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BUREAU OF
CONSTRUCTION SERVICES

July 18, 2000

Mr. Jeffrey Trad, P.E.
New York State Department of Environmental Conservation
Bureau of Construction Services
Division of Environmental Remediation
50 Wolf Road
Albany, NY 12233

Re: Remedial Design/Remedial Action Work Plan
Former Magnusonic Devices, Inc. Facility
Inactive Hazardous Waste Site (Site No. 1-30-031)
Hicksville, New York

Dear Mr. Trad:

On behalf of Quest Diagnostics, Inc. (Quest), Roux Associates, Inc. (Roux Associates) and its associated engineering firm Remedial Engineering, P.C. (Remedial Engineering) have prepared and submitted the attached Final Remedial Design/ Remedial Action (RD/RA) Work Plan for the Former Magnusonic Devices, Inc. Facility located in Hicksville, New York (Site) for your review and comment. This RD/RA Work Plan has been developed in accordance with the March 1999 Record of Decision (ROD) for the Site and past environmental investigations conducted at the Site by Roux Associates and Remedial Engineering.

If you have any questions regarding the attached RD/RA Work Plan, please do not hesitate to call.

Sincerely,

REMEDIAL ENGINEERING, P.C.

Peter Gerbasi

Peter J. Gerbasi, P.E.
Principal Engineer

Attachment

cc: G. Anders Carlson, Ph.D., NYSDOH (2 copies)
Ray Cowan, NYSDEC
Alali M. Tamuno, Esq., NYSDEC
Lee Braem, Esq., Quest Diagnostics, Inc.
Joan Lewis, Quest Diagnostics, Inc.
Omar Ramotar, Roux Associates, Inc.

FINAL
REMEDIAL DESIGN/
REMEDIAL ACTION WORK PLAN

The Former Magnusonic Devices, Inc.
Inactive Hazardous Waste Site
Hicksville, New York
(Site No. 1-30-031)

July 18, 2000

Prepared for:

QUEST DIAGNOSTICS, INC.
One Malcolm Avenue
Teterboro, New Jersey 07608

Prepared by:

REMEDIAL ENGINEERING, P.C.
AND
ROUX ASSOCIATES, INC.

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1.0 INTRODUCTION

This Remedial Design/Remedial Action (RD/RA) Work Plan and Preliminary RD has been prepared by Remedial Engineering, P.C. (Remedial Engineering) on behalf of Quest Diagnostics, Inc. (Quest) to describe the proposed remediation of the Former Magnusonics Devices, Inc. Site (the Site), to define the proposed scope of work to complete the site remedy including proposed Remedial Design activities and to present the Preliminary Remedial Design for Site closure. The Site is located in Hicksville, New York and is owned by First Industrial Properties. The Site is defined in the March 1999 Record of Decision (ROD) as the Magnusonic Devices, Inc. Inactive Hazardous Waste Site. The Site is listed in the New York State Registry of Inactive Hazardous Waste Sites as Site No. 1-30-031.

This Report has been prepared in accordance with the ROD for the Site, applicable New York State Department of Environmental Conservation (NYSDEC) guidance and the United States Environmental Protection Agency's (USEPA's) "Remedial Design/Remedial Action Handbook."

This Report combines the contents of both a RD/RA Work Plan and Preliminary Remedial Design Report into one document in order to accelerate the project schedule and achieve a more timely closure of the Site. The project schedule and the key technical elements of the Preliminary Remedial Design have been developed through discussions and correspondence among the NYSDEC, Quest representatives and Remedial Engineering.

The Site remediation goals, a description of the Site remedy, the purpose of this Report, and the Report organization are described in the subsections below.

1.1 Site Remediation Goals

Previous Site investigations characterized Site conditions (discussed in more detail in Section 2.0) and identified Areas of Concern (AOCs) where metals and residual lead are the key constituents of concern at the Site. The ROD generally established the following goals for remediation of the Site:

- reduce, control, or eliminate, to the extent practicable, significant potential threats to the environment resulting from the contaminant of concern present at the Site;

- eliminate the potential threat posed by the residual lead within those drywells which exceeded cleanup criteria standards;
- eliminate the potential threat to surface waters by eliminating future surface-water runoff from the impacted areas of the Site;
- eliminate the potential for direct human or animal contact;
- mitigate the potential impacts of ground water, if any, to the environment; and
- prevent, to the extent possible, migration of constituents from the drywells and limits of excavation to ground water and / or surface water.

1.2 Description of Site Remedy

Based upon the results of the Site Remedial Investigation (Roux Associates, Inc., 1996) and the Focused Feasibility Study (Roux Associates, Inc., 1998 and other supporting documents), the NYSDEC has selected Alternative 2, because the NYSDEC believes that it is the most protective to human health (ROD, 1999). Alternative 2 includes Alternative 2a and 2b as described in the ROD and is generally summarized as follows.

For the contaminated soil in the drywells at Areas 2, 4 and 5:

- excavation of two feet of contaminated soil below the invert at drywells DW-2A, DW-4 and DW-5;
- excavation of five feet of contaminated soil below the invert at drywells DW-2B and D W-2C;
- disposal of the excavated soil at the appropriate off-site disposal facilities;
- collection of end point samples;
- backfill of each drywell to their usable depths; and
- semi-annual groundwater monitoring for a period of two years.

For the contaminated soil at Area 3:

- asphalt removal and disposal;
- sheeting and shoring;
- excavation of fill material to a depth of 10 to 12 feet below land surface as shown;

- disposal of the excavated soil at the appropriate off-site disposal facilities;
- collection of end point samples; and
- backfill, compaction and site restoration.

The specific components of the Selected Remedial Action are discussed in Section 2.4. In addition, several key technical elements of the Selected Remedial Action are also discussed in the Preliminary Remedial Design which is presented in Section 5.0.

1.3 Purpose of Report

The Remedial Design/Remedial Action (RD/RA) generally consists of the following tasks:

- Remedial Design/Remedial Action Work Plan;
- Preliminary Remedial Design Report;
- Final Remedial Design;
- Remedial Action; and
- Final Remedial Action Completion Report.

As mentioned in Section 1.0, this Report is intended to satisfy the requirements of both a RD/RA Work Plan and a Preliminary Remedial Design Report. This Report has been developed based on information gathered during the Remedial Investigation/Feasibility Study.

The purpose of the RD/RA Work Plan component of this Report is to describe the approach for implementing the Remedial Design and to chart a course through the post-ROD process that concludes with the completion of the Remedial Action. The Preliminary Remedial Design component of this Report identifies and describes the key technical elements which must be approved prior to completing the Final Remedial Design. During the Preliminary Remedial Design stage, the ground work is set so that the design team can get regulatory approval to proceed with the preparation of the Final Remedial Design documents, which will include detailed Drawings, Specifications and Project Plans.

The information included in this Report offers a technically sound approach to implement the Remedial Action. As additional information may become available, the approach to certain aspects of the Remedial Design may be altered slightly. These alterations will be reflected in the Final Remedial Design which will be submitted and approved by the NYSDEC. The Final Remedial Design will be used as the basis to solicit and enter into a contract with a qualified contractor to implement the Remedial Action at the Site.

Following completion of the excavation component of the Remedial Action, and in order to ultimately achieve Site closure, a Final Remedial Action Completion Report (RACR) will be submitted to the NYSDEC which will include construction documentation, as-built drawings, and a certificate of completion, signed by a New York State-licensed Professional Engineer. This report will include operation and maintenance requirements for the two year post-remediation groundwater monitoring program. Upon the completion of this groundwater monitoring program, an amendment to the RACR will be issued to summarize the results of the post-remedial action groundwater monitoring program and to request Final Site Closure.

1.4 Report Organization

This Report is divided into seven sections. This first section is this introduction to the document. Other sections are included in this Report as follows:

- Section 2.0 - Site Background Information;
- Section 3.0 - Scope of Work;
- Section 4.0 - Project Management;
- Section 5.0 - Preliminary Remedial Design; and
- Section 6.0 - References.

2.0 SITE BACKGROUND INFORMATION

An overview of the Site is provided below. The Site background information includes the description of the Site history, a summary of the past Site ownership and facility operations and a summary of the selected Remedial Action for the Site. A brief overview of the results of the Remedial Investigation/Feasibility Study are also provided.

2.1 Site Description

The Former Magnusonic Devices, Inc. site is located in an industrial area of the City of Hicksville, Nassau County, New York (Figure 1). The Site is bounded to the north by the Long Island Rail Road and the former AGO construction debris Landfill, to the south by Duffy Avenue, to the west by Oyster Bay Stone and Gravel, Inc. and Twin County Recycling, and to the east by ALSY Corporation (the ALSY site, which is a NYSDEC inactive hazardous waste site).

The Site consists of a three acre parcel of land containing a 53,000 square foot concrete-block building situated on the central and southern portions of the property (Figure 2). The entire site is either paved or covered by the main building structure. A former truck loading area is located immediately adjacent to the northeastern portion of the building. The northernmost and southernmost portions of the Site were previously used as parking areas. The Site previously functioned as a manufacturing facility for computer tape recording heads and is currently occupied by a variety of commercial businesses.

2.2 Site History

Prior to 1947, the Site was zoned for residential use; however, it is unknown if the Site was developed for this purpose. Based on a Town of Oyster Bay, Nassau County, Zoning Map, as of March 31, 1959, the Site was zoned as light industrial. From 1947 through 1961, the following businesses occupied the Site;

- Master Craftsman, Inc. (1947);
- Long Island Lighting Company (1947-1948);
- W.J. Sloane (1948-1950); and
- Balatem Corporation (1950-1961).

Mr. Milton S. Stevens purchased the property in the 1960s and built a warehouse to operate a direct mail business. In 1977, the property was leased by Mr. Stevens to Magnusonic Devices, Inc.

Magnusonic Devices manufactured computer tape recording heads that included the following processes:

- assembly of tape head housings;
- photographic etching of thin sheet metal (i.e., brass and copper) laminates in the fabrication of miniature, coil-wound cores;
- copper and chrome electroplating of tape heads for magnetic shielding and wear resistance;
- assembly operations, such as coil winding, laminating, soldering, potting, lapping and polishing; and
- various electrical and mechanical inspection operations to maintain product quality.

As presented in the Phase II Investigation Report (Galli, 1989), the following hazardous substances/wastes were used or generated by Magnusonic Devices:

- ferric hydroxide sludge;
- ferric chloride;
- photographic developer solution;
- chrome and copper plating solutions;
- coolants and hydraulic oils; and
- solvents (i.e., 1,1,1-trichloroethane, freon TF, and acetone).

Three of the above-referenced substances/wastes (ferric chloride, chrome and copper plating solutions, and solvents) are listed as RCRA hazardous, while ferric hydroxide sludge, photographic developer solutions, coolants and hydraulic oils are not considered to be hazardous under RCRA.

