NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

60-Day Advance Notification of Site Change of Use, Transfer of Certificate of Completion, and/or Ownership

Required by 6NYCRR Part 375-1.11(d) and 375-1.9(f)

To be submitted at least 60 days prior to change of use to:

Chief, Site Control Section
New York State Department of Environmental Conservation
Division of Environmental Remediation, 625 Broadway
Albany NY 12233-7020

RECEIVED

JUN 06 2022

Bur Of Tech. Support

I. Site Name: 500 Mamaroneck Ave **DEC Site ID No.** V00213

II. Contact Information of Person Submitting Notification:

Name: Skylar Francis

Address1: 280 East Broad Street, Suite 200

Address2:

Phone: 585-498-7948 E-mail: sfrancis@bergmannpc.com

III. Type of Change and Date: Indicate the Type of Change(s) (check all that apply):

- ☐ Change in Ownership or Change in Remedial Party(ies)
- ☐ Transfer of Certificate of Completion (CoC)
- ☑ Other (e.g., any physical alteration or other change of use)

Proposed Date of Change (mm/dd/yyyy): Jul 29, 2022

IV. Description: Describe proposed change(s) indicated above and attach maps, drawings, and/or parcel information.

The attached Soil Management Plan outlines the proposed construction and soil maintenance plan for the proposed project.

If "Other," the description must explain and advise the Department how such change may or may not affect the site's proposed, ongoing, or completed remedial program (attach additional sheets if needed).

See attachment

V. Certification Statement: Where the change of use results in a change in ownership or in responsibility for the proposed, ongoing, or completed remedial program for the site, the following certification must be completed (by owner or designated representative; see §375-1.11(d)(3)(i)):

I hereby certify that the prospective purchaser and/or remedial party has been provided a copy of any order, agreement, Site Management Plan, or State Assistance Contract regarding the Site's remedial program as well as a copy of all approved remedial work plans and reports.

Name: _____ _____
(Signature) (Date)

_____
(Print Name)

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

VI. Contact Information for New Owner, Remedial Party, or CoC Holder: If the site will be sold or there will be a new remedial party, identify the prospective owner(s) or party(ies) along with contact information. If the site is subject to an Environmental Easement, Deed Restriction, or Site Management Plan requiring periodic certification of institutional controls/engineering controls (IC/ECs), indicate who will be the certifying party (attach additional sheets if needed).

☐ Prospective Owner ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

Certifying Party Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

VII. Agreement to Notify DEC after Transfer: If Section VI applies, and all or part of the site will be sold, a letter to notify the DEC of the completion of the transfer must be provided. If the current owner is also the holder of the CoC for the site, the CoC should be transferred to the new owner using DEC's form found at http://www.dec.ny.gov/chemical/54736.html. This form has its own filing requirements (see 6NYCRR Part 375-1.9(f)).

Signing below indicates that these notices will be provided to the DEC within the specified time frames. If the sale of the site also includes the transfer of a CoC, the DEC agrees to accept the notice given in VII.3 below in satisfaction of the notice required by VII.1 below (which normally must be submitted within 15 days of the sale of the site).

Within 30 days of the sale of the site, I agree to submit to the DEC:

1. the name and contact information for the new owner(s) (see §375-1.11(d)(3)(ii));
2. the name and contact information for any owner representative; and
3. a notice of transfer using the DEC's form found at http://www.dec.ny.gov/chemical/54736.html (see §375-1.9(f)).

Name: _____ _____

(Signature) (Date)

_____

(Print Name)

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

Continuation Sheet

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative
Name: ______________________________
Address1: ______________________________
Address2: ______________________________
Phone: ______________ E-mail: ______________

New York State Department of Environmental Conservation

Instructions for Completing the 60-Day Advance Notification of Site Change of Use, Transfer of Certificate of Completion (CoC), and/or Ownership Form

Submit to: Chief, Site Control Section, New York State Department of Environmental Conservation, Division of Environmental Remediation, 625 Broadway, Albany NY 12233-7020

Section I	Description
Site Name	Official DEC site name. (see http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3)
DEC Site ID No.	DEC site identification number.

Section II	Contact Information of Person Submitting Notification
Name	Name of person submitting notification of site change of use, transfer of certificate of completion and/or ownership form.
Address1	Street address or P.O. box number of the person submitting notification.
Address2	City, state and zip code of the person submitting notification.
Phone	Phone number of the person submitting notification.
E-mail	E-mail address of the person submitting notification.

Section III	Type of Change and Date
Check Boxes	Check the appropriate box(s) for the type(s) of change about which you are notifying the Department. Check all that apply.
Proposed Date of Change	Date on which the change in ownership or remedial party, transfer of CoC, or other change is expected to occur.

Section IV	Description
Description	For each change checked in Section III, describe the proposed change. Provide all applicable maps, drawings, and/or parcel information. If "Other" is checked in Section III, explain how the change may affect the site's proposed, ongoing, or completed remedial program at the site. Please attach additional sheets, if needed.

Section V Certification Statement

This section must be filled out if the change of use results in a change of ownership or responsibility for the proposed, ongoing, or completed remedial program for the site. When completed, it provides DEC with a certification that the prospective purchaser has been provided a copy of any order, agreement, or State assistance contract as well as a copy of all approved remedial work plans and reports.

Name	The owner of the site property or their designated representative must sign and date the certification statement. Print owner or designated representative's name on the line provided below the signature.
Address1	Owner or designated representative's street address or P.O. Box number.
Address2	Owner or designated representative's city, state and zip code.
Phone	Owner or designated representative's phone number.
E-Mail	Owner or designated representative's E-mail.

Section VI Contact Information for New Owner, Remedial Party, and CoC Holder (if a CoC was issued)

Fill out this section only if the site is to be sold or there will be a new remedial party. Check the appropriate box to indicate whether the information being provided is for a Prospective Owner, CoC Holder (if site was ever issued a COC), Prospective Remedial Party, or Prospective Owner Representative. Identify the prospective owner or party and include contact information. A Continuation Sheet is provided at the end of this form for additional owner/party information.

Name	Name of Prospective Owner, Prospective Remedial Party or Prospective Owner Representative.
Address1	Street address or P.O. Box number for the Prospective Owner, Prospective Remedial Party, or Prospective Owner Representative.
Address2	City, state and zip code for the Prospective Owner, Prospective Remedial Party, or Prospective Owner Representative.
Phone	Phone number for the Prospective Owner, Prospective Remedial Party or Prospective Owner Representative.
E-Mail	E-mail address of the Prospective Owner, Prospective Remedial Party or Prospective Owner Representative.

If the site is subject to an Environmental Easement, Deed Restriction, or Site Management Plan requiring periodic certification of institutional controls/engineering controls (IC/EC), indicate who will be the certifying party(ies). Attach additional sheets, if needed.

Certifying Party Name	Name of Certifying Party.
Address1	Certifying Party's street address or P.O. Box number.
Address2	Certifying Party's city, state and zip code.
Phone	Certifying Party's Phone number.
E-Mail	Certifying Party's E-mail address.

Section VII Agreement to Notify DEC After Property Transfer/Sale

This section must be filled out for all property transfers of all or part of the site. If the site also has a CoC, then the CoC shall be transferred using DEC's form found at http://www.dec.ny.gov/chemical/54736.html

Filling out and signing this section of the form indicates you will comply with the post transfer notifications within the required timeframes specified on the form. If a CoC has been issued for the site, the DEC will allow 30 days for the post transfer notification so that the "Notice of CoC Transfer Form" and proof of it's filing can be included. Normally the required post transfer notification must be submitted within 15 day (per 375-1.11(d)(3)(ii)) when no CoC is involved.

Name	Current property owner must sign and date the form on the designated lines. Print owner's name on the line provided.
Address1	Current owner's street address.
Address2	Current owner's city, state and zip code.

SOIL MANAGEMENT PLAN
500 MAMARONECK AVENUE
Harrison, New York

NOVEMBER 5, 2002

Prepared For:

PowerFlex
805 Third Avenue
New York, NY 10022

Prepared By:
ENVIRONMENTAL RESOURCES MANAGEMENT
520 Broad Hollow Road, Suite 210
Melville, NY 11797

Updated BY:
BERGMANN
280 East Broad Street, Suite 200
Rochester, NY 14604
April 15, 2022

TABLE OF CONTENTS

1.0 SITE BACKGROUND

Subsurface soil at 500 Mamaroneck Avenue (site) has been impacted by operation of the Town of Harrison Municipal Incinerator, which formerly occupied the property. Residual municipal waste, ash/slag and atmospheric deposition of particulates from the incinerator remain in the subsurface soil at the site. The concentrations of polynuclear aromatic-hydrocarbons (PAT-ls) and certain metals (arsenic, barium, cadmium, calcium, chromium, copper, lead, magnesium, mercury, nickel, and zinc) exceed Soil Cleanup Objectives (SCOs) specified in the New York State Department of Environmental Conservation Commissioner Policy 51 (CP-51) "Soil Cleanup Guidance", dated October 2010 and 6 NYCRR Part 375-6.8 provides regulatory standards with respect to cleanup standards[1]. The residuals are capped by the building, parking areas paved with bituminous material and landscaped areas. Direct contact with the residuals is thereby controlled and the potential for contact minimized.

Maintenance activities to be carried out at the site that involve excavation of subsurface soil have the potential for site workers to contact the residuals and to generate waste material that may require proper management. This plan identifies the activities that may require management of excavated soil generated at 500 Mamaroneck Avenue.

2.0 PROPOSED USE

On June 2nd, 2022, a Change of Use Notification was submitted to NYSDEC Region 3 Office (Appendix B). The request involved the proposed Solar Project consisting of 3.9-acres of solar canopies (3.3 MWac) of the existing 34.5-acre parcel. The proposed project involves the installation of solar canopies on the grassed islands within the existing parking lot as well as installation of underground electrical lines, electrical equipment, and batteries associated with the solar array. As of the issuance of this Report, the Change in Use request is still pending from the NYSDEC and final design plans are still in negotiation with the Town of Harrison's Town Engineer. The Change in Use request requires NYSDEC approval prior to construction start.

The proposed solar project will occupy approximately 3.9-acres of the existing 34.5-acre parcel. Solar installation will occur in a manner consistent with the final approved Solar Array Construction Plans (Appendix A). The proposed plan includes penetrations through the site engineering controls during the installation of the solar canopy footers, underground conduits, and stormwater drainage areas. Ground and soil disturbances are proposed to occur under the capped pavement and two (2) feet below ground surface (bgs). This proposed plan will require the implementation of the SMP and associated Remedial Action Work Plan which is included as Appendix B. SMP Procedures including excavation activities and soil disposal requirements, must be implemented should any soil/material excavation and accumulation occur, see section 4.1, 4.2, and 4.3. As of the issuance of this Report, stormwater and erosion control/management plan is still in negotiation with the Town of Harrison's Town Engineer. Once solar array construction is completed, this Draft Revised SMP will be revised accordingly to reflect final design. The current proposed Solar Array Plans are provided in Appendix A.

This SMP should be referenced during all ground intrusive activities and solid waste handling aspects of the proposed project. For the proposed project, during ground intrusive Site work, an Environmental Consultant will

[1] The initial report constructed by Environmental Resources Management, referenced the Recommended Soil Clean up Objectives (RSCOs) specified in the New York State Department of Environmental Conservation Technical and Guidance Memorandum Number 4046 (TAGM 4046. This updated SMP, April 2022, has updated the NYSDEC Recommended Soil Clean up Objectives to the current 2022 standards "Soil Cleanup Objectives (SCOs) specified in the New York State Department of Environmental Conservation Commissioner Policy 51 (CP-51) "Soil Cleanup Guidance", dated October 2010 and 6 NYCRR Part 375-6.8 regulatory standards with respect to cleanup standards"

provide environmental oversight and will use visual and olfactory observation as well as Photoionization Detector (PID) readings to observe and screen for potentially impacted soils and materials.

3.0 IMPLEMENTATION OF THE SOIL MANAGEMENT PLAN

For the capping at 500 Mamaroneck Avenue to remain protective, all subsurface soil must remain at least two (2) feet below final grade, with the top two (2) feet consisting of clean cover or other capping impervious barrier such as asphalt or concrete. Management measures must be implemented should any of the following activities occur:

- Excavation of soil from beneath the asphalt subbase in the parking areas. If soil from beneath the subbase is exposed without excavation, dust suppression measures may be required.
- Excavation of subsurface soil, from more than 2-feet below the vegetative layer in landscaped or grassed areas.
- Regrading (i.e., cutting) that would reduce the thickness of the existing surface soil layer to less than two feet, or would otherwise place subsurface soil in the top two—foot surface soil interval.

Should any of the above activities be carried out, the Soil Management Plan, presented in the following section, should be followed to properly manage the soil and final grading must replace the existing Engineering Controls or site cap/cover system

4.0 IMPLEMENTATION OF THE SOIL MANAGEMENT PLAN

The goal of this Soil Management Plan is to properly manage soil that is excavated during future work activities on the Site. Therefore, this section is structured to present reasonable procedures and precautions to ensure that future work activities are implemented Safely, without impacting Site workers or the environment. Because the concentrations of PAHs, polychlorinated biphenyls (PCBs), and metals in subsurface soil is highly variable across the site, precautions must be taken during all excavation activities.

4.1 WORK PROCEDURES FOR EXCAVATION ACTIVITES

If any future work (e.g., pipe installation, soil grading, landscaping, etc.) is conducted involving excavation, the procedures identified below will be implemented.

- Workers will not be required to wear protective clothing, however, eating, drinking and smoking in the vicinity of the excavation is strictly prohibited.
- Respiratory protection (i.e., respirators) is not anticipated to be necessary, however, dust masks are recommended. This level of protection is acceptable provided that airborne dust concentrations are minimized by water misting and/or good work practices. Visible airborne dust concentrations are not acceptable.

- Any excavated soil will be stockpiled on site, or staged in rolloffs, at all times, until final determinations are made regarding disposal or re-use. Any stockpiles will be lined with seamless plastic sheeting, and covered with polyethylene sheeting.

- Anthropogenic material such as tires, metallic debris, bottles, stained soil should be segregated and disposed off-site.

- The stockpiled soil and/or other excavated materials will be stored in a secure area of the site until analytical results are obtained.

- Off-Site disposal of excavated soil is required, unless it can be demonstrated that the concentrations of residuals are below TAGM 4046 RSCOs[1]. To demonstrate that excavated soil has not been impacted, a statistically significant number of samples should be collected from any excavated soil considered for reuse and analyzed using applicable USEPA analytical methods and the analytical results compared to TAGM 4046 RSCOs* (see SW 846 for sampling program design). Refer to Section 4.3 for Off-Site Disposal Options.

