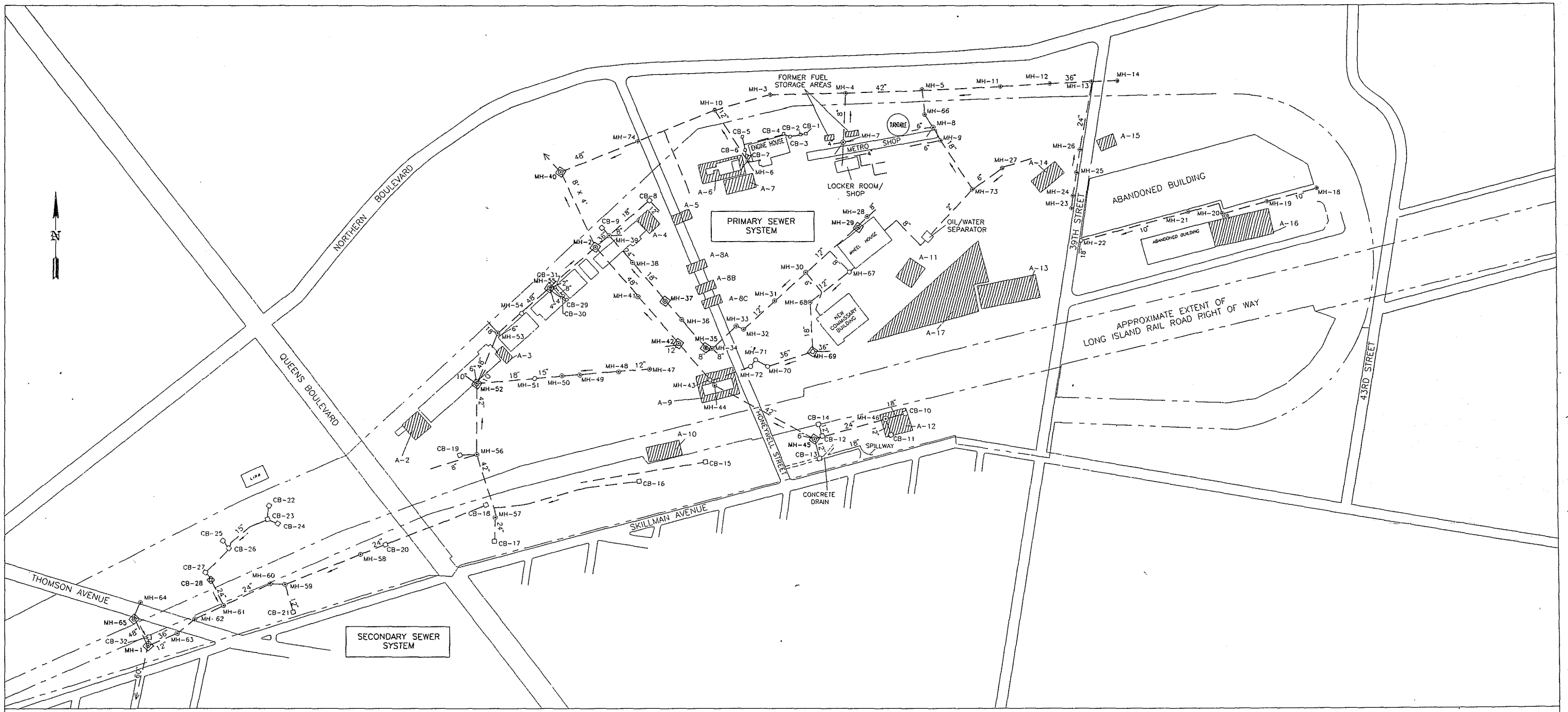
0 40 80 FEET

Title:
AREA 1
CONCENTRATIONS OF POLYCHLORINATED BIPHENYLS DETECTED IN SEWER WATER AND SEWER SEDIMENT DURING PHASE II REMEDIAL INVESTIGATION

Prepared For:
SUNNYSIDE YARD, QUEENS NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: J.V.	Date: 8/94	PLATE
Prepared by: J.R.	Scale: SHOWN	4
Project Mgr: J.D.O.	Revision:	
File No: AM550C08	Project: 05550Y	



EXPLANATION

- DIRECTION OF SEWER FLOW
- APPROXIMATE LOCATION AND DIAMETER OF SEWER
- CB-1 GRATE COVER CATCH BASIN LOCATION AND DESIGNATION
- MH-1 SOLID COVER MANHOLE LOCATION AND DESIGNATION
- MH-22 GRATE COVER MANHOLE LOCATION AND DESIGNATION
- MH-42 PROPOSED SEWER SEDIMENT REMOVAL LOCATION AND DESIGNATION
- CB-28 PROPOSED CATCH BASIN SEDIMENT REMOVAL LOCATION AND DESIGNATION
- A-2 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN
- APPROXIMATE PROPERTY BOUNDARY

NOTES: LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.

SEWER LINE CONNECTING MH-14 THROUGH MH-17 PREVIOUSLY IDENTIFIED ON ENGINEERING DIAGRAMS WAS NOT LOCATED DURING FIELD SURVEY AND IS PRESUMED NOT TO HAVE BEEN CONSTRUCTED THEREFORE, IT DOES NOT APPEAR ON THIS PLATE

0 200 400 FEET

Title

PROPOSED FACILITY WIDE SEDIMENT REMOVAL LOCATIONS

Prepared For:
SUNNYSIDE YARD, QUEENS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by J.M.	Date 8/94	PLATE
Prepared by J.R.	Scale SHOWN	
Project Mgr J.D.D.	Revision: 0	5
File No AM550F04	Project: 05550Y	

EXPLANATION

MH-3 ◇ PROPOSED SEWER SEDIMENT REMOVAL LOCATION AND DESIGNATION

CB-1 ◇ PROPOSED CATCH BASIN SEDIMENT REMOVAL LOCATION AND DESIGNATION

(N.L.) INDICATES MANHOLE/CATCH BASIN WAS NOT LOCATED (I.E. PAVED OVER OR BURIED) DURING PRELIMINARY SURVEY, HOWEVER, ENGINEERING DIAGRAMS INDICATE THAT LOCATION HAS BEEN FOUND IN THE PAST

DIRECTION OF SEWER FLOW

12" APPROXIMATE LOCATION OF SEWER

APPROXIMATE DIAMETER OF SEWER

CB-5 □ GRATE COVER CATCH BASIN LOCATION AND DESIGNATION

MH-4 ⊕ SOLID COVER MANHOLE LOCATION AND DESIGNATION

A-6 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN

APPROXIMATE PROPERTY BOUNDARY

NOTE: LOCATIONS AND DIAMETERS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.

0 40 80 FEET

Title
PROPOSED AREA 1
SEDIMENT REMOVAL LOCATIONS

Prepared for:
SUNNYSIDE YARD, QUEENS NEW YORK

ROUX ASSOCIATES INC (Environmental Consulting & Management)

Designed by: J.N.	Date: 7/94
Project Mgr: J.D.D.	Revision:
File no: AM550F07	Project: 05550Y

PLATE 6