Magnusonic Devices operated an on-site wastewater treatment facility that used a physical-chemical treatment system to process rinsewaters from its plating and chemical milling

operations, and discharged the treated wastewaters into two leaching pools located adjacent to the northwestern portion of the building. NYSDEC documents indicate that during the period 1981 to 1985, Magnusonic Devices discharged solvent and metal process water that exceeded the regulated limits into these leaching pools. Nickel, acetone, freon TF, 1,1,1-trichloroethane, trichloroethene, methylene chloride, and possibly other organic compounds were allegedly discharged into the two leaching pools.

The wastewater treatment facility was located in the northwest corner of the Magnusonic Devices building. A hazardous waste drum storage area, located in a bermed and caged indoor area measuring 15 feet x 25 feet, was adjacent to the wastewater treatment facility. The concrete floor slab of the wastewater treatment area was constructed without drains or sumps.

In 1984, the Site was placed on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2a Site. However, the Site was reclassified to a Class 2 inactive hazardous waste disposal site in 1990 based upon the confirmation of ground-water contamination detected during the Phase II Investigation.

In 1986, the facility was connected to the Nassau County Sewer System, however, Magnusonic Devices did not have a Nassau County Pre-Treatment Permit. In December 1986, International Clinic Laboratories (ICL) purchased the Magnusonic Devices property from Mr. Stevens, and manufacturing ceased shortly thereafter. The interior cleanup of the building was completed and approved by the NYSDEC in December 1987. In March of 1988, ICL entered into an Order On Consent #WP-045-83 with the NYSDEC to complete a Phase II investigation at the Site.

In late 1988, SmithKline Beckman Corporation acquired ICL, which became part of SmithKline Beckman Clinical Laboratories, Inc. (SmithKline Beecham). The Site remained inactive from the time it was purchased by SmithKline Beecham, until 1995 when the property was sold to 290 Industrial Company, LLC.

Based on the identification of hazardous waste at the Site, SmithKline Beecham entered into an Order on Consent #1-30-031 dated December 19, 1994 to conduct an RI/FS. On behalf of

SmithKline Beecham, Project Environmental Services, Inc. prepared the Work Plan, which developed a RI/FS Scope of Work that was implemented by Roux Associates from December 1994 through March 1995. The RI report was submitted to the NYSDEC on January 26, 1996, and was approved by the NYSDEC on April 9, 1996.

In May 1996, a supplemental investigation was conducted by Roux Associates to determine the presence of hazardous waste in Area 3. A limited risk assessment was prepared by Roux Associates and submitted to the NYSDEC on January 17, 1997.

In February 1997, a subsequent supplemental investigation was conducted by Roux Associates to determine the presence of hazardous waste in DW-2B to determine the presence of hazardous waste. In May 1997, the results of this investigation were submitted to the NYSDEC.

During June and August 1997, based on the results of the RI and supplemental investigations, a Feasibility Report was developed and subsequently approved by the NYSDEC. An additional investigation was performed in December 1998 in accordance with the "Storm Drain Vertical Profile Work Plan," prepared by Roux Associates and approved by the NYSDEC in October 1998. The results of this additional investigation along with a risk-based analysis were submitted to the NYSDEC in February 1998. In March 1999, the Record of Decision (ROD) for the Site was issued. The ROD was developed based on the results of the RI at the Site, the supplemental investigation and limited risk assessment at Area 3, the supplemental investigation at DW-2B, the evaluation of all potentially applicable remedial alternatives in the FS and the storm drain soil vertical profiling investigation and subsequent risk-based analysis. Prior to final approval, the proposed RA was subject to public comment and was reviewed by the NYSDEC consistent with New York State Laws and regulations.

2.3 Summary of the Selected Remedial Action

The Remedial Action has been designed based upon the NYSDEC's selection of Alternative 2, as detailed in the ROD, which the NYSDEC believes is the most protective of human health and the environment. Alternative 2 will achieve both short-term and long-term effectiveness and permanence, significantly and permanently reducing the volume of contaminants a the Site. This remedial action has been based upon the findings of the RI/FS and ROD as approved by the

NYSDEC. It should be noted, that it has been proven that the on-site drywells have been contaminated since the mid 1980's and groundwater has not been impacted. Vertical profiling soils data shows that the concentrations of contaminants decrease significantly with depth. The nearest downgradient public supply well is located approximately 5,000 feet from the Site and has not been impacted by any Site specific contaminants. It has also been determined that after the remedy is implemented, all residual contamination, if any, will be at a depth of greater than 15 feet below grade. Consequently, after the remedial action is complete, no exposure pathways will exist at the Site (as stated in the ROD).

The key findings of the RI/FS were associated with the identification and delineation of five specific areas and to determine the potential impacts of the previous activities at the Site in the subsurface. Based upon the findings of the RI/FS, the soils in Areas, 2, 3, 4 and 5 are to be excavated and backfilled in accordance with the ROD. The following subsections summarize the selected remedial action for soils in Area 3 and the drywells located in Areas 2, 4 and 5.

2.3.1 Area 3

Alternative 2A, as defined in the ROD, includes mechanical excavation of contaminated fill material from Area 3 with off-site disposal at the appropriate disposal facilities. This remedy will include asphalt removal and disposal, sheeting and shoring of the excavation perimeter, backfill with clean fill, off-site disposal of excavated material and compaction of the excavated area followed by site restoration. Based upon the results of the RI/FS, contaminated material in Area 3 (covering an area of approximately 6,700 square feet) shall be excavated down to approximately 10 to 12 feet below land surface as detailed in Figures 3, 4 and 5. This will result in the excavation of approximately 3,000 cubic yards of in-place material. Final depths will be surveyed in the field and confirmed by the field engineer. Once the final excavation depths have been confirmed and post excavation samples have been collected, backfilling and subsequent site restoration operations will immediately follow.

Upon the completion of backfill and compaction activities within Area 3, site restoration activities will begin. Site restoration will specifically involve restoration of the parking lot to pre-remedial construction conditions. This will include the installation of a 3-inch base layer, 1.5-inch binder coarse and 1.5-inch final top coarse.

2.3.2 Areas 2, 4 and 5

Alternative 2B, as defined in the ROD, includes the removal of contaminated material from drywells, DW-2A, DW-2B, DW-2C, DW-4 and DW-5 with off-site disposal at the appropriate disposal facilities. This remedy will include asphalt removal and disposal, sheeting and shoring at DW-2B and DW-2C, backfill with clean fill, off-site disposal of excavated material and compaction of the excavated areas, as required, followed by site restoration. Based upon the results of the RI/FS, contaminated material at each drywell (8 feet in diameter) shall be excavated down to five feet below the invert of drywells DW-2B and DW-2C and down to two feet below the invert of drywells DW-2A, DW-4 and DW-5 as detailed in Figures 2 and 6. This will result in the removal of approximately 300 cubic yards of in-place material. Final depths will be surveyed in the field and confirmed by the field engineer. Once the final excavation depths have been confirmed and post-excavation samples have been collected, backfilling and subsequent site restoration operations will immediately follow.

Upon the completion of backfill and compaction activities within Area 3, site restoration activities will begin. Site restoration will specifically involve restoration of the drywell areas to pre-remedial construction conditions. This may include and be not limited to the replacement, repair or modification to the existing drywell structures. In addition, site restoration activities will include the installation of a 3-inch base layer, 1.5-inch binder coarse and 1.5-inch final top coarse over the top of the excavated area.

3.0 SCOPE OF WORK

The services to be provided by Remedial Engineering, P.C. as part of the RD/RA include preparation of this RD/RA Work Plan and the Preliminary Remedial Design followed by the preparation of contract documents to allow the procurement of a remedial contractor. Finally, the services will include construction oversight for implementation of the Remedial Action for the Site. Presented below is a description of the tasks to be performed as part of the Scope of Work.

3.1 Task 1 – Project Management

Project management activities will include the efforts for the Project Principal, the Project Manager and as appropriate, various Task Managers. This task is necessary to maintain communications with Quest personnel and the regulators and provide overall direction and coordination of the day to day work. The Project Management task will include support and participation in any negotiations with the NYSDEC through the completion of the Remedial Action.

As part of this task, members of the project team will attend project meetings to be held at the NYSDEC Region I Headquarters' offices in Stony Brook. Two such project meetings are planned to take place during the period of this work assignment. The first will be held after the completion of this RAWP and the second after completion of the Final Remedial Design. Other meetings which are included in other tasks are the following:

- prebid conference and site visit;
- preconstruction meeting;
- eight (8) weekly progress meetings during the 2-month construction period;
- two periodic meetings to coincide with Site inspection visits as Quest, NYSDEC and the project team may require; and
- a final inspection meeting.

In addition, routine coordination with Quest and the NYSDEC will be required throughout the course of the work. This task will also include the preparation of monthly progress reports (as required by the Order on Consent), that will detail the progress of work, as well as preparation of invoices and budget status summary documents.

3.2 Task 2 – Development Remedial Design / Remedial Action Work Plan

This task involves preparation of this Remedial Design/ Remedial Action (RD/RA) Work Plan. This task also includes any discussions with Quest Diagnostics, Inc. (Quest) and the New York State Department of Environmental Conservation (NYSDEC) leading to the preparation and finalization of the RD/RA Work Plan.

This RD/RA Work Plan presents a brief site history and the results of investigative activities to date as well as our approach to the remediation of these areas. The focus of the RD/RA Work Plan is such that after the remediation is complete, the Site can be delisted and the property utilized without limitation. It details our intent with regard to the preparation of specifications, drawings and project plans, subcontractor procurement, construction, construction management and performance verification. In addition, this work plan outlines our efforts to implement the Citizens Participation Plan and a preliminary schedule for project completion. A preliminary remedial design has also been included as part of this submission. The Preliminary Remedial Design is discussed in Section 5.0. This component of the report identifies and describes the key technical elements which must be approved prior to completing the Final Remedial Design. During the Preliminary Remedial Design stage, the ground work is set in order to proceed with the preparation of the Final Remedial Design documents, which will include detailed Drawings, Specifications and Project Plans.

The general activities involved in the preparation of the Preliminary Remedial Design includes the following:

- identifying drawings, specifications, project plans and appendices necessary for the Final Remedial Design;
- developing an excavation and sheeting site plan;
- developing excavation cross sections for Area 3;

- developing an excavation cross section for Areas 2, 4, and 5;
- developing a restoration cross section for Area 3;
- developing a restoration cross section for Areas 2, 4, and 5;
- identifying groundwater monitoring well abandonment and restoration requirements;
- identifying surface-water runoff and erosion control requirements;
- identifying procedures for materials handling and management;
- identifying required permits and access agreements;
- identifying key components of the project plans; and
- developing a preliminary construction schedule.

The draft RD/RA Work Plan will be submitted to Quest for review and after review and the incorporation of substantive comments, the final RD/RA Work Plan will be submitted to the NYSDEC for approval.