- The asphalt surface for the 2-foot soil cover should be restored after work activities are complete. If the asphalt surface or 2-feet of cover will not be restored, NYSDEC project representatives should be consulted to determine if there is a need for any further action.

4.2 SOIL DISPOSAL REQUIREMENTS

This section is intended as a guideline for future site workers, to ensure the proper management of excavated soil that will be disposed off-Site. Because the solid and hazardous waste regulations are in a continuous state of change, this section provides only general guidelines, and is current as of April 2022[1]. Any future soil disposal, if necessary, must be conducted in accordance with the regulations current at the time the disposal activities will take place. All applicable and appropriate standards, guidance and criteria will be followed to properly manage any remedial waste that is generated.

If off-Site disposal of soil is required, the soil must be characterized for disposal purposes, in accordance with the requirements of the disposal facilities. Once disposal facility approval has been obtained, the soil will be transported in disposal trailers or rolloffs, to the appropriate, selected off-Site disposal facility. Any applicable waste manifesting, truck placarding, or other requirements will be followed.

4.3 TRACKING OF OFF-SITE DISPOSAL REQUIREMENTS

Treatment, Storage, and Disposal Facility (TSDF) and waste transporters must provide documentation of NYSDEC permits to Bergmann prior to handling, transporting, and/or receiving solid waste and/or impacted materials. Removal of Project materials shall receive documented approval by Environmental Contractor. Waste profiles and waste manifest shall be signed by Bergmann or an authorized representative on behalf of Bergmann. Draft waste profile must be submitted to Bergmann prior to submission to any TSDF.

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[1] The initial report constructed by Environmental Resources Management, referenced the Recommended Soil Clean up Objectives (RSCOs) specified in the New York State Department of Environmental Conservation Technical and Guidance Memorandum Number 4046 (TAGM 4046. This updated SMP, April 2022, has updated the NYSDEC Recommended Soil Clean up Objectives to the current 2022 standards "Soil Cleanup Objectives (SCOs) specified in the New York State Department of Environmental Conservation Commissioner Policy 51 (CP-51) "Soil Cleanup Guidance", dated October 2010 and 6 NYCRR Part 375-6.8 regulatory standards with respect to cleanup standards

Solid Waste impacted material and VOC/SVOC/Metal-impacted material approved for off-Site disposal by Bergmann shall be transported by a NYSDEC Part 364 permitted vehicle to an approved and permitted NYSDEC Part 360 landfill. [1]

While hazardous waste is not anticipated to be encountered in this project, special handling procedures, including but not limited to additional waste characterization and disposal to a hazardous waste facility will be required for waste characterized as hazardous.

Solid waste material shall not leave the Site without Bergmann permission. As such, documentation including, but not limited to NYSDEC Part 360 landfill permit(s) and NYSDEC Part 364 waste transporter permit(s), will be required for approval. The Contractor shall be responsible for complying with applicable federal, state, and local regulations, including but not limited to:

- 6 NYCRR Part 360 – Solid Waste Management Facilities
- 6 NYCRR Part 364 – Waste Transporter Permits
- 6 NYCRR Part 370 – Hazardous Waste Management System
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 29 CFR 1910.120 – Hazardous Operations and Emergency Response
- 40 CFR 260 – Hazardous Waste Management System
- 40 CFR 261 – Identification and Listing of Hazardous Wastes
- 40 CFR 100 to 179 – DOT Hazardous Materials Transport and Manifest System
- NYSDEC CP-51 – Soil Cleanup Levels
- 6 NYCRR Part 375-6.8 – NYSDEC Remedial Program Soil Cleanup Objectives

In general, three categories of soil could be generated for off-Site disposal:

- Non-regulated "industrial waste" soil;
- RCRA-regulated hazardous waste soil; and
- TSCA-regulated soil containing PCBs (In New York, TSCA-regulated PCB soil is considered a New York State hazardous waste).

Non-regulated soil would consist of soil that does not contain constituents at concentrations high enough to be considered a TSCA or RCRA regulated waste.

Promulgated federal regulations (Toxic Substance Control Act (TSCA) Section 6(e)(1) and Federal PCB regulations at 40 C.F.R 761.61 (c) i.e., the June 1998 PCB Rule) regulate the disposal of soil if it contains PCBs at or above a

[1] The initial report constructed by Environmental Resources Management, referenced the Recommended Soil Clean up Objectives (RSCOs) specified in the New York State Department of Environmental Conservation Technical and Guidance Memorandum Number 4046 (TAGM 4046. This updated SMP, April 2022, has updated the NYSDEC Recommended Soil Clean up Objectives to the current 2022 standards "Soil Cleanup Objectives (SCOs) specified in the New York State Department of Environmental Conservation Commissioner Policy 51 (CP-51) "Soil Cleanup Guidance", dated October 2010 and 6 NYCRR Part 375-6.8 regulatory standards with respect to cleanup standards.

concentration of 50 mg/kg. The Waste Management landfill in Model City, New York is currently permitted under TSCA to accept PCB soil for disposal.

5.0 DISTURBANCE OF ENGINEERING CONTROL

The proposed project includes penetration through the current site engineering controls. The concentration of PAHs, PCBS, and metal in substance soil is high variable across the site, precautions must be taking during all [2]excavation activities. The disturbance of the engineering control must follow the standards set forth in the SMP, following methods explained in Section 3.0 through Section 4.3. It is required by the SMP for the cap/site cover to be restored to its pre-disturbance conditions after the installation of the solar canopies. Once solar array construction is completed, this Draft Revised SMP will be revised accordingly to reflect final design.

[1] The initial report constructed by Environmental Resources Management, referenced the Recommended Soil Clean up Objectives (RSCOs) specified in the New York State Department of Environmental Conservation Technical and Guidance Memorandum Number 4046 (TAGM 4046. This updated SMP, April 2022, has updated the NYSDEC Recommended Soil Clean up Objectives to the current 2022 standards "Soil Cleanup Objectives (SCOs) specified in the New York State Department of Environmental Conservation Commissioner Policy 51 (CP-51) "Soil Cleanup Guidance", dated October 2010 and 6 NYCRR Part 375-6.8 regulatory standards with respect to cleanup standards.

FIGURES

EnterSolar
500 Mamaroneck Ave.

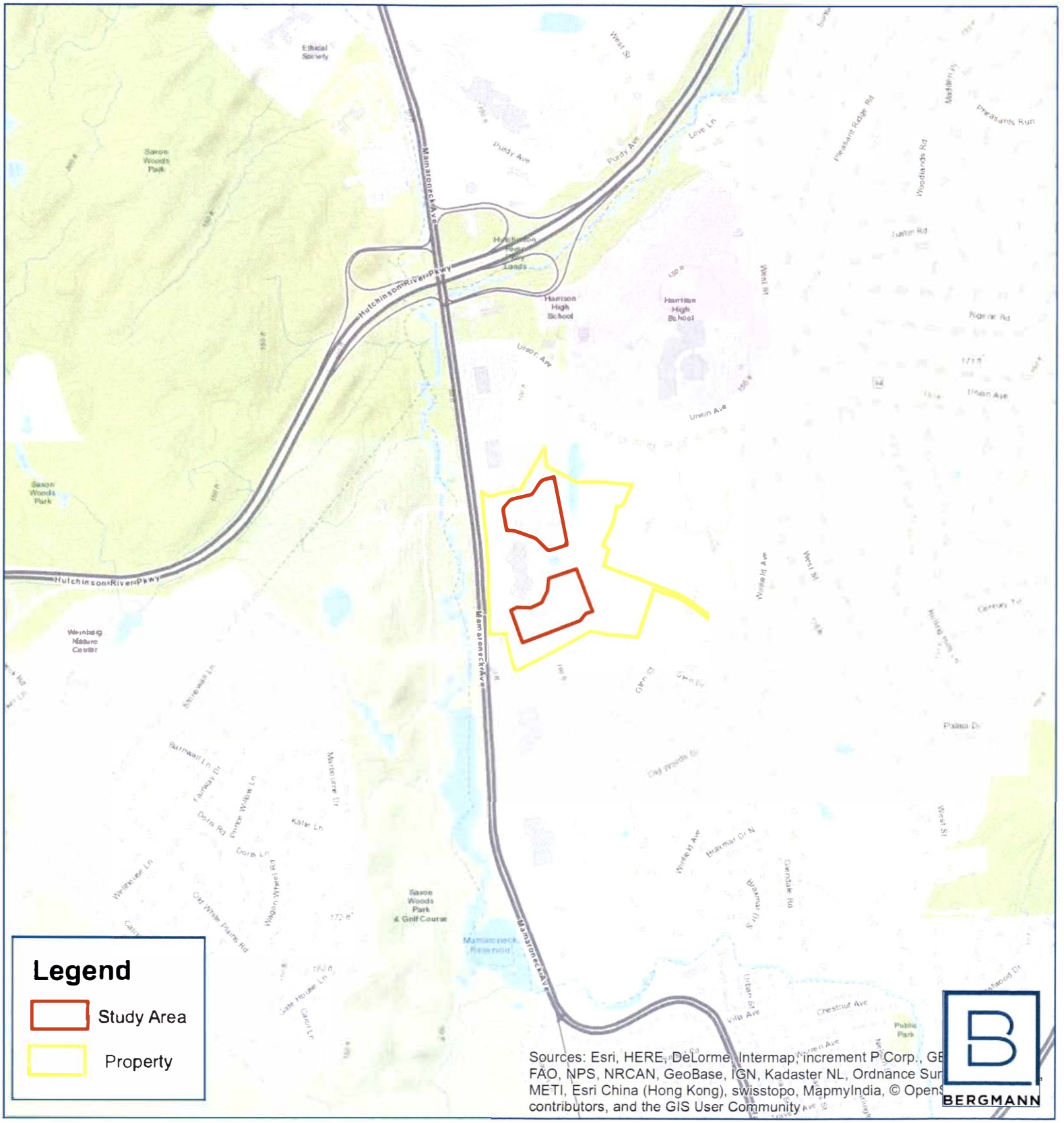
SITE LOCATION MAP

Fig. 1

1,000 Feet

N

Town of Harrison, Westchester County, New York



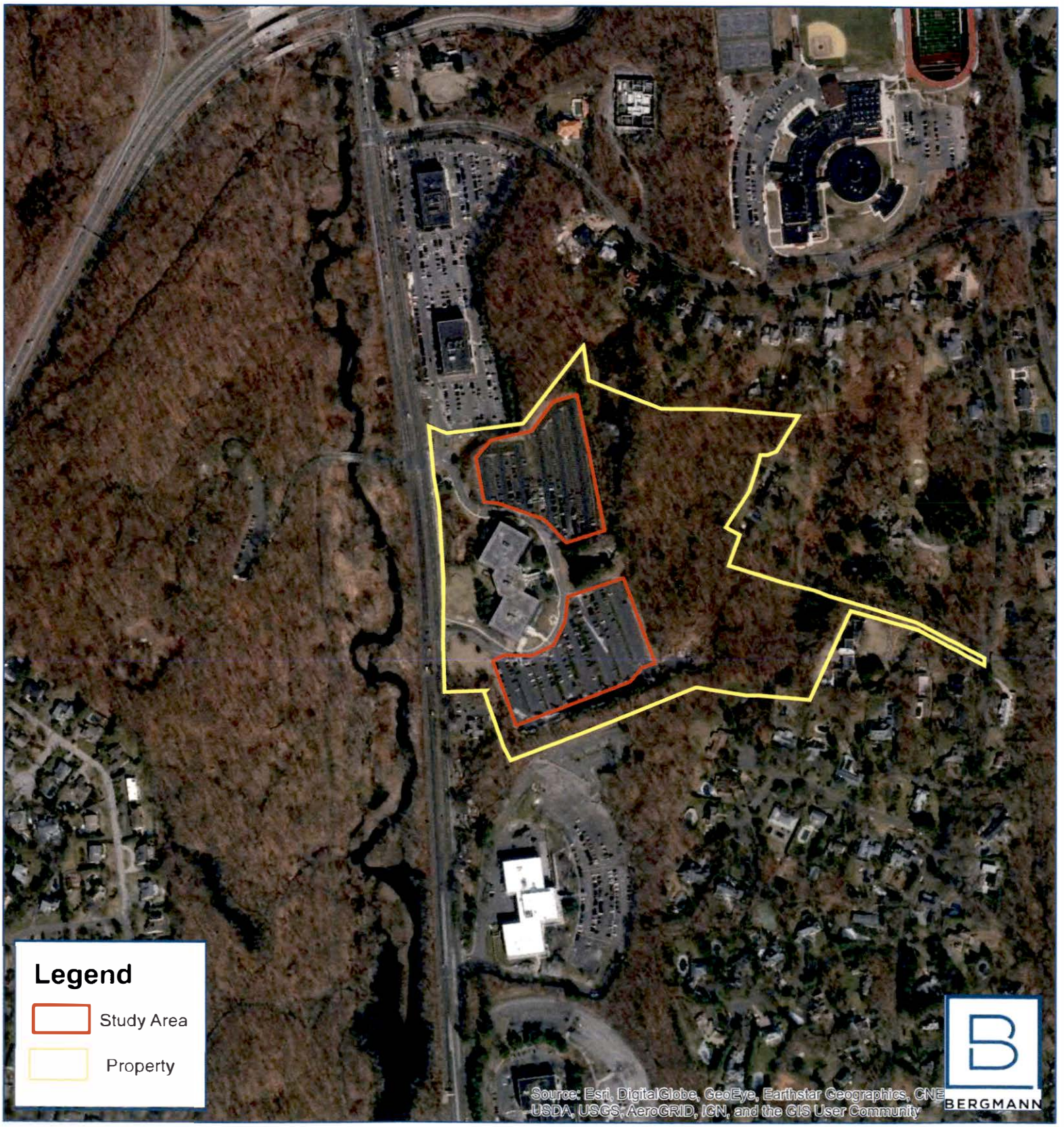
EnterSolar
500 Mamaroneck Ave.

AERIAL IMAGERY MAP | Fig. 2

500 Feet

N

Town of Harrison, Westchester County, New York



APPENDIX A:

SOLAR ARRAY CONSTRUCTION PLANS

ARCH D 24x36

PRELIMINARY DEVELOPMENT PLANS FOR
PROPOSED
500 MAMARONECK AVE
SOLAR DEVELOPMENT
500 MAMARONECK AVE
HARRISON, NEW YORK

PROJECT CONTACTS

CIVIL ENGINEER
BERGMANN
2 WINNERS CIRCLE, SUITE 102
ALBANY, NY 12205
CONTACT: ERIC REDDING, PE
PHONE: 518.556.3631

OWNER
ESRT 500 MAMARONECK AVE LLC.
11 WEST 33RD STREET
NEW YORK, NY 10120

APPLICANT
POWER FLEX
805 THIRD AVENUE 20TH FLOOR
NEW YORK, NY 10022
CONTACT: ROMER BEATO
PHONE: 914.953.5312

ELECTRICAL ENGINEER
TBD

SITE LOCATION MAP
1"=1000'

N

DRAWING INDEX		
DRAWING NO.	DRAWING TITLE	SHEET NO.
C000	COVER	1
C001	GENERAL NOTES	2
C002	AREA PARCEL PLAN	3
C003	EXISTING CONDITIONS PLAN	4
C004	OVERALL SITE PLAN	5
C005	SITE PLAN	6
C006	GRADING, UTILITY & EROSION & SEDIMENT CONTROL PLAN	7
C007	DETAILS I	8
C008	DETAILS II	9
C009	DETAILS III	10
C010	DETAILS IV	11

BERGMANN
ARCHITECTS ENGINEERS PLANNE

2 Winners Circle, Suite 102
Albany, NY 12205
www.bergmannpc.com
office: 518.862.0325

POWER FLEX

805 THIRD AVENUE
NEW YORK, NY 1002

500 MAMARONE AVE SOLAR PROJ

500 MAMARONECK AVE
HARRISON, NY 1052

Date Revised	Description
10/12/2021	UPDATED PER TOWN COMMENTS

PRELIMINARY
NOT FOR CONSTRUCT

Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	WD
Date Issued	Project Number
09/20/2021	14064.10

Sheet Name

COVER

Drawing Number

C000

10/29/2021 3:05 PM

ARCH D 24x36

SEQUENCE OF CONSTRUCTION:

1. PRE-CONSTRUCTION MEETING HELD TO INCLUDE PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTOR, AND SUB-CONTRACTORS PRIOR TO LAND DISTURBING ACTIVITIES.
2. INSTALL PERIMETER SILT FENCE.
3. HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
4. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
5. STRIP TOPSOIL AND STOCKPILE IN A LOCATION ACCEPTABLE TO CONSTRUCTION MANAGER. WHEN STOCKPILE IS COMPLETE, INSTALL PERIMETER SILT FENCE, SEED SURFACE WITH 100% PERENNIAL RYEGRASS MIXTURE AT A RATE OF 2-4 LBS. PER 1000 SF. APPLY 90-100 LBS PER 1000 SF OF MULCH.
6. COMMENCE EARTHWORK CUT AND FILLS. THE WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL EARTH FOR ROUGH GRADING AND EARTH MOVING. THE CONTRACTOR WILL BE GIVEN SOME LATITUDE TO VARY FROM THE FOLLOWING SCHEDULE IN ORDER TO MEET THE FIELD CONDITIONS ENCOUNTERED. CONTRACTOR SHALL REVIEW VARIATIONS TO SWPPP WITH DESIGN ENGINEER AND QUALIFIED PROFESSIONAL PRIOR TO IMPLEMENTATION.
7. INSTALL UTILITIES AND SOLAR CANOPIES. TRENCH EXCAVATION/BACKFILL AREAS SHOULD BE STABILIZED PROGRESSIVELY AT THE END OF EACH WORKDAY WITH SEED AND STRAW MULCH AT A RATE OF 100% PERENNIAL RYE GRASS AT 2-4 LBS/1000 SF MULCHED AT 90-100 LBS/1000 SF.
8. STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS
9. REMOVE TEMPORARY CONSTRUCTION EXITS AND PERIMETER SILT FENCE ONCE SITE HAS ACHIEVED 80% UNIFORM STABILIZATION.

GENERAL NOTES:

1. THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
2. THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
3. HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
4. THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
5. IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING
6. IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
7. EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
8. AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECTS CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
9. UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 1, 2020 AND ANY SUBSEQUENT APPENDICES.

WASTE/HAZARDOUS MATERIAL PRACTICES:

1. WHENEVER POSSIBLE COVERED TRASH CONTAINERS SHOULD BE USED
2. DAILY SITE CLEANUP IS REQUIRED TO REDUCE DEBRIS AND POLLUTANTS IN THE ENVIRONMENT
3. CONTRACTOR SHALL PROVIDE A SAFE STORAGE SPACE FOR ALL PAINTS, STAINS AND SOLVENTS INSIDE A COVERED STORAGE AREA.
4. ALL FUELS, OILS, AND GREASE MUST BE KEPT IN CONTAINERS AT ALL TIMES.

EROSION & SEDIMENT CONTROL NOTES:

1. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, AND THE GOVERNING MUNICIPAL REQUIREMENTS.
2. REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER REPLACE TOPSOIL TO A MINIMUM 4" DEPTH WITH TOPSOIL OR AMENDED SOIL. ALL DISTURBED AREAS TO BE SEEDED TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
3. IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATIVE COVER HAS BEEN ACHIEVED.
5. ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL OR AMENDED TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
7. THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
8. ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
9. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
10. DUST SHALL BE CONTROLLED BY WATERING.
11. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
12. SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

STORM WATER POLLUTION PREVENTION PLAN NOTES:

1. THE CONTRACTOR SHALL PROVIDE A QUALIFIED INSPECTOR TO INSPECT THE PROJECT AT THE END OF EACH WORK WEEK AND PROVIDE A REPORT AT LEAST ONCE PER WEEK.
2. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, WESTCHESTER COUNTY DEPARTMENT OF HEALTH, AND THE TOWN OF YORKTOWN REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPS) UNTIL GROUND COVER IS ESTABLISHED
4. REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 4" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEEDED AS DIRECTED BY THE CONSTRUCTION MANAGER TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
5. IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
7. ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED WHEN THEY HAVE REACHED THE DESIGN LIFE INDICATED IN THE NYS GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL DESIGN MANUAL OR EVERY THREE MONTHS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES
9. THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL AND EROSION CONTROL STRUCTURES THROUGHOUT CONSTRUCTION.
10. ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
11. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
12. DUST SHALL BE CONTROLLED BY WATERING.
13. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
14. EROSION CONTROL MEASURES SHOULD BE RELOCATED INWARD AS PERIMETER SLOPE CONSTRUCTION PROGRESSES AND RECONSTRUCTED TO THE NYS STANDARDS & SPECIFICATION AT THE END OF EACH DAY
15. PERIMETER AREAS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT MINIMUM AT THE END OF EACH WEEK WITH 100% PERENNIAL RYEGRASS MIX AT A RATE OF 2-4 LBS PER 1000 SF AND MULCH 90-100 LBS PER 1000 SF OF WEED FREE STRAW
16. SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

SITE STABILIZATION:

1. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
2. MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
3. STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENTS MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3:1. IF THE MACHINERY SHOULD BE OPERATED ALONG THE CONTOUR. NOTE: CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
4. BEFORE SEEDING IS APPLIED THE CONTRACTOR SHALL SPREAD SOIL TO PREVENT PONDING AND CONFIRM THAT SOIL WILL SUSTAIN THE SEED GERMINATION AND ESTABLISHMENT OF VEGETATION.
5. GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 6 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE. COMPACTED SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES, ALONG CONTOUR WHEREVER POSSIBLE, PRIOR TO SEEDING.
8. TOPSOIL OR AMENDED SOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A MINIMUM DEPTH OF 6 INCHES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT GODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
7. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
8. WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE ½" TO ¾" COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
9. POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IF IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
10. SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
11. MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
12. SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LB/ACRE AT A MINIMUM.
13. LIME, FERTILIZER, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS. IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AN EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS.
14. ONCE A SECTION OF THE ALIGNMENT HAS BEEN STABILIZED, NO CONSTRUCTION TRAFFIC SHALL OCCUR TO REMOVE ANY BMPS UNTIL THE SECTION HAS ACHIEVED 80% PERENNIAL VEGETATIVE COVER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NONVEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

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Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
08/20/2021	14064.10

Sheet Name

GENERAL NOTES

Drawing Number

C001

NUMBER	TAX ID	PARCEL OWNER
1	0482.-29	ARTHUR ROSSI
2	0482.-30	MICHAEL N STELLA
3	0482.-31	FRANK C VELLA
4	0482.-32	JOCELYN ROSE
5	0482.-33	HARALABOS VASSOS

NUMBER	TAX ID	PARCEL OWNER
6	0482.-34	GUISEEPPE FIORE
7	0482.-35	WILLIAM MC SORLEY
8	0482.-36	CAROL A. STEFANITSIS
9	0482.-37	ROSEANN MCSORLEY
10	0482.-38	CAROL STEFANITSIS

NUMBER	TAX ID	PARCEL OWNER
11	0482.-39	YOUNG YEOL YOO
12	0482.-40	JERRY STEFANITSIS
13	0482.-41	MATTHEW ARACICH

N

0 120' 240' 360' FT

1" = 120' SCALE BAR

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Sheet Name

AREA PARCEL PLA

Drawing Number

C002

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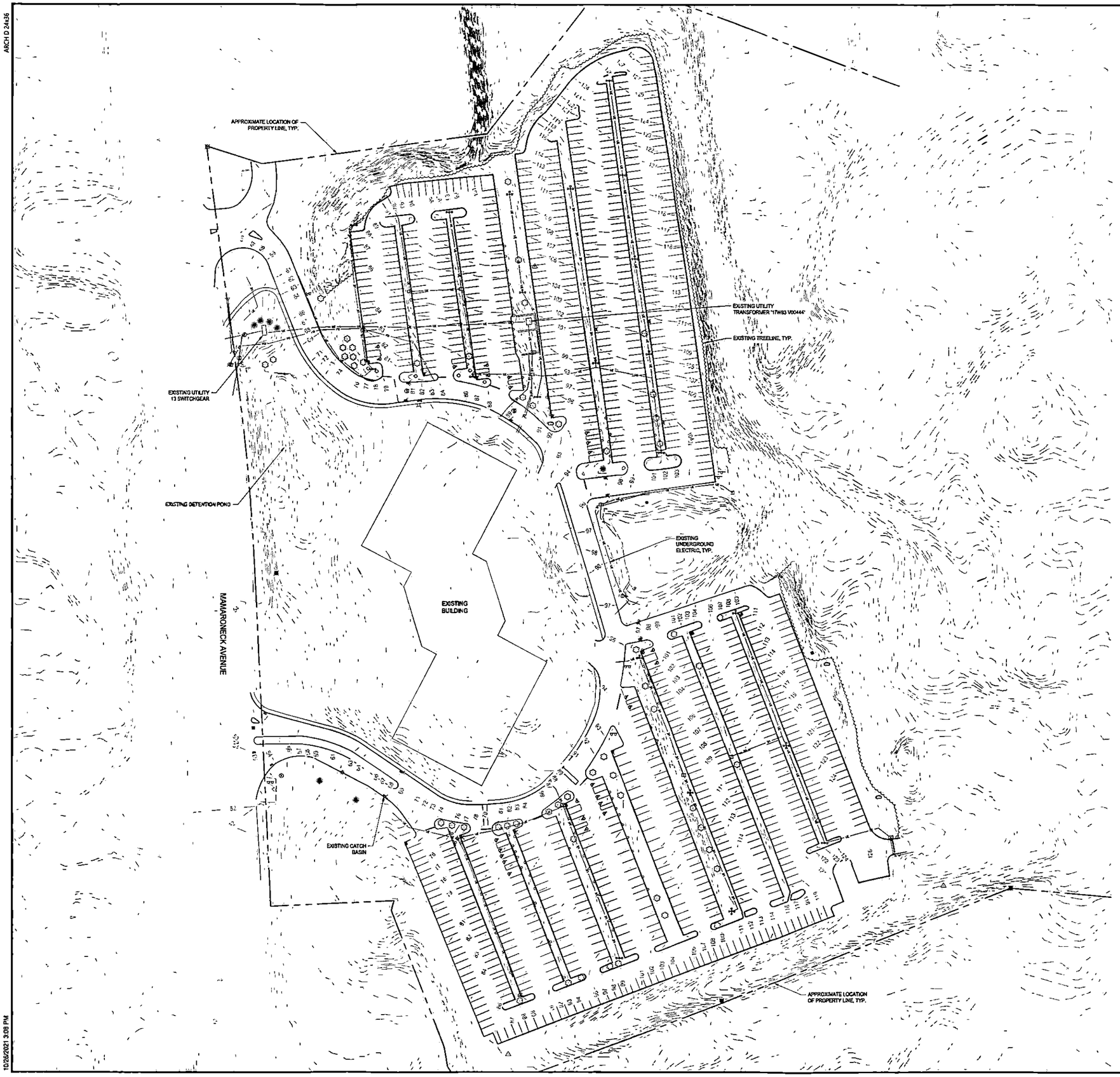

LEGEND

- PROPERTY LINE
- UGE — EXISTING UNDERGROUND UTILITY LINE
- OHE — EXISTING OVERHEAD UTILITY LINE
- EXISTING EDGE OF ASPHALT
- EXISTING TREELINE
- EXISTING LIGHTPOLE
- EXISTING ELECTRIC STRUCTURE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER VALVE
- EXISTING HYDRANT
- EXISTING SIGN

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Designer	Reviewer
SD	EDR
Date Issued	Project Number
09/20/2021	14064.10

Sheet Name

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Drawing Number

C003

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SITE PLAN DATA TABLE		
SITE IS LOCATED IN THE "SB-1" SPECIAL DISTRICT BUSINESS		
PROPOSED USE: TIER 3 SOLAR ENERGY SYSTEM		
PARCEL 482-8 TOWN OF HARRISON, COUNTY OF WESTCHESTER STATE OF NEW YORK		
APPLICANT POWERFLEX 805 THIRD AVENUE NEW YORK, NY, 120022 (917) 426-9523	OWNER(S) OF RECORD ESRT 500 MAMARONECK AVENUE LLC	
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325		
DESCRIPTION	REQUIRED	PROPOSED
MIN. LOT SIZE	5 AC.	34.54 AC.
MINIMUM LOT WIDTH	300 FT	1,100± FT
MIN. SIDE YARD SETBACK	75 FT	68± FT
MIN. FRONT YARD SETBACK	50 FT	221± FT
MIN. REAR YARD SETBACK	100 FT	410± FT
MAXIMUM HEIGHT	20 FT	20± FT
LOT COVERAGE	30%	11± %

LEGEND

- PROPERTY LINE
- SET BACK LINE
- EXISTING UNDERGROUND UTILITY LINE
- EXISTING OVERHEAD UTILITY LINE
- PROPOSED OVERHEAD UTILITY LINE
- PROPOSED UNDERGROUND UTILITY LINE
- EXISTING EDGE OF ASPHALT
- EXISTING TREELINE
- PROPOSED SOLAR PANELS
- EXISTING LIGHT POLE
- EXISTING ELECTRIC STRUCTURE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER VALVE
- EXISTING HYDRANT
- EXISTING SIGN
- PROPOSED EV CHARGER PEDESTAL