3.3 Task 3 - Citizens Participation Plan

The Citizens Participation Plan (CPP) will be updated and implemented and mailings will be developed to inform the local community of work activities at the Site. The tasks associated with implementation of the CPP will consist of the following:

- revision and finalization of the existing list of interested parties which may include, but not be limited to, the current property owners, government representatives, and business interests;
- identification of the Hicksville Public Library as the information repository for approved documents available for public inspection;
- mailing of a notice indicating the approval of the Consent Order and the final RD/RA Work Plan, as well as the schedule for initiation of the proposed remedial action selected for the Site; and
- mailing of a notice of the completion of the proposed remedial action selected for the Site.

As with all of the RD/RA deliverables, copies of each submission will be developed and submitted to Quest for review and after review and the incorporation of substantive comments, the final CPP will be submitted to the NYSDEC for approval.

3.4 Task 4 – Develop Remedial Design Contract Documents

Draft and Final construction specifications, drawings, project plans and project appendices (Remedial Design Contract Documents) will be prepared for the purposes of competitively bidding the Remedial Action (RA). The Remedial Design Contract Documents will be based on the RA as defined in the ROD. The Remedial Design Contract Documents will be biddable and will contain, at a minimum, a bid schedule, construction, operation, maintenance and monitoring requirements; remediation criteria; contractor qualification and experience requirements; specifications, drawing and project plans; as well as submittal requirements, including preparation of a work and waste handling plan (WWHP), construction quality assurance/ quality control plan (CQA/QCP), construction contingency plan (CCP), monitoring, sampling and analysis plan (MSAP) and a health and safety plan (HASP). Prior to submission to Quest and subsequently the NYSDEC, the Draft Remedial Design Contract Documents will be reviewed by Remedial Engineering personnel with specific consideration to a construction contractor's ability to provide a responsive bid.

The Draft Remedial Design Contract Documents will be submitted to Quest and of the Final Remedial Design Contract Documents will be submitted to Quest and the NYSDEC. After NYSDEC approval of the Final Remedial Design Contract Documents, Copies of the Bid Documents will be prepared for submission to prospective remediation contractors.

As part of this task, assistance will be provided to Quest in conducting a prebid conference, site visit, and preparation of necessary addenda to the Final Remedial Design Contract Documents. After the bid period, Remedial Engineering will provide a review of the bids. Also as part of this task, a bid tabulation will be prepared and a recommendation for award of the remedial contract will be submitted to Quest.

After award of the remedial contract, representatives of the project team will attend a preconstruction meeting to initiate the construction phase of the project. The focus of this

meeting will be to finalize the contractor's schedule and formats for progress payment requests, reports, project correspondence, all other submittals and procedures for communications. Meeting minutes will be prepared and distributed by the project team to all those attending this meeting.

3.5 Task 5 – Construction Management

As part of this task, the project team will provide services that will include the following:

- review of contractor submittals;
- construction oversight;
- record and report keeping; and
- preparation of a project remedial action completion report.

These four elements of this task are described below.

3.5.1 Review Contractor Submittals

Contractor submittals will be reviewed for compliance with the contract documents. Prior to construction start-up, the contractor's CQA/QCP, CCP, HASP, MSAP, and WWHP will be reviewed. This task will also include review of results of soil analytical data collected as part of waste characterization, progress reports, monitoring reports, monthly progress payment requests, change order requests and any other documents prepared by the contractor in connection with this project.

3.5.2 Construction Oversight

Full-time on-site inspection services will be provided during the construction period which is estimated to take approximately two months. The work will be monitored for conformance with the design by observing the work activities, inspecting the construction site and reviewing test results. During construction, weekly progress meetings will be held with the contractor to discuss project issues, performance and schedule. The project staff will prepare and issue minutes of these meetings to Quest, the Contractor and the NYSDEC as well as other related project personnel. At the completion of the construction period, a punch list inspection will be conducted by Remedial Engineering with the contractor to identify remaining work items to be

completed. This inspection will be followed by the contractors completion of the punch list followed by a final inspection to determine if the work has been completed and to verify that the substantive requirements of the contract documents have been satisfied.

At the completion of the construction phase, a survey will be performed to document the new Site grading and pertinent Site features as well as horizontal and vertical locations of restored groundwater monitoring wells and drywells. All survey locations will be tied into two monuments established on the Site, which will be installed in the New York State Plan Coordinate System.

3.5.3 Records and Reports

Complete and detailed records related to construction activities will be maintained. Such records are as follows:

- Daily inspection logs and field notes.
- Reports and logs of any teleconferences and other important conversations.
- Listing and use of contractor's personnel, material and equipment which allows for quantification of the contractor's production.
- Records documenting the contractor's deviation from the specifications and approved submittals including descriptions of actions and resolutions.
- Unusual circumstances (weather conditions, environmental problems, health and safety hazards encountered, etc.)
- General files including correspondence and other documentation related to the project.
- Project meeting minutes with documentation on the resolution of any issues.
- Construction photographs. Photographs will be taken of the work during its progress and at completion of the work. In addition, photographs and videotape will be taken before work begins and in other situations where disputes may arise.
- Waste manifests.

3.5.4 Construction Certification Report

A summary of all of the field notes, disposal records and analytical data collected during the RA together with as-built drawings and progress photographs taken during construction will be summarized in an engineer's construction certification report. The report will provide a summary of all activities, a tracking summary of wastes handled and disposed, and at its

conclusion will contain a statement by a Professional Engineer licensed in the State of New York, certifying that the project was completed in accordance with the NYSDEC approved plans and specifications.

In addition, the report will detail the requirements of the two year post-remediation groundwater monitoring program. The results of this groundwater monitoring program will be provided as an amendment to the Remedial Action Completion Report. As part of this submission, final Site closure will be requested.

The Draft Remedial Action Completion Report will be submitted to Quest for review and comment. After review and the incorporation of substantive comments, the final Remedial Action Completion Report will be provided to the NYSDEC.

4.0 PROJECT MANAGEMENT

The following sections describe the project management structure for the RD/RA Scope of Work and also the proposed project schedule which identifies critical project milestones.

4.1 Project Management

Remedial Engineering, P.C. will be the prime consultant responsible for the preparation of the remedial design and the performance of construction oversight activities. The project organization for this remedial design and construction oversight work illustrating both management and project responsibility functions for the project team and key personnel is provided in Figure 9.

4.2 Project Schedule and Key Milestones/Reports

A project schedule is provided in Figure 10. Key milestones are identified in order to monitor work progress. Specific deadlines for completion of tasks and subtasks are established throughout the project to maintain work progress which will result in timely completion of work.

- Submittal of Draft RD/RA Work Plan to Quest - May 15, 2000;
- Submittal of Final RD/RA Work Plan to the NYSDEC - July 14, 2000;
- Submittal of Draft Revised Citizens Participation Plan to Quest - July 21, 2000;
- Submittal of Final Revised Citizens Participation Plan to the NYSDEC -July 28, 2000;
- Submittal of Draft Remedial Design Contract Documents to Quest - September 22, 2000;
- Submittal of Final Remedial Design Contract Documents to the NYSDEC- October 20,, 2000;
- Submittal of Draft Remedial Action Certification Report to Quest - March 16, 2001; and
- Submittal of Final Remedial Action Certification Report to the NYSDEC – March 28, 2001.

5.0 PRELIMINARY REMEDIAL DESIGN

The preliminary remedial design for the remediation of the Site has also been included as part of this RD/RA Work Plan. This component of the report identifies and describes the key technical elements and concepts which must be approved prior to completing the Final Remedial Design. During the Preliminary Remedial Design stage, the ground work is set in order to proceed with the preparation of the Final Remedial Design documents, which will include detailed Drawings, Specifications and Project Plans.

The general activities involved in the preparation of the Preliminary Remedial Design include the following:

- identifying drawings, specifications, project plans and appendices necessary for the Final Remedial Design;
- developing an excavation and sheeting site plan;
- developing an excavation cross section for Area 3;
- developing an excavation cross section for Areas 2, 4, and 5;
- developing a restoration cross section for Area 3;
- developing a restoration cross section for Areas 2, 4, and 5;
- identifying groundwater monitoring well abandonment restoration requirements;
- identifying surface-water runoff and erosion control requirements;
- identifying procedures for materials handling and management;
- identifying required permits and access agreements;
- identifying key components of the project plans; and
- developing a preliminary construction schedule.

These tasks are discussed in detail in the following subsections.

5.1 Final Remedial Design Requirements

The Final Remedial Design will be developed from the information in this Report and subsequent comments received from the NYSDEC. The main objective of the Final Remedial

Design is to satisfy the ROD requirements and to prepare Drawings, Specifications and Project Plans in sufficient detail so they may be used to define the technical and procedural elements of the RD/RA at the Site. A Preliminary Table of Contents for the Remedial Design is provided in Table 1.

5.2 Excavation

As stated in Section 2.4, the remedial action has been designed based upon the NYSDEC's selection of Alternative 2, as detailed in the ROD. Alternative 2 will achieve both short-term and long-term effectiveness and permanence, significantly and permanently reducing the volume of contaminants at the Site. As stated in the ROD, impacted soil must be excavated in Areas 2, 3, 4 and 5 as shown in the proposed excavation and sheeting plan detailed in Figure 3. A total of approximately 3,300 cubic yards is anticipated to be excavated. The following subsections summarize the key technical excavation elements for the selected remedial action for Area 3 and for the drywells located in Areas 2, 4 and 5.

5.2.1 Area 3

Based upon the results of the RI/FS, contaminated material in Area 3 (covering an area of approximately 6,700 square feet) shall be excavated down to approximately 10 to 12 feet below land surface as detailed in Figures 3, 4 and 5. Specifically, the proposed horizontal limits of excavation and sheeting for Area 3 are provided in Figure 3 and the proposed vertical limits of excavation for Area 3 are provided in Figures 4 and 5. As depicted in Figures 2, 4 and 5, sheeting will be required to shore the sides of the excavation. Calculations, sealed by a New York State licensed Professional Engineer, documenting the selection and design of the intended sheeting and shoring for the excavation shall be submitted by the selected Subcontractor. Final depths will be surveyed in the field and confirmed by the field engineer. Once the final excavation depths have been confirmed and post excavation samples have been collected, then backfilling and subsequent site restoration operations will immediately follow.

It is currently anticipated that approximately 3,000 cubic yards of in-place material will be excavated from Area 3.

5.2.2 Areas 2, 4 and 5

Based upon the results of the RI/FS, contaminated material at each drywell in Areas 2, 4 and 5 shall be excavated down to five feet below the invert of drywells DW-2B and DW-2C and down to two feet below the invert of drywells DW-2A, DW-4 and DW-5 as detailed in Figures 2 and 6. Specifically, the proposed horizontal limits of excavation and sheeting as required for Areas 2, 4 and 5 are provided in Figure 3 and the proposed vertical limits of excavation for Areas 2, 4 and 5 are provided in Figure 6. As depicted in Figures 3 and 6, sheeting will be required to shore the sides of the excavation for drywells DW-2B and DW-2C. Calculations, sealed by a New York State licensed Professional Engineer, documenting the selection and design of the intended sheeting and shoring for the excavation shall be submitted by the selected Subcontractor. Final depths will be surveyed in the field and confirmed by the field engineer. Once the final excavation depths have been confirmed and post-excavation samples have been collected, then backfilling and subsequent site restoration operations will immediately follow.