NOTE

1. REFER TO ELECTRICAL DRAWINGS FOR DETAILS REGARDING PROPOSED ELECTRICAL INFORMATION, INCLUDING LOCATION OF SOLAR CANOPIES AND OTHER ELECTRICAL UTILITIES AND EQUIPMENT

N

0 50 100 150 FT

1" = 50' SCALE BAR

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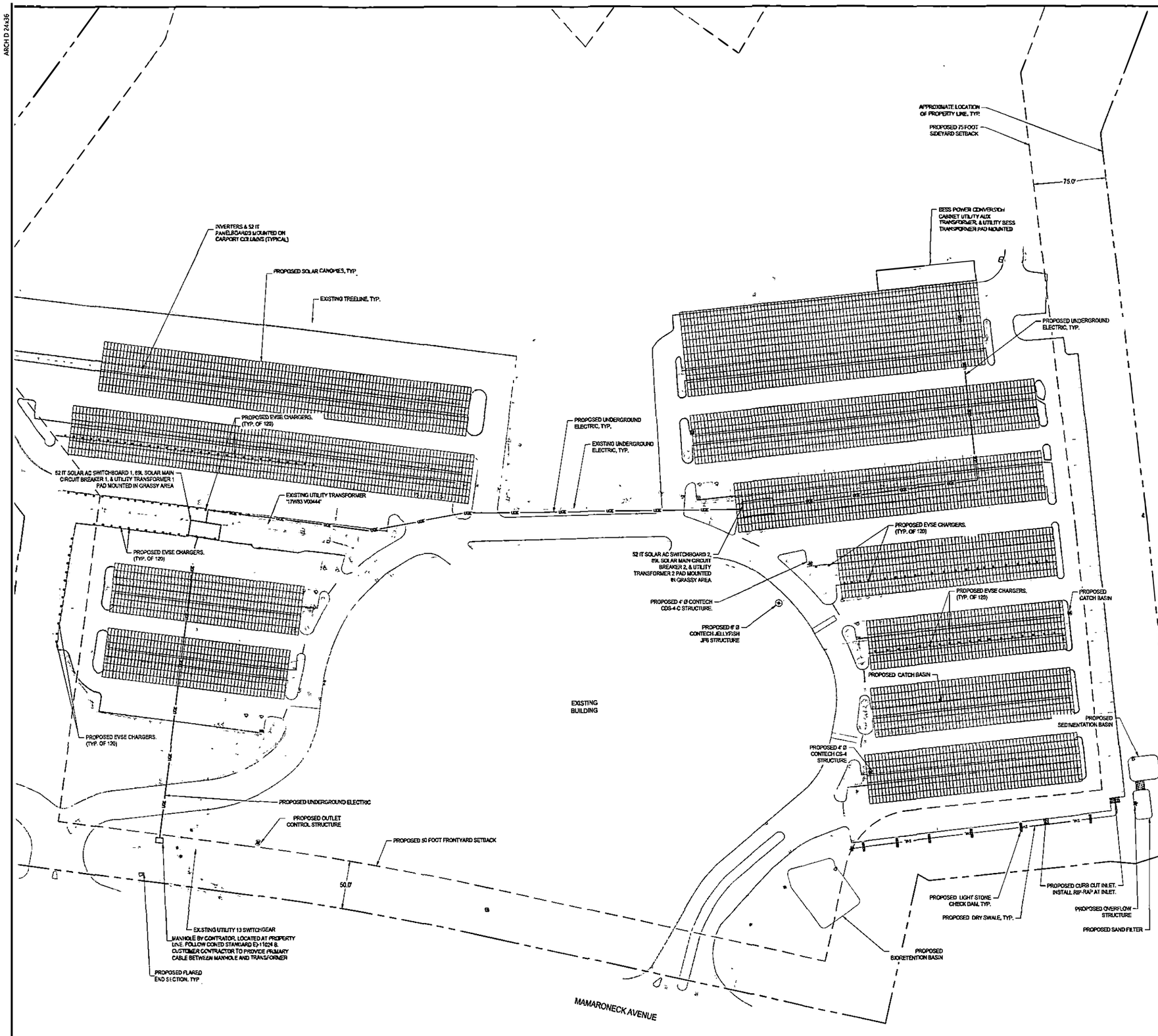
Sheet Name

OVERALL SITE PL

Drawing Number

C004

ARCH D 24x36



SITE PLAN DATA TABLE		
SITE IS LOCATED IN THE "SB-1" SPECIAL DISTRICT BUSINESS		
PROPOSED USE: TIER 3 SOLAR ENERGY SYSTEM		
PARCEL 482. 8 TOWN OF HARRISON, COUNTY OF WESTCHESTER STATE OF NEW YORK		
APPLICANT: POWERFLEX 805 THIRD AVENUE NEW YORK, NY, 120022 (917) 426-9523	OWNER(S) OF RECORD: ESRT 500 MAMARONECK AVENUE LLC.	
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325		
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LEGEND

- PROPERTY LINE
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- EXISTING UNDERGROUND UTILITY LINE
- EXISTING OVERHEAD UTILITY LINE
- PROPOSED OVERHEAD UTILITY LINE
- PROPOSED UNDERGROUND UTILITY LINE
- EXISTING EDGE OF ASPHALT
- EXISTING TREELINE
- PROPOSED SOLAR PANELS
- PROPOSED DOWNSTREAM DEFENDER
- PROPOSED CATCH BASIN
- EXISTING LIGHTPOLE
- EXISTING ELECTRIC STRUCTURE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER VALVE
- EXISTING HYDRANT
- EXISTING SIGN
- PROPOSED EV CHARGER PEDESTAL

NOTE

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N

0 50 100 150 FT
1" = 50' SCALE BAR

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SITE PLAN

Drawing Number

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LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED LIMITS OF DISTURBANCE LINE
- PROPOSED SILTFENCE
- PROPOSED STORM PIPE
- EXISTING TREELINE
- PROPOSED SOLAR PANELS
- PROPOSED DOWNSTREAM DEFENDER/MANHOLE
- PROPOSED CATCH BASIN
- EXISTING LIGHTPOLE
- EXISTING ELECTRIC STRUCTURE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER VALVE
- EXISTING HYDRANT
- EXISTING SIGN

NOTES

1. ELEVATION AND STORM PIPING NETWORK INFORMATION AROUND THE EXISTING LOWER DETENTION POND HAS BEEN OBTAINED FROM LIDAR DATA AND RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND LOCATION IN THE FIELD.

N

0 40 80 120 FT

1" = 40' SCALE BAR

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GRADING, UTILIT EROSION & SEDIM CONTROL PLA

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C006

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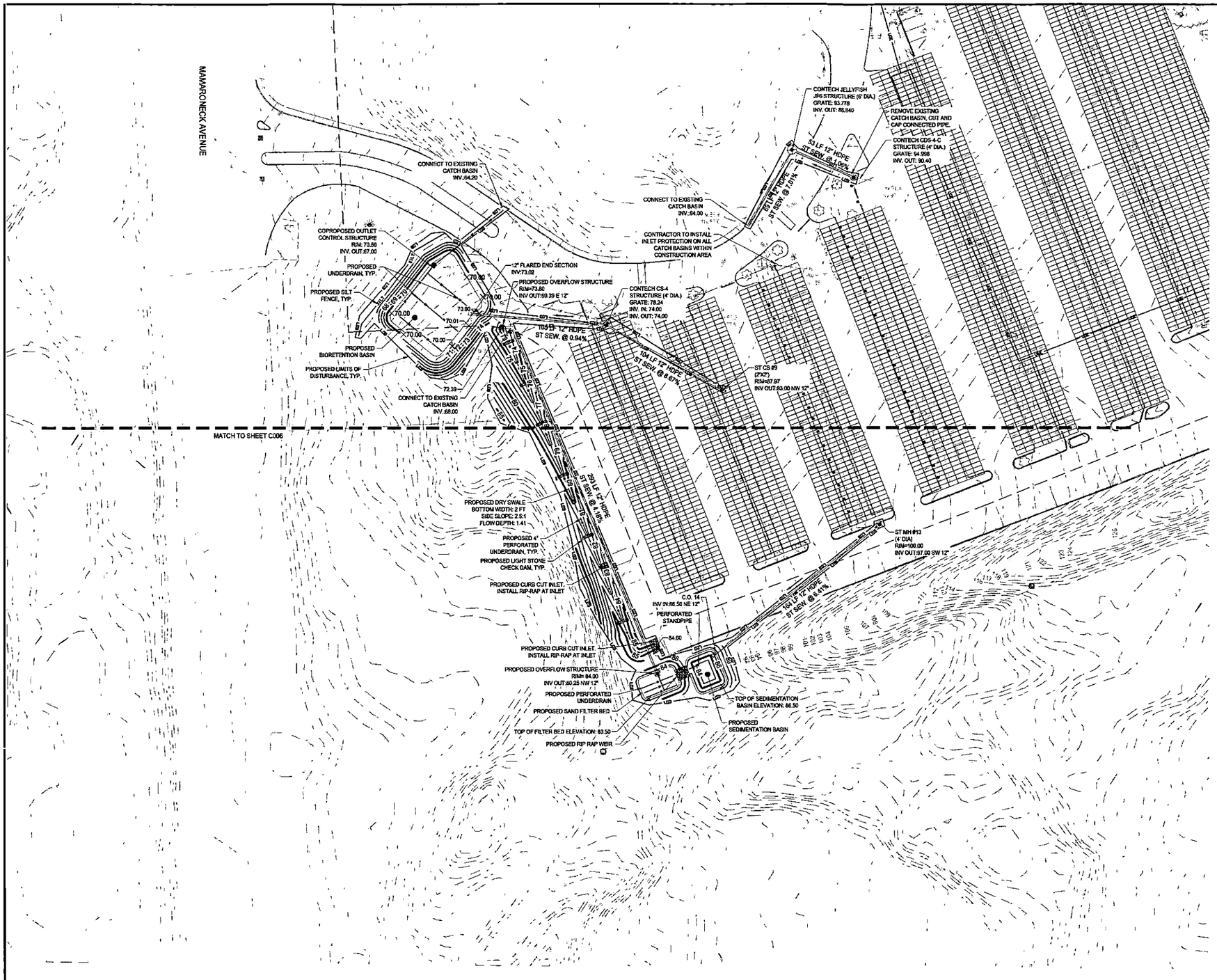

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED LIMITS OF DISTURBANCE LINE
- PROPOSED SILT FENCE
- PROPOSED STORM PIPE
- EXISTING TREELINE
- PROPOSED SOLAR PANELS
- PROPOSED DOWNSTREAM DEFENDER/MANHOLE
- PROPOSED CATCH BASIN
- EXISTING LIGHTPOLE
- EXISTING ELECTRIC STRUCTURE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER VALVE
- EXISTING HYDRANT
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N

0 40 80 120 FT

1" = 40' SCALE BAR

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Date Issued	Project Number
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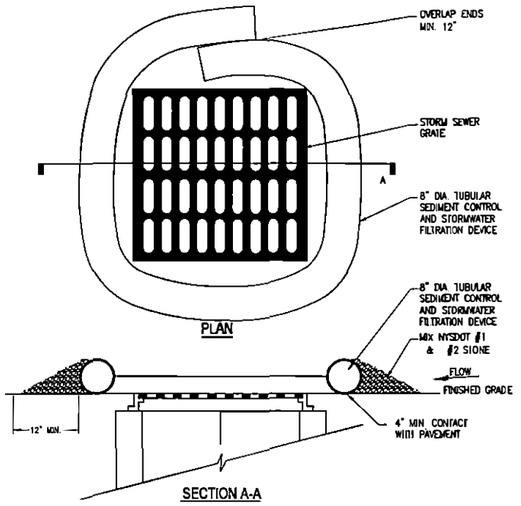
GRADING, UTILIT EROSION & SEDIM CONTROL PLAI

Drawing Number

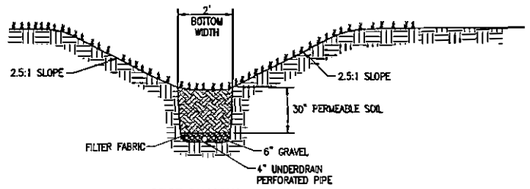
C007



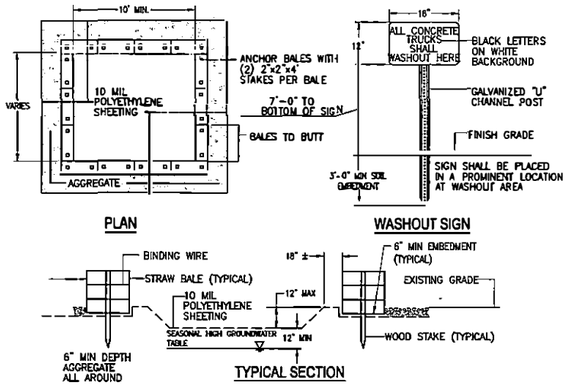
NOTES:

1. TUBULAR SEDIMENT CONTROL AND STORMWATER FILTRATION DEVICES SHALL BE FILTREXX FILTERSOXX, OR EQUIVALENT.
2. REPLACE AND DISPOSE OF PER MANUFACTURERS SPECIFICATIONS.
3. THIS PRACTICE INCLUDES SANDBAGS, COMPOST FILTER SOCKS, GEO-TUBES FILLED WITH BALLAST, AND MANUFACTURED SURFACE BARRIERS. PEA GRAVEL CAN ALSO BE USED IN CONJUNCTION WITH THESE PRACTICES TO IMPROVE PERFORMANCE. WHEN INLET IS NOT AT A LOW POINT, AND IS OFF-SET FROM THE PAVEMENT OR GUTTER LINE, PROTECTION SHOULD BE SELECTED AND INSTALLED SO THAT FLOWS ARE NOT DIVERTED AROUND INLET.
4. THE DRAINAGE AREA SHOULD BE LIMITED TO 1 ACRE AT THE DRAINAGE INLET. ALL PRACTICES WILL BE PLACED AT THE INLET PERIMETER OR BEYOND TO MAXIMIZE THE FLOW CAPACITY OF THE INLET. PRACTICES SHALL BE WEIGHTED, BRACED, TIED, OR OTHERWISE ANCHORED TO PREVENT MOVEMENT OR SHIFTING OF LOCATION ON PAVED SURFACES. TRAFFIC SAFETY SHALL BE INTEGRATED WITH THE USE OF THIS PRACTICE. ALL PRACTICES SHOULD BE MARKED WITH TRAFFIC SAFETY CONES AS APPROPRIATE. STRUCTURE HEIGHT SHALL NOT CAUSE FLOODING OR BY-PASS FLOW THAT WOULD CAUSE ADDITIONAL EROSION. THE STRUCTURE SHOULD BE INSPECTED AFTER EVERY STORM EVENT. ANY SEDIMENT SHOULD BE REMOVED AND DISPOSED OF ON THE SITE. ANY BROKEN O DAMAGED COMPONENTS SHOULD BE REPLACED CHECK ALL MATERIALS FOR PROPER ANCHORING AND SECURE AS NECESSARY
5. IF USING THE COMPOST FILTER SOCK, THE COMPOST INFILL SHALL BE WELL DECOMPOSED (MATURED AT LEAST 3 MONTHS), WEED-FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSTED, POSSESS NO OBJECTIONABLE ODORS, AND CONTAIN LESS THAN 1%, BY DRY WEIGHT, OF MANMADE FOREIGN MATTER. WHEN USING COMPOST FILTER SOCKS ADJACENT TO SURFACE WATER, THE COMPOST SHOULD HAVE LOW NUTRIENT VALUE.

PAVED SURFACE INLET PROTECTION DETAIL
N.T.S.

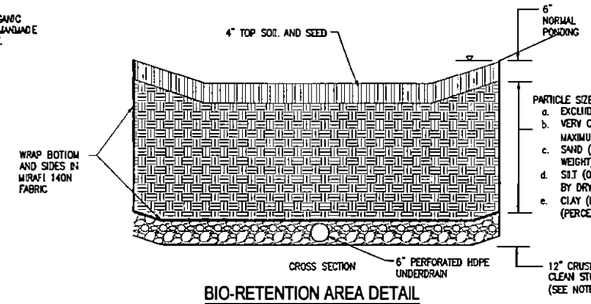


DRY SWALE DETAIL
N.T.S.



1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
N.T.S.



BIO-RETENTION AREA DETAIL
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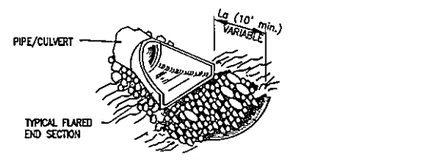
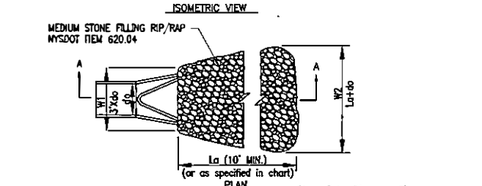




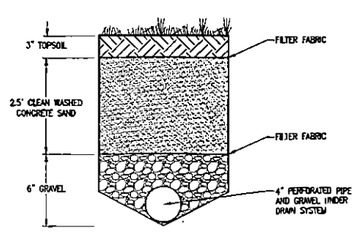
do = Pipe Dia. see plans
La = Apron Length
W = Apron Width (centered on pipe)
d = Apron Depth

RIP RAP SIZING CHART

PE DIA.	W1=MINIMUM	W2=MINIMUM	La=MINIMUM	D=MINIMUM
12"	3'	13'	14'	13.5"
18"	4.5'	15.5'	14'	13.5"
24"	6'	15'	13'	13.5"

NOTES:
1. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NO LESS THAN 6".
2. INSTALL FILTER MIRAFI 500X OR APPROVED EQUAL FILTER FABRIC BETWEEN RIP-RAP AND SUBGRADE

OUTLET PROTECTION RIP-RAP APRON
N.T.S



SAND FILTER TRENCH
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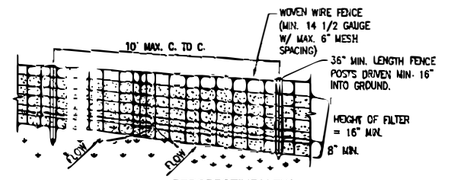
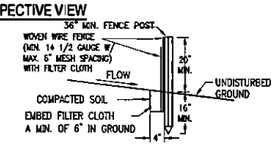


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE. 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER- LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



SILT FENCE INSTALLATION DETAIL
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WD	WD
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Sheet Name

DETAILS I

Drawing Number

C008

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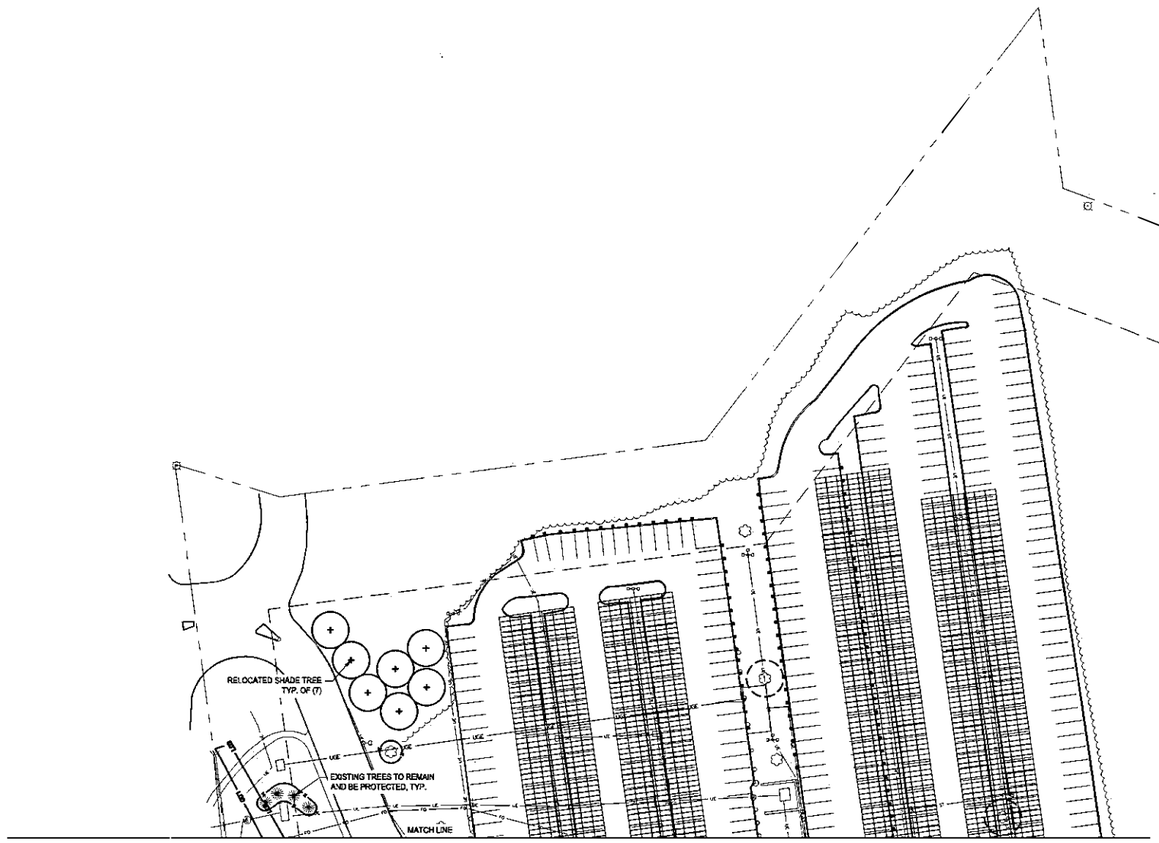


SEED SCHEDULE 'A' (GENERAL LAWN AREAS)

5 lbs./1,000 s.f.

30% CREEPING RED FESCUE (MIN. 3 VARIETIES)
30% PERENNIAL RYEGRASS (MIN. 3 VARIETIES)
20% KENTUCKY BLUEGRASS (MIN. 3 VARIETIES)

SEED SCHEDULE 'B' (SWALE AREAS)

1 lb./1,000 s.f.

60% PERENNIAL RYEGRASS
25% INOCULATED BIRDSFOOT TREFOIL
15% REDTOP

* USE ONLY SEED WITH GERMINATION RATE OF 70% OR BETTER THAT HAS BEEN TESTED WITHIN THE PAST 4 OR 5 MONTHS.

**PROVIDE TEMPORARY SEEDING OF ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) WITHIN SEEDING LIMITS AT RATE OF 50 lbs./acre.

SEED SCHEDULE 'C' (STORMWATER BASIN - SIDE SLOPES)

SEEDING LIMITS: AS SHOWN ON PLAN

NATIVE UPLAND WILDLIFE FORAGE AND COVER MEADOW MIX (ERNMX-123)
AS PROVIDED BY ERNST CONSERVATION SEEDS, (800) 873-3321, WWW.ERNSTSEED.COM
SEEDING RATE: 20 LBS. PER ACRE

PERCENT BY NO. OF SEEDS	SCIENTIFIC NAME	COMMON NAME
34.9%	ANDROPOGON GERARDII 'NIAGARA'	BIG BLUESTEM 'NIAGARA'
27%	PANICUM VIRGATUM 'SHAWNEE'	SWITCHGRASS 'SHAWNEE'
21%	ELYMUS VIRGINICUS, MADISON-NY ECOTYPE	VIRGINIA WILDRYE, MADISON-NY ECOTYPE
9%	SORGHASTRUM NUTANS, SOUTHLOW-MI ECOTYPE	INDIANGRASS, SOUTHLOW-MI ECOTYPE
3%	RUDBECKIA HIRTA	BLACKEYED SUSAN
2%	CHAMAECRISTA FASCICULA A, PA ECOTYPE	PARTRIDGE PEA, PA ECOTYPE
1.5%	HELIOPSIS HELIANTHOIDES, PA ECOTYPE	OXEYE SUNFLOWER, PA ECOTYPE
1%	COREOPSIS TINCTORIA	PLAINS COREOPSIS
0.4%	DESMODIUM CANADENSE, PA ECOTYPE	SHOWY TICKTREFOIL PA ECOTYPE
0.1%	ASCLEPIAS SYRIACA	COMMON MILKWEED
0.1%	MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE	WILD BERGAMOT, INDIANTOWN GAP-PA ECOTYPE

- PROVIDE COVER CROP OF EITHER GRAINOATS (JAN. 1 - JULY 31) OR GRAIN RYE (AUG. 1 - DEC. 31) WITHIN SEEDING LIMITS AT RATE OF 30 LBS. PER ACRE

SEED SCHEDULE 'D' (SAND FILTRATION)

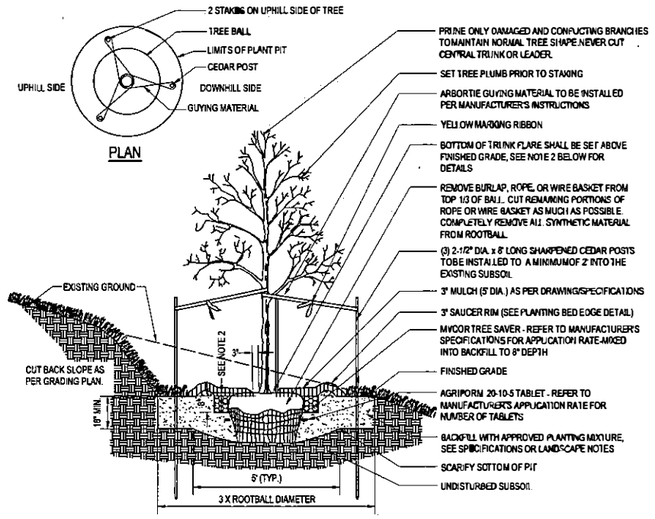
5 lbs./1,000 s.f.

50% TURF TYPE TALL FESCUE (MIN. 3 VARIETIES)
50% KENTUCKY BLUEGRASS (MIN. 3 VARIETIES)

PLANT LIST

Key	Qty.	Botanical Name	Common Name	Mature Size Height	Mature Size Spread	Installed Size	Condition	Notes
Ornamental Grasses								
PV	13000	Panicum virgatum 'Shenandoah'	Shenandoah Red Switch Grass	3-4' Ht.	2-3' Sprd.	DP50	Cont.	18" O.C.

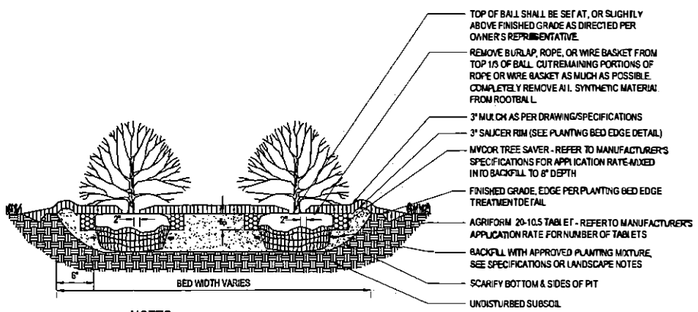
PLAN



NOTES:

1. MAINTAIN A 3" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
2. THE DISTANCE BETWEEN THE BOTTOM OF THE TRUNK FLARE AND THE FINISHED GRADE SHALL BE AS FOLLOWS:
   - FOR SANDY OR LOAMY SOILS: 1"
   - FOR CLAY OR POORLY DRAINED SOILS: 3"
   THE CONTRACTOR SHALL REVIEW THE APPROPRIATE PLANTING DEPTH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
3. WHEN TAGGING TREES AT THE NURSERY, MARK THE NORTH SIDE OF THE TREE IN THE FIELD AND WHEN INSTALLING, ROTATE TREE TO FACE NORTH WHENEVER POSSIBLE.
4. FOR TREES 4" CAL. OR GREATER, INSTALL GUY AS PER DECIDUOUS TREE PLANTING GREATER THAN 4" CAL. DETAIL IN THE SAME CONFIGURATION AS SHOWN ABOVE.

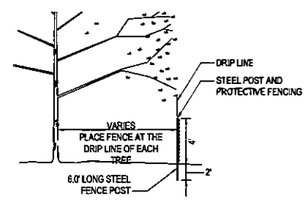
DECIDUOUS TREE PLANTING (INSTALLED LESS THAN 4" CAL.)
N.T.S.



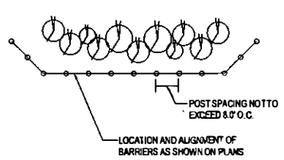
NOTES:

1. MAINTAIN A 2" MINIMUM RADIUS CLEAR OF MULCH AROUND THE TRUNK.
2. PLANTING BED DEPTH IN LAWN AREAS SHALL BE A MINIMUM OF 18" DEEP AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
3. ALL PLANTING BEDS SHALL BE FREE OF CONSTRUCTION DEBRIS.

SHRUB PLANTING
N.T.S.

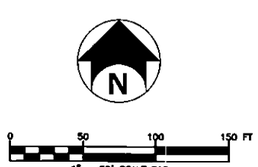


SECTION



PLAN

VEGETATION PROTECTION BARRIER DETAIL
N.T.S.