It is currently anticipated that approximately 300 cubic yards of in-place material will be excavated from Areas 2, 4 and 5 according to the following schedule:

Dry Well	Diameter of Excavation	Depth of Excavation	Volume of Excavation
DW-2A	8 feet	2 feet	37 cubic yards
DW-2B	8 feet	5 feet	94 cubic yards
DW-2C	8 feet	5 feet	94 cubic yards
DW-4	8 feet	2 feet	37 cubic yards
DW-5	8 feet	2 feet	37 cubic yards

5.3 Site Restoration

In order to meet the obligations to the current property owner, after completion of the remedial activities the Site must be returned to pre-construction conditions. The Contractor shall restore the surface of the backfilled excavation and pre-existing structures to the original grade and shall render the surface of the area true and level. The proposed site restoration cross-section detail for Area 3 and for drywells in Areas 2, 4 and 5 are presented in Figures 7 and 8, respectively.

Upon the completion of backfill and compaction activities within area 3, site restoration activities will begin. Site restoration will specifically involve restoration of the parking lot to pre-remedial construction conditions. This will include the installation of a 3-inch base layer, 1.5-inch binder coarse and 1.5-inch final top coarse in the disturbed area as shown in Figure 7.

Upon the completion of backfill and compaction activities within areas 2, 4 and 5, site restoration activities will begin. Site restoration will specifically involve restoration of the drywell areas to pre-remedial construction conditions. This may include and be not limited to the replacement, repair or modification to the existing drywell structures and installation of a 3-inch base layer, 1.5-inch binder coarse and 1.5-inch final top coarse in the area of each excavation as shown in Figure 8.

5.4 Monitoring Well Abandonment and Construction

In order to provide a long-term ground-water monitoring program that will demonstrate the performance of the Remedial Design, it is necessary to have a network of suitably located ground-water monitoring wells. Furthermore, each well should be carefully placed to provide useful information without being redundant. Because proposed Site activities will be very disruptive with respect to the existing ground-water monitoring wells, it may be necessary to replace wells that are damaged during the remedial construction. At a minimum, existing ground-water monitoring wells which are located within the proposed areas of remediation will be abandoned and replaced. Specific monitoring wells to be abandoned and replaced include MW-7 and MWAGO-4 (Figure 4).

The specifications for abandonment of monitoring wells be detailed in the Final Remedial Design and will include abandonment procedures consistent with NYSDEC requirements. These procedures will include at a minimum:

- filling the screened zone of the well with sand;
- sealing the zone above the screen with bentonite to prevent undesirable exchange of water from one aquifer to another;
- tremie grouting the well riser using cement grout;

- removing well risers at grade; and
- using fill materials free from foreign or toxic materials.

The specifications for construction of replacement monitoring wells will also be detailed in the Final Remedial Design and will include construction procedures consistent with NYSDEC requirements. These procedures will include at a minimum:

- decontamination of equipment;
- construction of the borehole;
- installation of pipes and screens;
- setting of sand packing and installation of a bentonite seal above the screens;
- grouting of the monitoring well to grade;
- installation of a protective flushmount manhole cover for each monitoring well;
- development of the monitoring well; and
- Site cleanup and restoration.

5.5 Storm-Water Runoff and Erosion Control Requirements

The use of temporary surface-water runoff and erosion controls to minimize the occurrence of erosion and its potential effects is required during construction. Temporary controls to be used during construction will include:

- minimizing the area of disturbance, to the extent possible;
- stabilizing disturbed areas as soon as possible;
- limiting the velocity of surface-water runoff with the use of control devices such as haybales and silt fence;
- limiting the size of and protecting soil stockpiles by covering them and/or surrounding them with control devices;
- protection of drainage channels, pipe inlets and culverts; and
- controlling the amount of dust generation and limiting fugitive emissions, as necessary, with techniques such as misting.

Implementation of an effective erosion control plan is a critical component of the project and will be fully detailed in the Final Remedial Design. Silt fence and other control measures will be specified in the design documents.

5.6 Material Handling and Management

Due to the amount of relocation, excavation, and placement of materials that is associated with a Remedial Action project of this nature, materials handling and management will be a key element in the Remedial Action and, therefore, must be suitably addressed in the Remedial Design. This section of the Report outlines the key materials handling issues which will be considered during the design process and addressed in the Final Remedial Design.

The key materials which will require handling and management are as follows:

- on-site excavated contaminated soil;
- off-site fill material ; and
- Site water.

These materials are discussed in the following subsections.

5.6.1 On-site Excavated Contaminated Soil

Contaminated soil is expected to be excavated using traditional excavation equipment, loaded into dump trucks and transported to an approved disposal facility. Direct loading of contaminated soil is preferred. If direct loading cannot be performed, excavated material shall be stored in rolloff containers with plastic liners or on 10 mil plastic sheeting and securely contained and covered with plastic sheeting to prevent run on and runoff. The plastic sheeting shall not be punctured or torn and shall be sufficiently weighted to keep the roll off covered. Deteriorated or damaged plastic sheeting shall be replaced as required during the course of the excavation work. Excavated material shall not be allowed to be placed directly on the ground without prior approval of the engineer. All excavated material shall be transported in accordance with the U.S. Department of Transportation regulations. All proposed disposal facilities shall be properly permitted to accept the waste and the disposal facilities shall be approved by Quest prior to allowing the initiation of the removal of any soil from the Site.

Based on the data in the RI/FS, all soils that are to be remediated, have been classified as non-hazardous except for those soils in the DW-2B and DW-2C areas, which have been classified as hazardous for metals. All waste-characterization analytical requirements will be based on the requirements of the approved disposal facility selected. Key technical components of the management of excavated contaminated soil includes, but is not limited, to the following:

- Soil designated for excavation and removal from the Site shall be separated as hazardous, non-hazardous and construction and demolition debris. Soil designated for removal shall be stored, prepared for shipment, transported and disposed in accordance with all applicable city, state and federal regulations
- Preventative measures shall be implemented to prevent the release of impacted materials that are transported off-site for disposal.
- Any cover material (i.e., plastic sheeting) requiring disposal after its use shall be free of excess soils/waste and disposed of in a solid waste landfill.
- The proper loading, labeling, placarding, weighing and transport of all waste materials shall be in accordance with the U.S. Department of Transportation's regulations.
- The roll-off containers and/or trailers if deemed necessary, shall be lined to prevent spillage and contamination.
- Waste material adhering to any vehicle leaving the Site shall be removed by dry method such as sweeping or brushing prior to the container leaving the Site. Any waste material removed from the outside of a container shall be collected and placed in a waste container for disposal with excavated soils of the same type.
- Accurate shipping records (i.e., permits, shipping paperwork, disposal documents and weigh tickets) for all waste materials leaving the Site shall be prepared in accordance with applicable city, state and federal regulations.

5.6.2 Fill Material Management

Fill material handling and management will be a significant element of the Remedial Action for the Site. Soil of various types may be used as part of the backfilling operations. Additionally, soil obtained from offsite sources for use above the proposed backfill material must be free of contamination, which will be confirmed by securing a "certificate of clean fill" and testing results from any soil suppliers and accepting only soils from "approved" sources.

Soil handling is expected to be performed using traditional earth-moving equipment such as excavators, loaders, dump trucks, and compactors. Placed soil will, depending on its use, be compacted in accordance with parameters established in the design documents.

5.6.3 Site Water Management

Water may be generated from Site activities such as dewatering of drywells or a perched water table because it may be necessary to pump or otherwise dewater soils to facilitate construction, particularly in Areas 2, 4 and 5. It is intended that water generated from construction activities will be collected and handled in a manner that will result in the discharge of the collected water consistent with the requirements of the disposal facility. Specifically, collected water shall be pumped to a tank truck and transported to an appropriate disposal facility. Handling may require that sediment be removed from the water prior to discharge. Sediment removal will be specified on an as needed basis and may include treatment by settling, filtration, or other methods.

5.7 PERMIT AND ACCESS AGREEMENT EVALUATION

It is necessary to consider potential permit and access agreement issues as well as identify existing Site easements relative to the proposed Remedial Action in order to allow for the proper implementation of the remedy. These elements are evaluated in the subsections below.

5.7.1 Permit Evaluation

The project team has evaluated potentially required permits and has identified that the following permits and permit modifications may be required:

- Town of Oyster Bay / Hamlet of Hicksville Excavation Permit
- Town of Oyster Bay Building Permit
- LIRR Right-of-Way Permit

Although the status of the Site as an inactive hazardous waste site typically exempts Remedial Activities from requiring State and Federal permits, these permits may be required due to their unique nature. At a minimum, the substantive requirements of each permit must be complied although a specific permit may not be required.

5.7.2 Access Evaluation

There is an existing Site access agreement between Quest and the current property owner for the purpose of performing the RA. In addition, the project team has evaluated additional access agreements that may potentially be required and reviewed existing site easements. As a result of

this evaluation, it was determined that an access agreement for the ALSY property would be beneficial. As stated previously in Section 2.1, the Site is located to the southwest of the ALSY property. Because proposed activities such as soil excavation is planned to occur immediately adjacent to the ALSY property driveway, it is a possibility that access to ALSY property is necessary. In an effort to proactively plan for this situation, we will seek a written access agreement from ALSY. This would involve submitting correspondence to ALSY with supporting site plans documenting site access requirements, the detailed area of work, excavation requirements, and the proposed construction schedule.

5.8 PROJECT PLANS

The following plans will be required and are the critical elements of each plan are discussed in the following subsections:

- Citizens Participation Plan;
- Construction Quality Assurance/Quality Control Plan;
- Contingency Plan;
- Health and Safety Plan; and
- Sampling and Analysis Plan.

5.8.1 Citizens Participation Plan

The Citizens Participation Plan (CPP) will be updated and implemented to inform the local community of work activities at the Site. The tasks associated with implementation of the CPP will consist for the following:

- revision and finalization of the existing list of interested parties which may include, but not be limited to, the current property owners, government representatives, and business interests;
- identification of the Hicksville Public Library as the information repository for approved documents available for public inspection;
- mailing of a notice indicating the approval of the Consent Order and the final RD/RA Work Plan, as well as the schedule for initiation of the proposed remedial action selected for the Site; and
- mailing of a notice of the completion of the proposed remedial action selected for the Site.