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ECR	ECR
Designer	Reviewer
MS	BS
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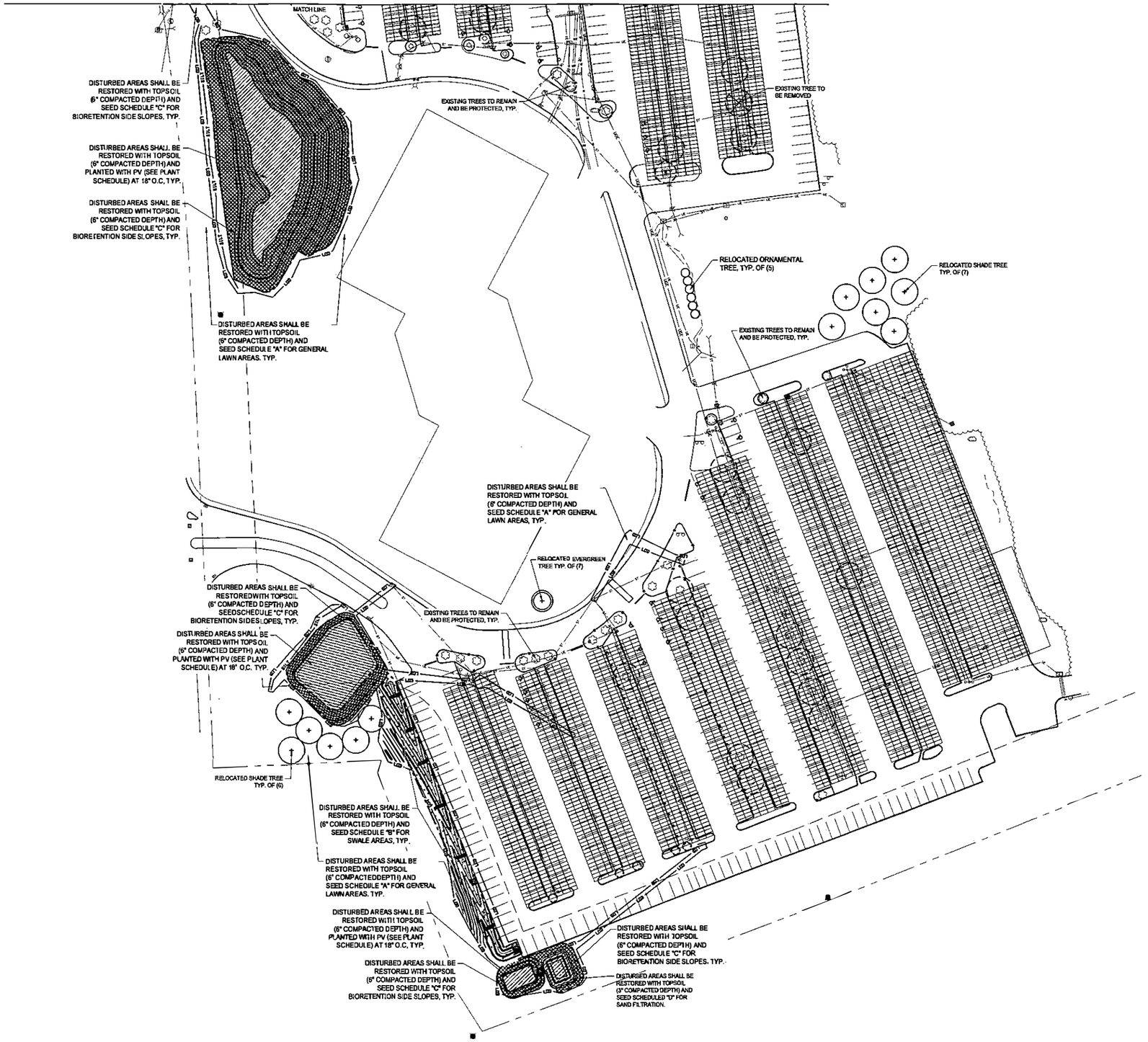
Sheet Name
LANDSCAPE PLA AND LANDSCAP DETAILS

Drawing Number
C131



LANDSCAPE NOTES:

1. ALL PLANTS MUSTBE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
2. STANDARDS SET FORTH IN "AMERICANSTANDARD FOR NURSERY STOCK". ANSI, Z60 1 (LATEST EDITION), REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
3. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY AT THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.
4. NO SUBSTITUTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF OWNER'S REPRESENTATIVE.
5. ALL TREES MUST BE STRAIGHT TRUNKED, INJURY FREE, AND FULL HEADED.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
7. ANY DISCREPANCY WITH QUANTITIES, LOCATIONS AND / OR FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION
8. MULCH ALL ISLANDS AND PLANTINGS IN LAWN AREAS WITH DOUBLE GROUND HARDWOOD BARK MULCH. MULCH SHALL BE AGED A MIN. OF ONE (1) YEAR FOR PARTIAL DECOMPOSITION. IT SHALL BE SCREENED TO EXCLUDE PARTICLES LARGER THAN ONE (1) INCH IN DIAMETER. MATERIAL SHALL BE COMPOSED OF BARK AND HAVE A LOW WOOD CONTENT WITH NO HIDDEN WOODS FROM CONSTRUCTION DEBRIS, PALLETS OR PRESSURE TREATED LUMBER AND BE FREE OF WEEDS, SEEDS, AND GREEN LEAF MATTER. IT SHALL BE NATURALLY DARK BROWN IN COLOR. NO DYED MULCH WILL BE ACCEPTED. MULCH DEPTH SHALL BE THREE (3) INCHES UNLESS OTHERWISE DIRECTED
9. ANY PLANT WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO FINAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY AND SIZE MEETING ALL PLANT LIST SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANT MATERIALS (INCLUDING, BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, AND REMOVAL OF STAKES AND GUYS) AND LAWN AREAS UNTIL FINAL ACCEPTANCE BY THE OWNER.
11. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR, BEGINNING ON THE DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE THE END OF THE GUARANTEE PERIOD.
12. ALL AREAS DISTURBED BY UTILITY INSTALLATION AND SITE GRADING ACTIVITY SHALL RECEIVE APPROVED TOPSOIL (TO A COMPACTED DEPTH OF FOUR (4) INCHES, UNLESS OTHERWISE SPECIFIED BY THE GOVERNING MUNICIPALITY), BE FINE GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED
13. ALL TOPSOIL SHALL BE SCREENED LOAM SURFACE SOIL, FREE OF STONES AND SHALL HAVE THE FOLLOWING MINIMUM REQUIREMENTS:
    a) AN ORGANIC CONTENT OF 5-12%
    b) SOIL ACIDITY RANGE OF pH 6.0 TO pH 6.8
    c) SOLUBLE SALTS OF 1000 PPM OR LESS
    d) MAXIMUM CLAY CONTENT OF 15-20%
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING, AT THEIR EXPENSE, A CERTIFIED SOIL TEST ANALYSIS OF ON SITE AND / OR IMPORTED TOPSOIL. TOPSOIL ANALYSIS TO INCLUDE THE FOLLOWING DATA:
    a) pH FACTOR.
    b) MECHANICAL ANALYSIS, INCLUDING SIEVE ANALYSIS PROVIDING SEPARATE SAND, SILT AND CLAY PERCENTAGES.
    c) PERCENTAGE OF ORGANIC CONTENT BY WEIGHT
    d) NUTRIENT LEVELS INCLUDING NITROGEN, PHOSPHOROUS AND POTASSIUM.
15. SHOULD TESTS AND ANALYSIS INDICATE THAT SOIL PROPOSED FOR USE IS DEFICIENT IN ANY OF THE ABOVE REQUIREMENTS; A SYSTEM OF AMELIORATING MAY BE PROPOSED FOR APPROVAL. ANY SYSTEM PROPOSED SHALL PROVIDE FOR AN ACIDITY RANGE OF PH 6.0 TO 6.8 INCLUSIVE.
16. COMPOST SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
    a) ORGANIC CONTENT OF 35-60% (DRY WEIGHT BASIS)
    b) LOOSE AND FRIABLE WITH MOISTURE CONTENT OF 35-60% (WET WEIGHT BASIS)
    c) PARTICLE SIZE SHALL BE <1/2 INCH (100% PASSING)
    d) SOLUBLE SALTS CONCENTRATION SHALL BE <4.0 MMHOS/CM (DS/M), MAXIMUM
    e) pH RANGE OF 6.0-8.5
17. PLANTING MIX FOR PLANT PITS SHALL BE COMPOSED OF (2) PARTS APPROVED IMPORTED OR ON-SITE SCREENED TOPSOIL AND (1) PART COMPOST
18. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE PLAN ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITY LINES ADJACENT TO THE WORK AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES AND SITE APPURTENANCES, ETC., WHICH OCCURS AS A RESULT OF THEI LANDSCAPE INSTALLATION.
19. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PLANT MATERIAL PER DETAILS. ANY DEVIATIONS FROM THE DETAIL MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
20. SEE SHEET C131 FOR LANDSCAPE DETAILS.
21. UPON FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION, THE OWNER WILL ASSUME MAINTENANCE OF THE LANDSCAPED AREAS.
22. EXISTING TREES TO REMAIN SHALL BE PROTECTED BY INSTALLING A TEMPORARY FENCE AT THE OUTER LIMITS OF THE TREE CANOPY.

LANDSCAPE LEGEND

- EXISTING SHADE TREE TO BE RELOCATED
- RELOCATED ORNAMENTAL TREE
- EXISTING ORNAMENTAL TREE TO BE RELOCATED
- RELOCATED SHADE TREE
- EXISTING EVERGREEN TREE TO BERELOCATED
- RELOCATED EVERGREEN TREE
- EXISTING TREE TO BE REMOVED
- VEGETATION PHOTECTION BARRIER

0 50 100 150 FT
1" = 50' SCALE BAR

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ECR	ECR
Designer	Reviewer
MS	ES
Date Issued	Project Number
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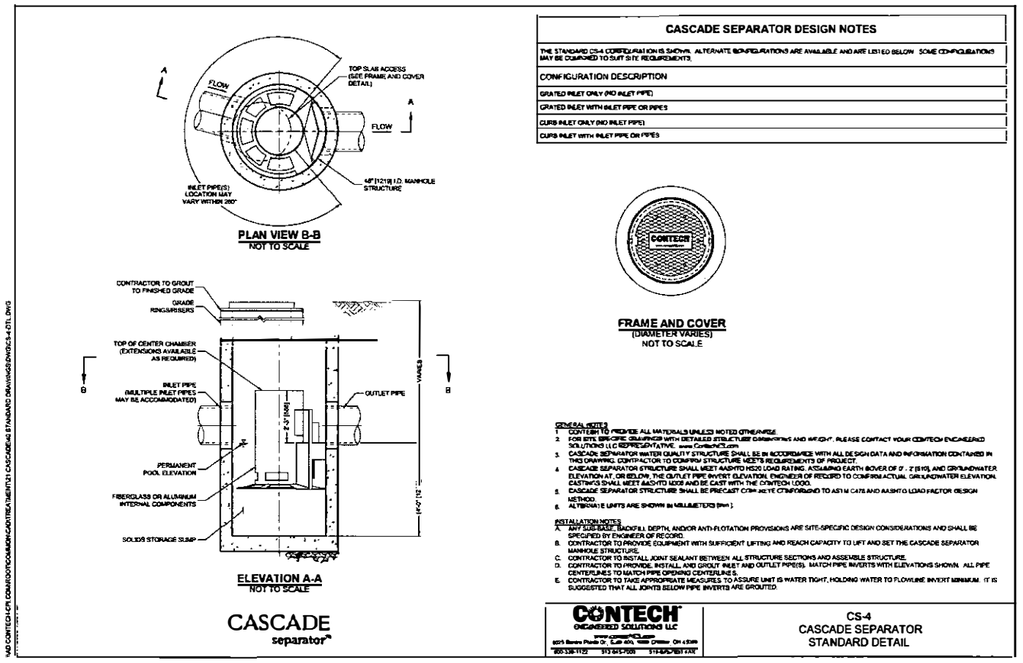
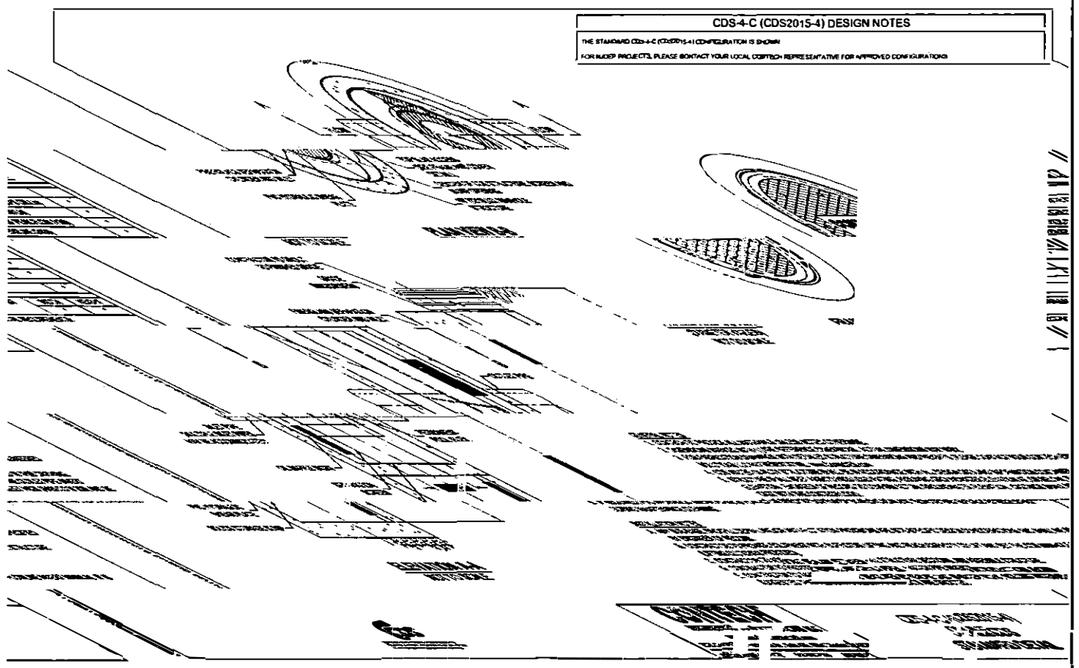
Sheet Name

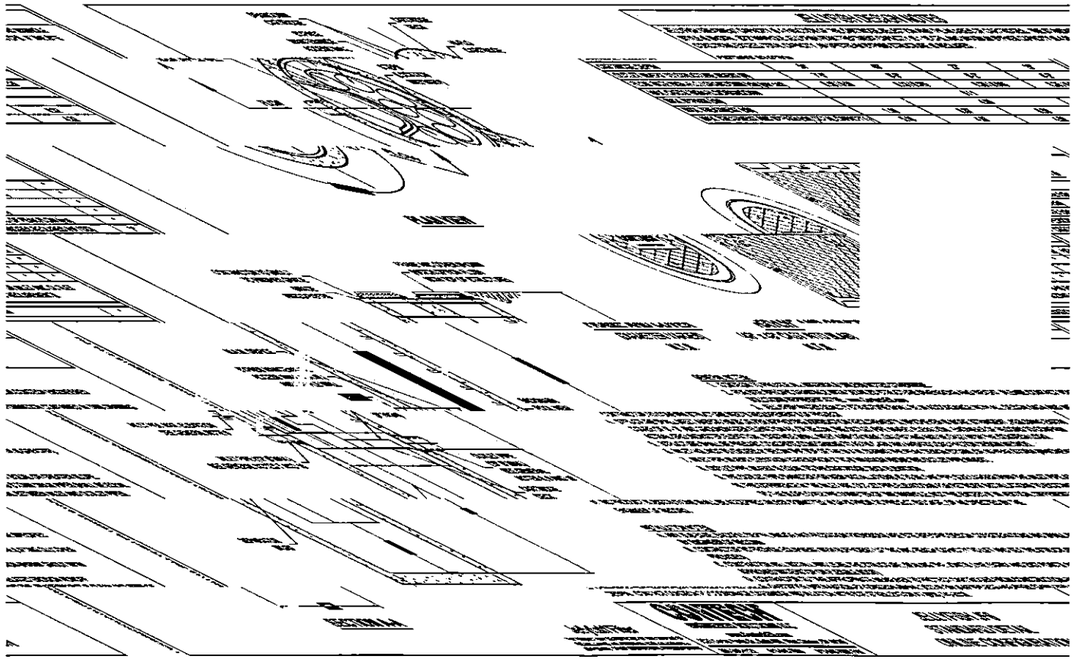
LANDSCAPE PLA

Drawing Number

C130







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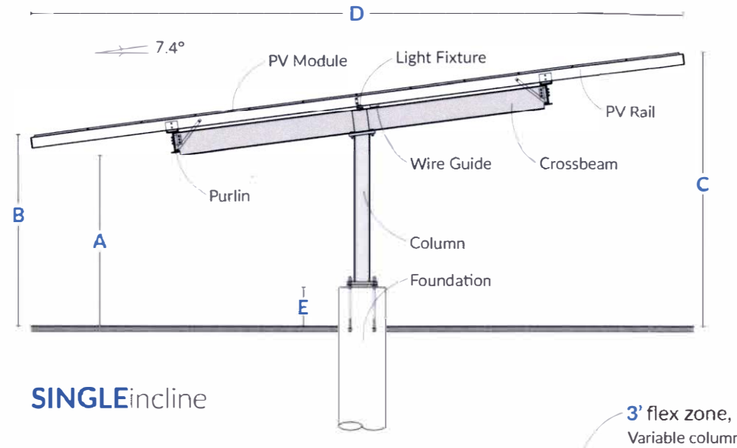
Sheet Name

DETAILS IV

Drawing Number

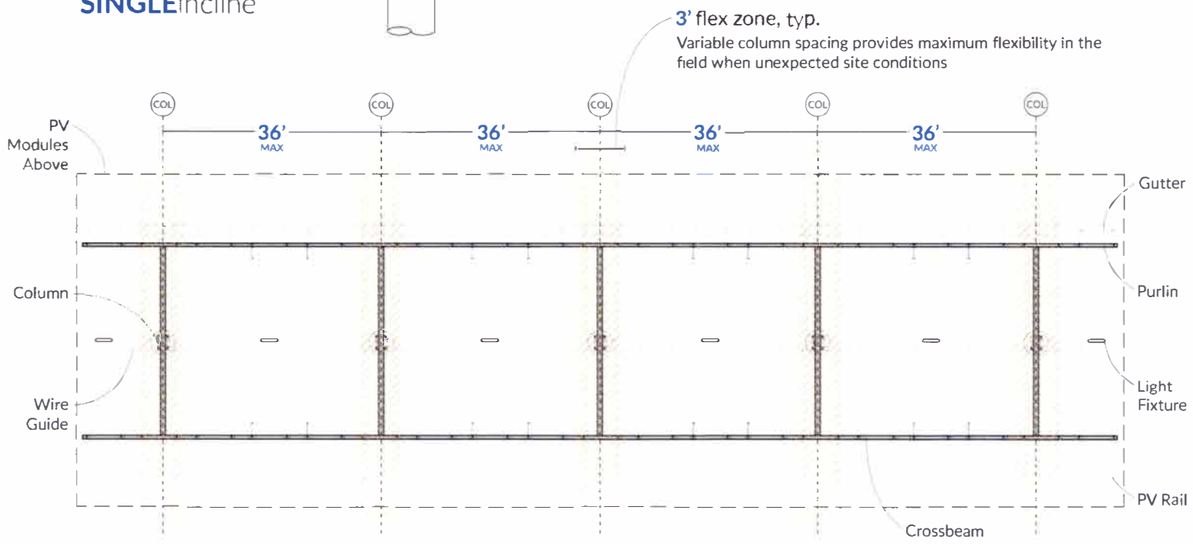
C011



SINGLEincline

STANDARD CLEARANCES		
A	11'-0 MIN CLEARANCE	13'-6 MIN CLEARANCE
B	12'-4"	14'-10"
C	17'-8"	20-2"
D	41'-9"	
E*	2'-6"	

*MIN. PIER HEIGHT: 2'-6", MAX PIER HEIGHT: 4'-0"



PLAN - flex column spacing

SOLAR CANOPY DETAIL
N.T.S.

BERGMAN
ARCHITECTS ENGINEERS PLANN

2 Winners Circle, Suite 102
Albany, NY 12205
www.bergmannpc.com
office: 518.862.0325

POWER FLEX

805 THIRD AVENUE
NEW YORK, NY 100

500 MAMARONE AVE SOLAR PROJ

500 MAMARONECK AVE
HARRISON, NY 1052

Date Revised	Description
10/12/2021	UPDATED PER TOV COMMENTS

PRELIMINARY
NOT FOR CONSTRUC

Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	WD
Date Issued	Project Number
08/20/2021	14064.10

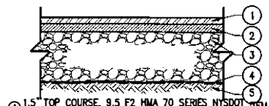
Sheet Name

DETAILS III

Drawing Number

C010

ARCH D 24x36



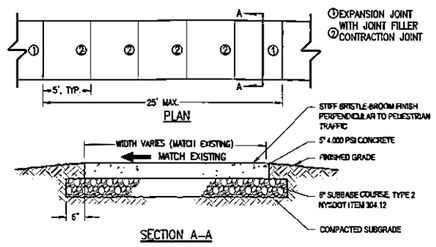
① 1.5" TOP COURSE, 9.5 F2 HMA 70 SERIES NYSDOT ITEM 402.0[illegible]
② 2" BINDER COURSE, 19 F9 HMA 70 SERIES NYSDOT ITEM 402.197903
③ 12" SUBBASE COURSE, TYPE 2 NYSDOT ITEM 304.12
④ MIRAFI 500X GEOTEXTILE FABRIC
⑤ COMPACTED SUBGRADE

NOTES:

1. COMPACT SUBGRADE TO A MODIFIED PROCTOR DENSITY OF 95%
2. SUBBASE COURSE SHALL HAVE NO MORE THAN (7%) SEVEN PERCENT BY WEIGHT FINER THAN NO 200 SIEVE.

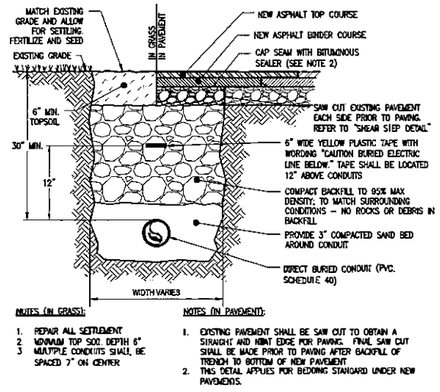
STANDARD DUTY ASPHALT PAVEMENT SECTION

N.T.S.



CONCRETE SIDEWALK DETAIL

N.T.S.



NOTES (IN GRASS):

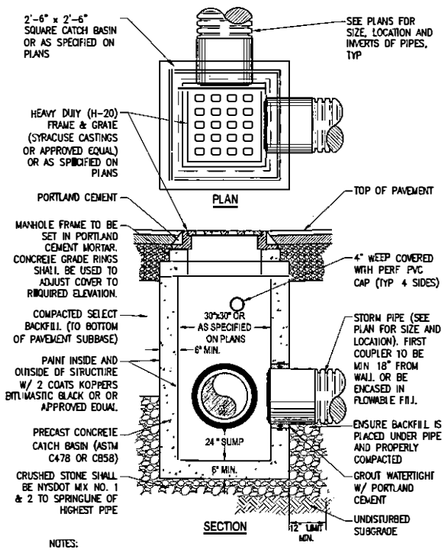
1. REPAIR ALL SETTLEMENT
2. MINIMUM TOP SOIL DEPTH 6"
3. MULTIPLE CONDUITS SHALL BE SPACED 3" ON CENTER

NOTES (IN PAVEMENT):

1. EXISTING PAVEMENT SHALL BE SAW CUT TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. FINAL SAW CUT SHALL BE MADE PRIOR TO PAVING AFTER BACKFILL OF TRENCH TO BOTTOM OF NEW PAVEMENT.
2. THIS DETAIL APPLIES FOR BEDDING STANDARD UNDER NEW PAVEMENTS.

DIRECT BURIED CONDUIT TRENCH DETAIL

N.T.S.

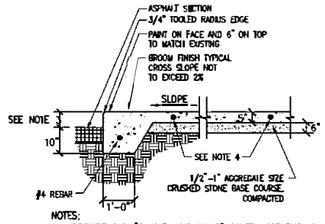


NOTES:

1. ALL STORM SEWER OUTLETS TO HAVE A CATCH BASIN TRAP INSTALLED ON 12" OR LESS PIPES, NEENAH FOUNDARY R-3700 SERIES OR APPROVED EQUAL
2. ALL STORM SIRUCTURES TO HAVE A MINIMUM 2' SUMP.

CATCH BASIN DETAIL

N.T.S.

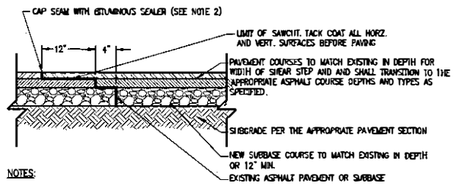


NOTES:

1. PROVIDE 6X6 #6 WWF, MINIMUM 2" COVER, NOT SHOWN.
2. USE MINIMUM 4000 PSI CONCRETE.
3. CURB REVEAL VARIES, 6" MAXIMUM.
4. TO BOND NEW SECTION TO EXISTING, PROVIDE #3 REBAR (2 EACH SIDE), 24" LONG. DRILL AND INSERT AND GROUT ONE END 12" INTO EXISTING SIDEWALK; THE REMAINING 12" LENGTH SHALL PROTRUDE INTO NEW SECTION. PLACE REBARS 5 FEET APART.

SIDEWALK SECTION WITH CURB

N.T.S.

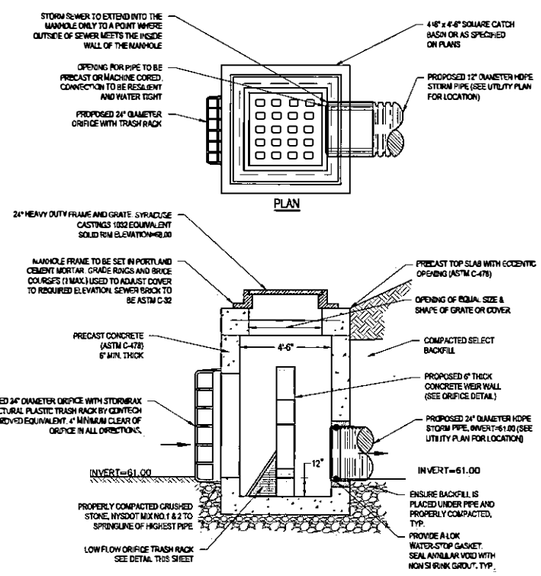


NOTES:

1. EXISTING PAVEMENT SHALL BE SAW CUT TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. FINAL SAW CUT SHALL BE MADE PRIOR TO PAVING AND AFTER SUBBASE STONE IS PLACED.
2. ADD COAL TAR SEAL COAT WITH UNVULCANIZED RUBBER AT JOINT ALONG SAWCUT SEAM. SEALANT SHALL BE STRUCK OFF FLUSH WITH PAVEMENT SURFACE.
3. DEPTH OF SAWCUT SHALL BE DETERMINED ONCE THE PAVEMENT CROSS SECTION HAS BEEN EXPOSED.

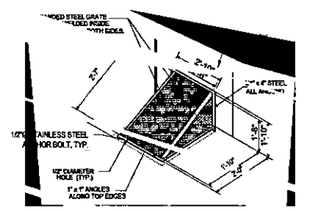
SHEAR STEP DETAIL

N.T.S.



OUTLET CONTROL STRUCTURE DETAIL (EXISTING POND EXTENSION)

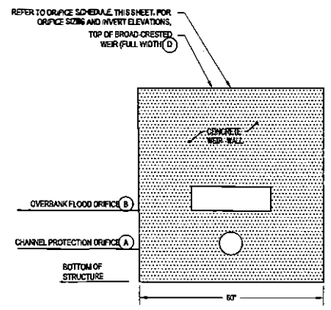
N.T.S



LOW FLOW ORIFICE TRASH RACK DETAIL

N.T.S.

CONTROL STRUCTURE	(A) SIZE	(A) ELEV	(B) SIZE	(B) ELEV	(D) ELEV
1	5"	63.00	30"X18"	64.00	66.50



ORIFICE DETAIL

N.T.S.

10/25/2021 3:11 PM

BERGMAN
ARCHITECTS ENGINEERS PLANN

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500 MAMARONECK AVE
HARRISON, NY 1052

Date Revised	Description
10/12/2021	UPDATED PER TO COMMENTS

PRELIMINARY
NOT FOR CONSTRUC

Project Manager	Discipline Lead
BCR	BCR
Designer	Reviewer
WD	WD
Date Issued	Project Number
09/20/2021	16054.10

Sheet Name

DETAILS II

Drawing Number

C009

APPENDIX B:

REMEDIAL ACTION WORK PLAN

FINAL REPORT

Approved by NYSDEC
5/11/05

500 Mamaroneck Avenue Associates

Remedial Action Work Plan
500 Mamaroneck Avenue
Harrison, New York

January 2005

0016447

Environmental Resources Management
475 Park Avenue South, 29th Floor
New York, NY 10016

ERM

ENVIRONMENTAL RESOURCES MANAGEMENT

FINAL REPORT

500 Mamaroneck Avenue Associates

Remedial Action Work Plan
500 Mamaroneck Avenue
Harrison, New York

January 2005

0016447

Environmental Resources Management
475 Park Avenue South, 29th Floor
New York, NY 10016

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1.0 *INTRODUCTION AND PURPOSE*

This Remedial Action Work Plan (RAWP) has been prepared by Environmental Resources Management (ERM), on behalf of 500 Mamaroneck Avenue Associates (MAA), to describe the proposed remedy for impacted soil at the 500 Mamaroneck Avenue property (the Site). The RAWP is submitted for approval as the required Remediation Work Plan under Paragraph I.D.3 of the Voluntary Cleanup Agreement, Index #W3-0851-99-05 between the New York State Department of Environmental Conservation (NYSDEC) and MAA dated April 13, 2000 ("VCA").