5.8.2 Construction Quality Assurance/Quality Control Plan

In order for remedial construction activities to commence, a Remedial Construction Quality Assurance/Quality Control Plan (CQA/QCP) will need to be submitted for the Site. A Remedial CQA/QCP will describe the approach to quality assurance for the proposed Remedial Action including product and material manufacturing, field activities, and laboratory analysis. The Remedial CQA/QCP will address the following issues:

- inspection and testing activities;
- damaged construction materials and equipment;
- malfunctioning or unavailable equipment;
- unavailability of materials and subcontractors; and
- preparation of documentation

5.8.3 Contingency Plan

In order for remedial construction activities to commence, a Contingency Plan will need to be submitted for the Site. A Contingency Plan will identify potential unforeseen events and outline necessary precautionary measures and response measures to address such events. The Contingency Plan will address the following issues:

- severe unexpected weather conditions;
- on-site spills;
- off-site spills;
- precautionary measures; and
- emergency response measures.

5.8.4 Health and Safety Plan

A Site-specific Health and Safety Plan (HASP) has been previously developed by Remedial Engineering for use at the Site during the RI/FS field studies. During the Final Remedial Design phase, the HASP will be updated to include field activities to be performed during construction management at the Site. Although this HASP will be available for the Contractor's reference,

the Contractor will also be required to prepare and submit its own contractor's HASP prior to initiation of work activities.

The HASP has been developed in accordance with 29 CFR 1910.120 Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations requirements to address health and safety measures to be implemented during the pre-design studies. The HASP addresses personnel designations, assessment of potential Site hazards, training requirements, monitoring procedures, medical surveillance requirements, emergency plan, authorized personnel, work zones, personnel protection, and communications requirements.

5.8.5 Sampling and Analysis Plan

A Site-specific Sampling and Analysis Plan (SAP) has been previously developed for use at the Site during the pre-design field studies. During the Final Remedial Design phase, the SAP will be updated to include field sampling activities to be performed during remedial construction activities at the Site.

The SAP describes the sampling activities used to obtain physical data to support the Remedial Design effort, and to verify that the data obtained accurately reflect actual physical environmental conditions in the areas that are remediated. The SAP has the following two purposes:

1. It describes the sampling and data-gathering methods to be used during implementation of the field activities. This includes information relative to Site background, sampling objectives, sampling location and frequency, sample designation, sampling equipment and procedures, and sample handling and analysis.

2. Presents the organization, objectives, functional activities and specific quality assurance and quality control activities associated with the investigation for the Site. This includes descriptions of the specific protocols which will be followed for sampling chain of custody, and laboratory and field analysis.

5.9 Preliminary Construction Schedule

Based on our knowledge of Site conditions and experience with similar projects, it is anticipated that it will take eight weeks (40 work days) of construction to complete the excavation and removal effort this preliminary schedule is shown on Figure 10. This, of course, is contingent

upon weather, contractor's schedule and other potential unforeseen Site conditions that may hinder work progress. A preliminary construction schedule is anticipated as follows:

- Mobilization and Site Preparation - 3 days
- Excavation and Restoration at Area 3 - 15 days
- Transportation and Disposal of Fill from Area 3 - 5 days
- Excavation and Restoration at DW-2B and DW-2C - 8 days
- Excavation and Restoration at DW-2A - 2 days
- Excavation and Restoration at Area 4 (DW-4) - 2 days
- Excavation and Restoration at Area 5 (DW-5) - 2 days
- Transportation and Disposal of Fill from Areas 2, 4 and 5 - 1 day
- Demobilization - 2 days

Respectfully submitted,

ROUX ASSOCIATES, INC.

Omar Ramotar
Project Engineer

REMEDIAL ENGINEERING, P.C.

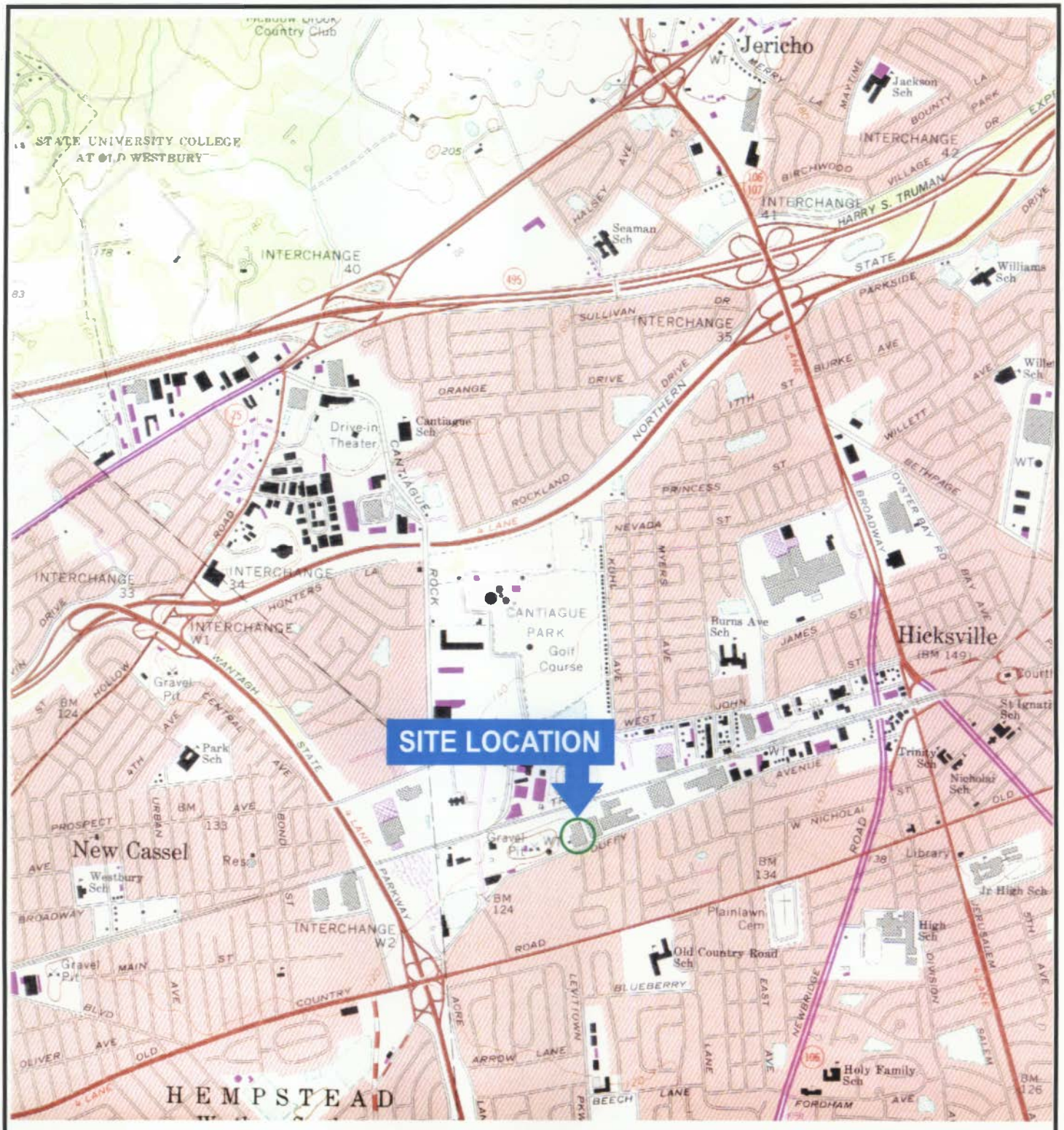
Peter J. Gerbasi, P.E.
Principal Engineer

6.0 REFERENCES

Remedial Investigation, Magnusonic Devices, Inc., Prepared for SmithKline Beecham. Prepared by Roux Associates, Inc., August 1995.

Feasibility Study, Magnusonic Devices, Inc., Prepared for SmithKline Beecham. Prepared by Roux Associates, Inc., January 1998.

Record of Decision, Magnusonic Devices, Inc., Hicksville, Nassau County, Site Number 1-30-031. Prepared by the New York State Department of Environmental Conservation, March 1999.



QUADRANGLE LOCATION

SOURCE:
USGS; 1979. Hicksville, NY
7.5 Minute Topographic Quadrangle

N

0 2000'

Title:

SITE LOCATION MAP

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared for:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.O.	Date: 08APR00	FIGURE
Prepared by: B.H.C.	Scale: 1"=2000'	1
Project Mgr.: O.R.	Office: NY	
File No.: QUE0110908.CDR	Project No.: 79101Y	

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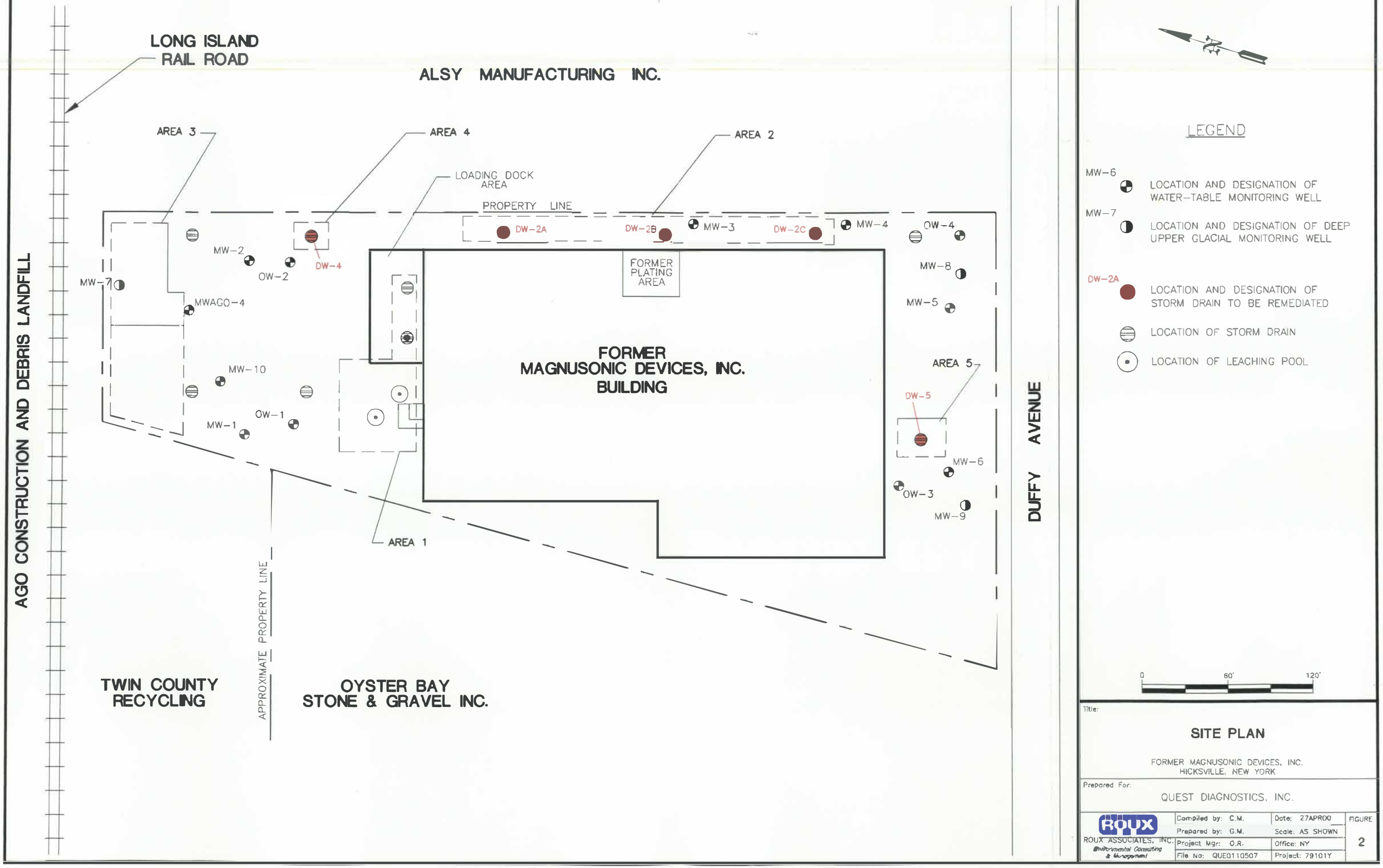

LEGEND

MW-6 — LOCATION AND DESIGNATION OF WATER-TABLE MONITORING WELL

MW-7 — LOCATION AND DESIGNATION OF DEEP UPPER GLACIAL MONITORING WELL

DW-2A — LOCATION AND DESIGNATION OF STORM DRAIN TO BE REMEDIATED

LOCATION OF STORM DRAIN

LOCATION OF LEACHING POOL

0 60' 120'

Title:

SITE PLAN

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 27APR00	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	2
Project Mgr: O.R.	Office: NY	
File No: QUE0110507	Project: 79101Y	

LONG ISLAND RAIL ROAD

ALSY MANUFACTURING INC.

AGO CONSTRUCTION AND DEBRIS LANDFILL

DUFFY AVENUE

AREA 3

AREA 4

LOADING DOCK AREA

AREA 2

PROPERTY LINE

14'

DW-4

DW-2A

DW-2B

DW-2C

MW-3

MW-4

FORMER PLATING AREA

MW-2

OW-2

A

A'

MW-7

MWACO-4

B

B'

MW-10

OW-1

MW-1

FORMER MAGNUSONIC DEVICES, INC. BUILDING

OW-4

MW-8

MW-5

AREA 5

DW-5

MW-6

OW-3

MW-9

AREA 1

APPROXIMATE PROPERTY LINE

TWIN COUNTY RECYCLING

OYSTER BAY STONE & GRAVEL INC.

LEGEND

MW-6 — LOCATION AND DESIGNATION OF WATER-TABLE MONITORING WELL

MW-7 — LOCATION AND DESIGNATION OF DEEP UPPER GLACIAL MONITORING WELL

SIDES OF EXCAVATION TO BE SHEETED

DW-2A — LOCATION AND DESIGNATION OF STORM DRAIN TO BE REMEDIATED

LOCATION OF STORM DRAIN

LOCATION OF LEACHING POOL

B B' — LINE OF CROSS SECTION

NOTE:
DW-2A, DW-2B, DW-2C, DW-4 AND DW-5 SHALL BE EXCAVATED TO THE HORIZONTAL AND VERTICAL LIMITS SHOWN IN TABLE 1 IN FIGURE 6.

0 60' 120'

Title:

EXCAVATION AND SHEETING PLAN

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 27APR00	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	3
Project Mgr: O.R.	Office: NY	
File No. QUE0110505	Project: 79101Y	

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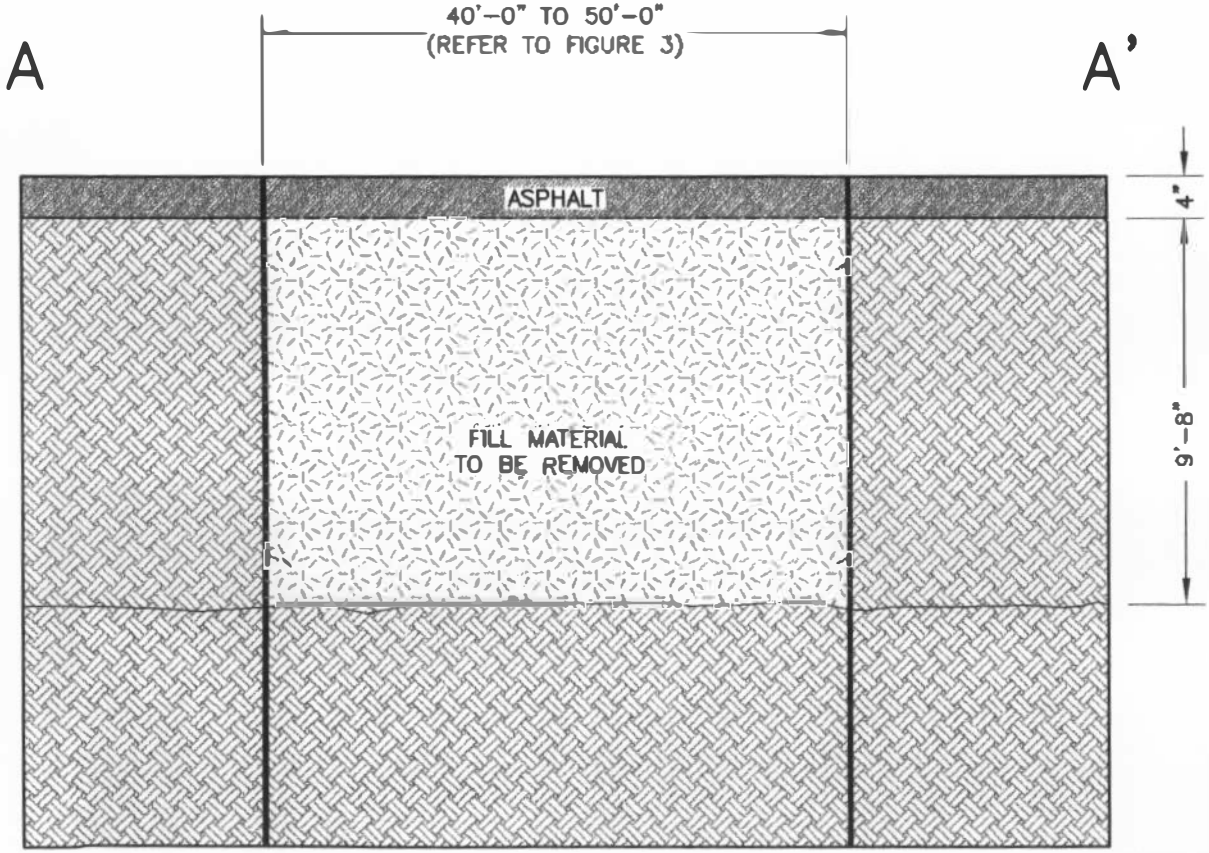

LEGEND

INDICATES AREA OF FILL MATERIAL TO BE REMOVED AND SHEETING TO BE INSTALLED

NOTE:
EXCAVATION WILL PROCEED TO THE BOTTOM OF THE FILL LAYER.

Title:

AREA 3 EXCAVATION CROSS SECTION A-A'

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 06APR00	FIGURE
Prepared by: B.H.C.	Scale: N.T.S.	4
Project Mgr: O.R.	Office: NY	
File No: QUE0110504	Project: 79101Y	

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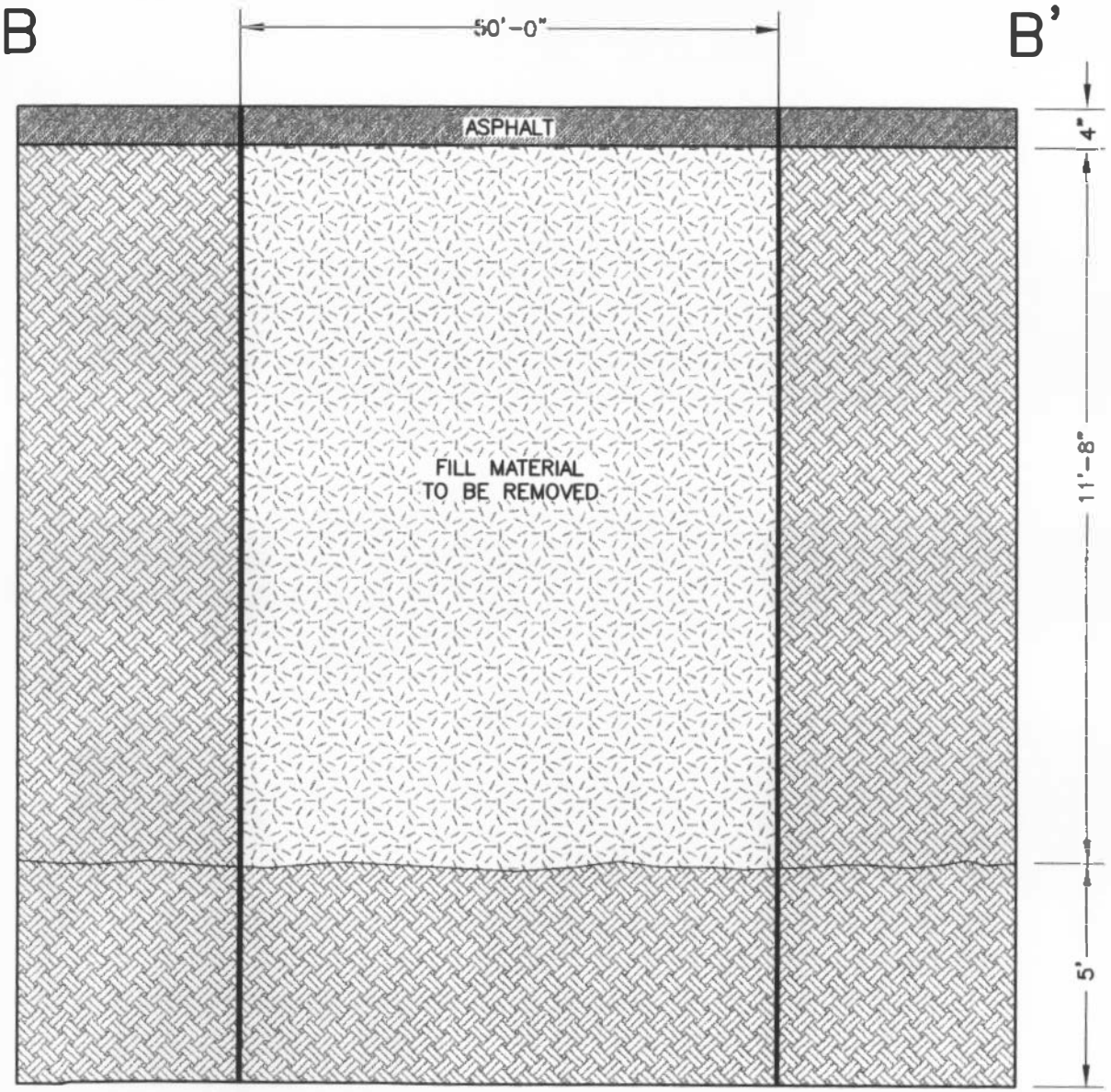

LEGEND

INDICATES AREA OF FILL MATERIAL TO BE REMOVED AND SHEETING TO BE INSTALLED

NOTE:

EXCAVATION WILL PROCEED TO THE BOTTOM OF THE FILL LAYER.

Title:

AREA 3 EXCAVATION CROSS SECTION B-B'

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 06APR00	FIGURE
Prepared by: B.H.C.	Scale: N.T.S.	5
Project Mgr: O.R.	Office: NY	
File No: QUE0110503	Project: 79101Y	

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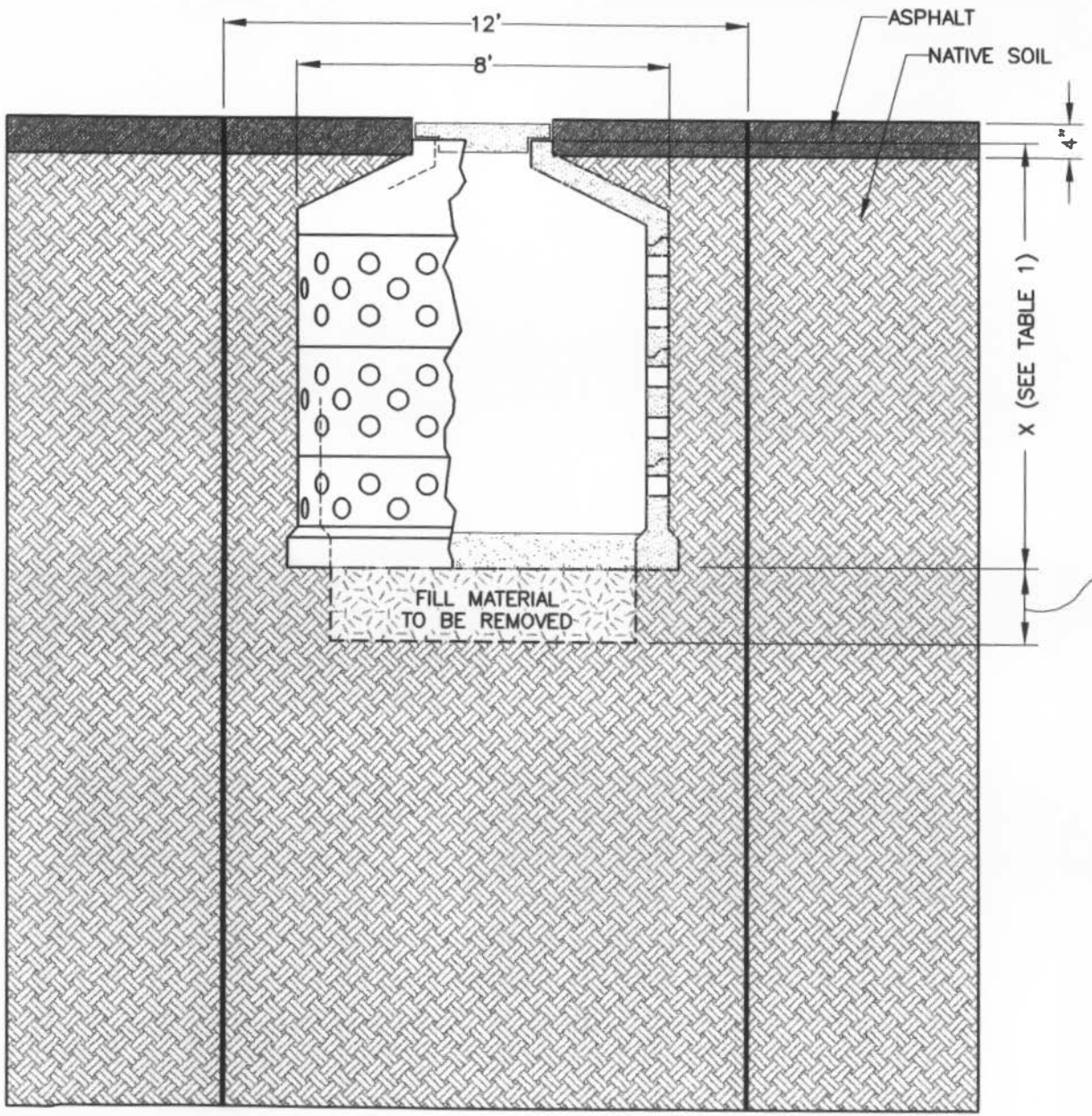


TABLE 1

DRY WELL	DEPTH OF DRY WELL (X)	LIMITS OF FILL MATERIAL TO BE EXCAVATED (Y)
DW-2A	16'	2'
DW-2B	17'	5'
DW-2C	16'	5'
DW-4	14.5'	2'
DW-5	15'	2'

LEGEND

INDICATES SHEETING TO BE INSTALLED

NOTES:

1. CROSS SECTION IS FOR TYPICAL DRY WELL EXCAVATION.
2. EXCAVATIONS FOR DRYWELLS DW-2A, DW-4 AND DW-5 MAY NOT REQUIRE SHEETING.

Title:

EXCAVATION CROSS SECTION FOR AREAS 2, 4 AND 5

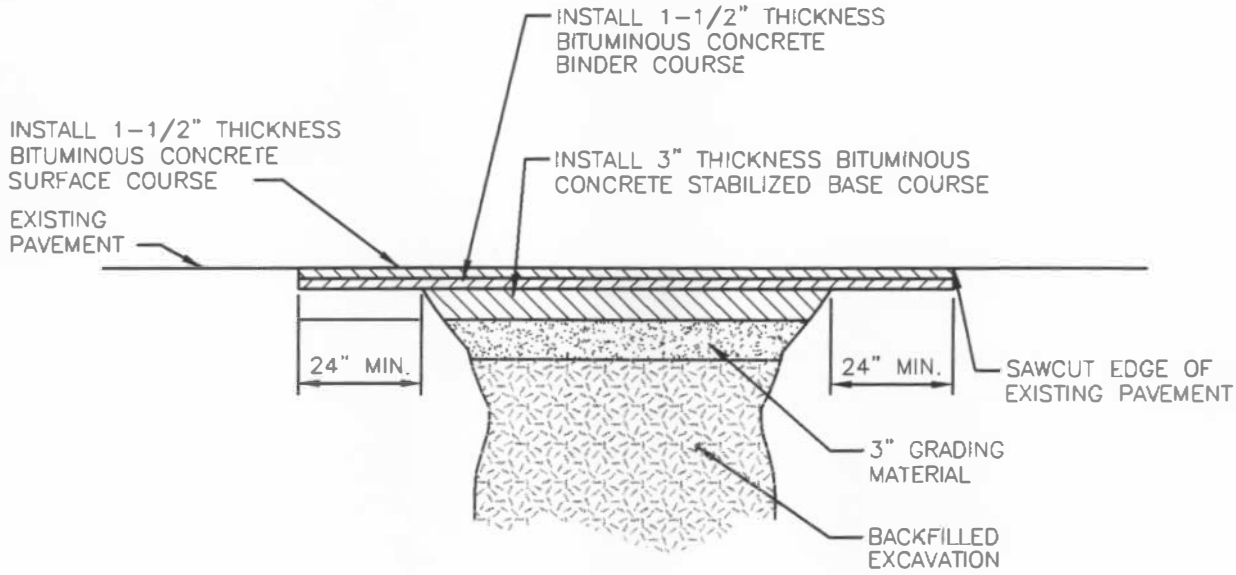
FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 27APR00	FIGURE
Prepared by: B.H.C.	Scale: N.T.S.	6
Project Mgr: O.R.	Office: NY	
File No: QUE0110502	Project: 79101Y	



NOTES:

1. GENERAL: MATERIALS AND MIXTURES COMPILED WITH NYSDOT "STANDARD SPECIFICATIONS-CONSTRUCTION AND MATERIALS"
2. BITUMINOUS CONCRETE SURFACE COURSE MIXTURE: TYPE 8 TOP BITUMINOUS PLANT MIXTURE, PARAGRAPH 401-2.02
3. BITUMINOUS CONCRETE STABILIZED BASE COURSE MIXTURE: TYPE 2 BASE BITUMINOUS PLANT MIXTURE, PARAGRAPH 401-2.02
4. BITUMINOUS CONCRETE BINDER COURSE MIXTURE: TYPE 3 BINDER BITUMINOUS PLANT MIXTURE, PARAGRAPH 401-2.02

Title:

AREA 3 RESTORATION DETAIL

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: C.M.	Date: 28MAR00	FIGURE 7
	Prepared by: B.H.C.	Scale: N.T.S.	
	Project Mgr: O.R.	Office: NY	
	File No: QUE0110506	Project: 79101Y	

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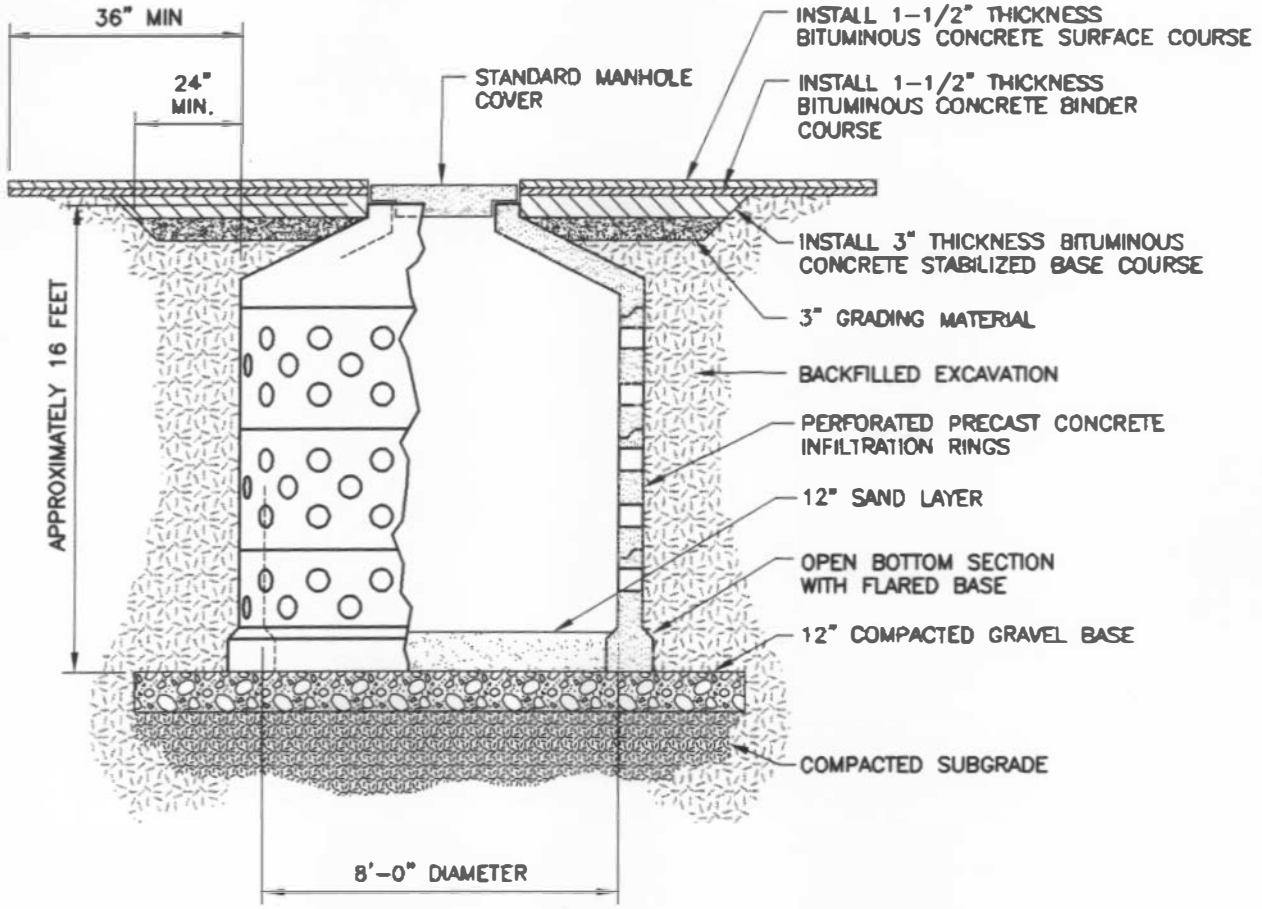


NOTES:

1. GENERAL: MATERIALS AND MIXTURES COMPILED WITH NYSDOT "STANDARD SPECIFICATIONS-- CONSTRUCTION AND MATERIALS"
2. BITUMINOUS CONCRETE SURFACE COURSE MIXTURE: TYPE 8 TOP BITUMINOUS PLANT MIXTURE, PARAGRAPH 401-2.02
3. BITUMINOUS CONCRETE STABILIZED BASE COURSE MIXTURE: TYPE 2 BASE BITUMINOUS PLANT MIXTURE, PARAGRAPH 401.2.02
4. BITUMINOUS CONCRETE BINDER COURSE MIXTURE: TYPE 3 BINDER BITUMINOUS PLANT MIXTURE, PARAGRAPH 401-2.02

Title:

AREAS 2, 4 AND 5 RESTORATION DETAIL

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

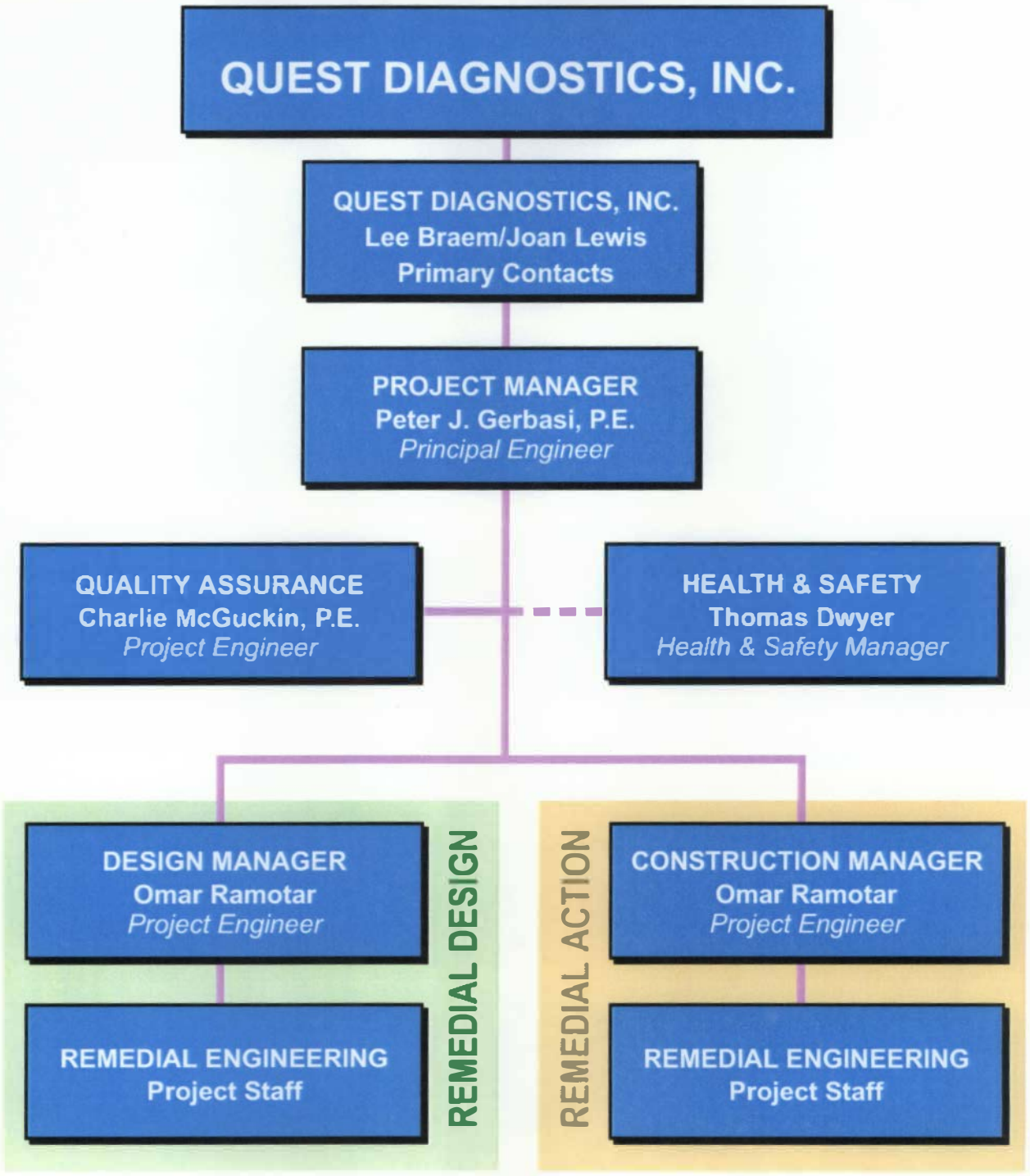
Prepared For:

QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: C.M.	Date: 06APR00	FIGURE
Prepared by: B.H.C.	Scale: N.T.S.	
Project Mgr: O.R.	Office: NY	8
File No: QUE0110501	Project: 79101Y	

QUE7911Y\QUE01Y\105\QUE0110501.DWG



Title:

PROJECT ORGANIZATION CHART

FORMER MAGNUSONIC DEVICES, INC.
HICKSVILLE, NEW YORK

Prepared for:

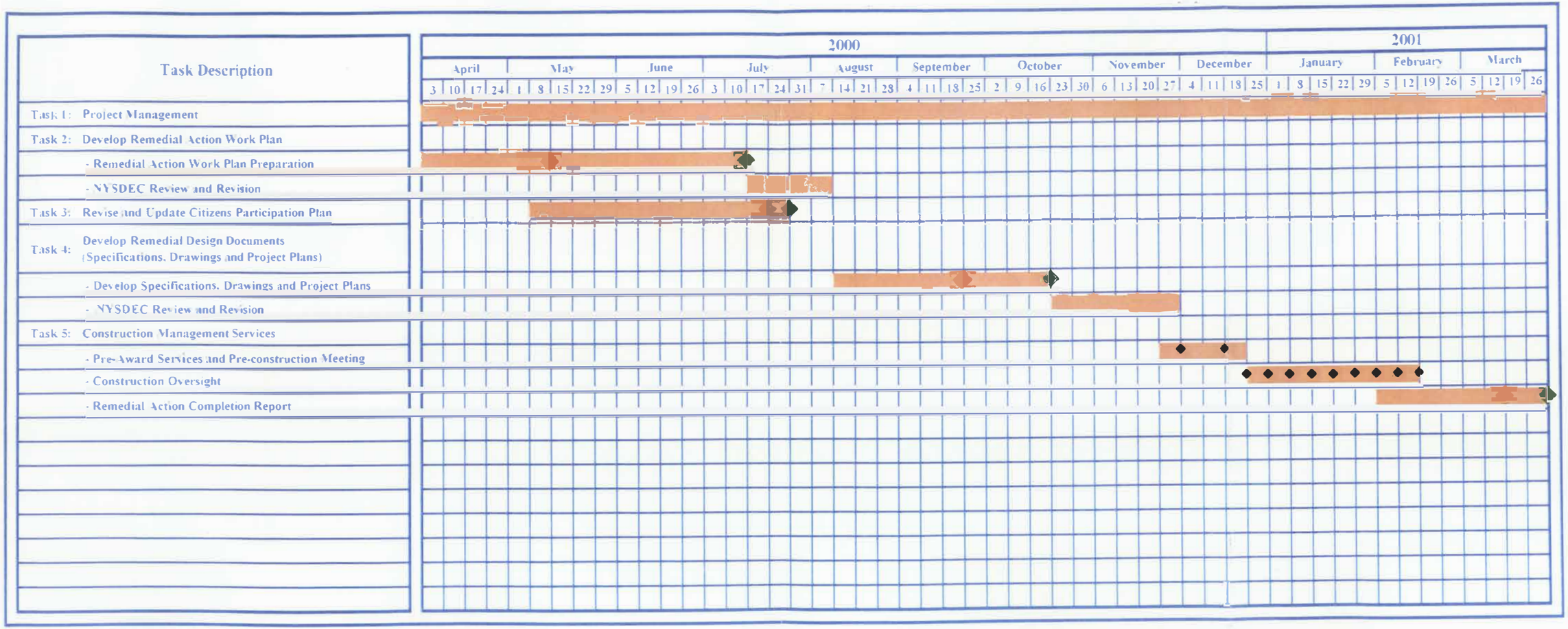
QUEST DIAGNOSTICS, INC.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.O.		Date: 08APR09	FIGURE
Prepared by: B.H.C.		Scale: 1"=2000'	9
Project Mgr.: O.R.		Office: NY	
File No.: QUE011.0509.CDR		Proj. No.: 791 01Y	

N:\PROJECT\QUE791Y\QUE01Y1109\QUE011.0509.CDR

FIGURE 10
PROJECT SCHEDULE
REMEDIAL DESIGN / REMEDIAL ACTION AND CONSTRUCTION OVERSIGHT
FORMER MAGNUSONICS DEVICES SITE, HICKSVILLE, NEW YORK



LEGEND

- Work Scheduled
- Project Meeting
- Draft Submission Milestone
- Final Submission Milestone