This RAWP has been prepared in accordance with:

- NYSDEC Voluntary Cleanup Program Guide *Draft* (NYSDEC, May 2002);
- Voluntary Cleanup Agreement, Index #W3-0851-99-05 ("VCA"); and
- sound engineering practices.

The purpose of this RAWP is to describe the proposed remedy, and to demonstrate through an engineering analysis that the proposed remedy will achieve the cleanup goals (i.e., remedial action objectives or "RAOs") for the Site. The RAOs for the affected media are based upon established standards/guidelines that are applicable or relevant and appropriate requirements (ARAR) for the site, and on constituent concentrations that are protective of human health and the environment.

1.1 *SITE DESCRIPTION*

The Site is located on the east side of Mamaroneck Avenue, approximately 2,000 feet south of Union Avenue in Harrison, Westchester County, New York. The Town of Harrison defines the Site as Block 482, Lot 8.

The approximately 34.5-acre Site, roughly rectangular in shape, is occupied by a five-story office building, and has approximately 985 feet of roadway frontage along Mamaroneck Avenue. A Site Location Map is included as Figure 1-1, and a Site Plan is included as Figure 1-2.

The U.S.G.S. topographic map (Mamaroneck, NY Quad, 1967, photo revised in 1975 (prior to site re-development) shows that the Site elevation ranges from approximately 60 feet above mean sea level (MSL) along Mamaroneck Avenue to 130 feet MSL at the eastern property line.

The elevation of the Site rises gradually throughout the northern and southern parking areas, and then is relatively level across the eastern boundary. A small seasonal wet area is located in the northeastern portion of the property, immediately east of the northern parking area. The wet area appears on the 1990 U.S. Department of the Interior Wetlands Inventory Map and is described as a Palustrine – Scrub/Shrub – Broad leaf – deciduous-seasonally flooded area. The area is not, however, shown on the 1987 New York State Fresh-Water wetlands map and is therefore not regulated by the NYSDEC.

Approximately 14 acres of the Site have been improved in conjunction with the construction of the office complex. This includes bituminous paved parking areas covering approximately nine acres and a building footprint of approximately one and a half acres. The remaining sections of the developed portion of the Site include landscaped shrubbery and lawns. The undeveloped portion of the property is located to the east of the office complex and serves as a buffer for the adjacent properties.

The topography and general Site features suggest that groundwater beneath the Site will flow west towards the Mamaroneck River, located approximately 200 feet west of the Site. The closest surface water body is the seasonal pond in the northeast corner of the Site.

According to the September 1994 General Geology Map of Putnam and Westchester Counties, New York, the bedrock beneath the Site consists of Harrison Gneiss. Bedrock outcrops are present along the eastern and southern sides of the property, and the depth to bedrock at the Site is as shallow as 2 feet below grade to not more than 15 feet below grade.

Potable water is obtained from the local municipal system, and the Site, therefore, does not have a drinking water well. A bedrock well supplies water to an operable decorative waterfall on the property. Septic waste is handled via the municipal sewer system.

1.2 *SITE HISTORY*

The Site was previously occupied by the Town of Harrison municipal incinerator. Based on review of available aerial photographs, the Site appears undeveloped until 1954. In the 1954 aerial photograph, the incinerator is visible on the Site. From 1954 until 1980, there were no major changes at the Site; i.e., the incinerator appears in all of the aerial photographs.

The building construction for the current commercial office began in 1983, with tenant occupancy beginning around 1986. The 1986 aerial photograph shows the office building on the Site under construction. This agrees with Town records, which list the date of construction of the building as 1986.

Site topography has changed substantially as a result of the 1983 - 1986 construction activities. Approximately 340,000 cubic yards (cy) of soil and rock were removed during the office building development. Material was only removed from the portion of the Site that is closest to Mamaroneck Avenue.

In early 1999, the property was sold to 500 Mamaroneck Avenue L.P. and Viviane Paris, LLC.

1.3 *PREVIOUS INVESTIGATIONS*

Various investigations have been performed previously at the Site. The Site investigations, and the findings of these investigations, are summarized in detail in the April 2000 ERM Final Investigation Site Assessment Report and the June 2002 Supplemental Final Site Investigation Report.

A general summary of the previous investigations is presented below. The locations of samples collected at the Site are shown on Figure 1-3.

1.3.1 *Phase I & II Environmental Assessments*

Previous Phase I investigations carried out at the site include: Goldberg Zoino and Associates (GZA), May 1986; Environmental Risk Limited (ERL), April 1988; U.S. Hydrogeological, Inc. (USHI), October, 1988; and AKRF, Inc. (AKRF), April 1997. All Phase I analytical results from samples collected during the Phase Is revealed concentrations of anthropogenic constituents ranging from below method detection limits to concentrations within normal background ranges.

Previous Phase II investigations carried out at the site include: Dames & Moore, Inc., 1998 (late February or early March), ERM, June, 1998 and Coneco Environment Corp. (Coneco), June 1999.

Dames & Moore, 1998

In 1998, Dames & Moore collected soil and groundwater samples on behalf of a potential buyer. The soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), including polynuclear aromatic hydrocarbons (PAHs), polychlorinated

biphenyls (PCBs), and Resource, Conservation, and Recovery Act (RCRA) metals.

The Dames & Moore data indicated that PAHs and PCBs were present in a soil sample collected in the northeastern section of the property, at concentrations above NYSDEC Technical and Administrative Guidance Memorandum Number 4046 (TAGM-4046) Recommended Soil Cleanup Objectives (RSCOs), dated January 24, 1994. However, no subsequent collected data have indicated any PCB concentrations above TAGM-4046 RSCOs. No VOCs were detected above TAGM-4046 RSCOs in any soil samples.

The data also indicate that RCRA metals were above TAGM-4046 guidelines in all six soil samples collected. However, considering the proximity of bedrock at the Site, it is likely that metal concentrations in the overburden soil may be abnormally elevated due to dissolution or weathering of the bedrock. Without a thorough analysis and understanding of background metals concentrations in the Harrison area, comparison of the Dames & Moore metals data to TAGM-4046 RSCOs rather than Site background concentrations was misleading.

Groundwater samples collected from the existing on-Site well and from borehole No. 3 were analyzed for VOCs and RCRA metals. No parameter was detected above its respective TAGM-4046 guidance criterion.

ERM-May/June 1998

ERM carried out a Site Assessment in May and June, 1998. This investigation consisted of the installation of 21 soil borings (ERM-1 through ERM-21). The borings were installed to:

- evaluate the Dames and Moore findings; and
- define any additional areas impacted by residual chemical constituents above the TAGM-4046 RSCOs.

The ERM Site assessment revealed the presence of residual chemicals, specifically PAHs, above the TAGM-4046 RSCOs in some of the borings. The contaminants above RSCOs were detected in the south parking lot bordering the berm (ERM-12 and ERM-13), the location of the former incinerator (ERM-19), and in the northwest corner adjacent to the access road (ERM-20).

Coneco Environmental Investigation – March 1999

Prior to the 1999 property sale, W&M Properties of NY L.L.C. (W&M) engaged Coneco to install additional borings to evaluate environmental conditions at the Site. Coneco installed 57 soil borings, collected a groundwater sample from the on-Site well, and sampled surface water and sediment at the Site. Some of the samples collected by Coneco contained concentrations of PAHs in excess of TAGM-4046 RSCOs. The locations of these borings were in the same vicinity as the locations where ERM had observed PAHs at concentrations above RSCOs, (i.e. in the south parking lot adjacent to the berm, and in the northwest corner of the property near the entrance roadway). Analysis of groundwater, surface water or sediment samples, however, did not reveal impacts.

1.3.2 *ERM Final Investigation Site Assessment*

The Final Investigation Site Assessment was carried out by ERM from May to July 1999. The results were summarized in the ERM April 2000 Final Investigation Site Assessment Report submitted to the state pursuant to the VCA executed by the state and 500 Mamaroneck Avenue Associates (MAA). Soil and sediment samples collected during this investigation contained PAHs, PCBs, pesticides and metals. PAH concentrations were above TAGM 4046 RSCOs in 19 of 32 samples.

The Final Site Investigation confirmed the presence of PAHs below the parking lot and vegetative cover at the Site. Based on the study results,

ERM concluded that there was no exposure pathway for the residual chemicals detected at the Site.

1.3.3 *Supplemental Final Site Investigation*

The Supplemental Final Site Investigation was conducted in November 2000 by ERM. The Supplemental Investigation was conducted at the NYSDEC's request to assess soil conditions in the northwestern section of the property, along the southern berm, and in the eastern buffer zone.

Samples collected in the eastern buffer contained metals at concentrations below background levels or United States Environmental Protection Agency (USEPA) risk-based values. PAHs were identified in subsurface soil from the northwestern section at concentrations above TAGM 4046 RSCOs. Lead was detected in two samples collected from the southern berm above the USEPA average allowable concentration for residential soils. These two areas are further discussed in Section 1.4.

1.4 *SUMMARY OF ENVIRONMENTAL CONDITIONS*

This section identifies the areas to be addressed: i.e., the southern berm and northwestern section.

1.4.1 *Southern Berm*

The southern berm at the Site is shown in Figure 3-2. The berm extends approximately 750 feet along the southern property line. The berm was constructed to provide a visual barrier for adjacent residential properties. As indicated above, lead was detected in two of five surface soil samples, collected from the southern berm, above USEPA acceptable average risk-based concentrations.

1.4.2 *Northwestern Section*

During the 1999 Coneco investigation and the 1999 ERM Final Investigation Site Assessment, a "black tar-like" material was identified in borings B-41 and ER-48 (Figure 1-3), respectively, at depths ranging from four to six feet below ground surface (bgs). Black material resembling "cold patch asphalt" was also observed in boring ERM-31 from four to six feet bgs. In addition, fragments of a "tar-like" material were identified in borings ERM-48A and ERM-48D. PAHs were detected in all of the eight supplemental samples collected from the northwestern section. Although concentrations of PAHs in the "tarlike" material were non-detect or below TCLP standards, some of the soil samples exhibited PAH concentrations (See Section 2.1.1) in this area above TAGM-4046 RSCOs.

1.5 *CONTEMPLATED USE*

The contemplated use of the property is as commercial office space for the foreseeable future.

1.6 *SUMMARY OF THE REMEDY*

The proposed remedy for the Site consists of institutional and engineering controls. The institutional controls include a deed restriction that specifies permitted uses of the property, and engineering controls that prevent direct contact with the limited residual PAH and metal constituents in subsurface soil as set forth in this document. The engineering controls include maintenance of the current bituminous pavement and landscaping. The engineering controls will be specified in a Site Management Plan that will detail yearly monitoring activities, reporting requirements, health and safety requirements for excavation, monitoring requirements if additional development of the site is undertaken and response action to be undertaken if degradation of the bituminous pavement or erosion of the landscaping is observed. In addition, the

current site owner and the Department will execute an Environmental Easement setting forth all on-going obligations with respect to the remedy as set forth in the agreement and allowing the NYSDEC site access. This agreement will allow the NYSDEC to verify that Human Health and the Environment are protected.

1.6.1 *Overview of Remedial Action Work Plan*

The remainder of the RAWP is organized in the following sections:

2.0 - *Engineering Evaluation of the Proposed Remedy: Remedial Action Selection Report* In this section, the criteria and justification for the selection of the proposed remedial action in each area are discussed. This section also discusses how the selected remedial action will meet the applicable remedial objectives and evaluates the remedy against 6 NYCRR Part 375-1.10 criteria.

3.0 - *Proposed Remedy* This section presents the details of the proposed remedial action for the Site.

4.0 - *Health and Safety Plan* A Health and Safety Plan (HASP) has been developed to address potential future intrusive work at the Site with respect to potential chemical exposures to workers.

5.0 *Project Organization* This section sets forth the resposibilites and roles of individual parties involved.

6.0 - *Operation, Monitoring and Maintenance Requirements* This section outlines the requirements for ongoing monitoring and maintenance of engineering controls at the Site, including a discussion of institutional controls.

7.0 – Schedule This section sets forth the proposed schedule for implementing the proposed remedial action.

8.0 - Reporting Requirements This section presents the proposed content of a Remedial Action Report (RAR), to be submitted to NYSDEC following implementation of the proposed remedy.

9.0 – References This section summarizes the references used in writing the RAWP.

2.0 *ENGINEERING EVALUATION OF THE PROPOSED REMEDY: REMEDIAL ACTION SELECTION REPORT*

This section identifies the applicable standards, criteria and guidance (SCGs) and describes the remedial goals for the Site. The proposed remedy is then evaluated with respect to the six evaluative criteria identified in the VCP Guide, *Draft* (NYSDEC, May 2002). These criteria are:

- protection of human health and the environment;
- compliance with standards, criteria, and guidance (SCGs);
- short-term effectiveness and impacts;
- long-term effectiveness and permanence;
- reduction of toxicity, mobility, or volume; and
- implementability.

These criteria are consistent with those outlined in 6 New York Code of Rules and Regulations Part 375 1.10 for Remedy Selection.

2.1 *APPLICABLE STANDARDS, CRITERIA, AND GUIDANCE*

The following are the SCGs that are considered to be ARARs for the Site:

- NYSDEC Voluntary Cleanup Program Guide *Draft*, May 2002;
- NYSDEC Technical and Administrative Guidance Memorandum Number HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels - Recommended Soil Cleanup Objectives, dated January 24, 1994 (TAGM-4046);
- NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values, October 1993 (TOGS 1.1.1);
- USEPA 40 Code of Federal Regulations (CFR) Part 745: Lead, Identification of Dangerous Level;
- NYCRR Part 375 1.10: Remedy Selection; and
- Guidelines and Requirements for Workers at Hazardous Waste Sites (Subpart 120), OSHA 29 CFR 1910.

2.1.1 *Summary of Data in Excess of Comparison Criteria*

As presented in the April 2000 Final Investigation Site Assessment Report, soil at the Site beneath existing cover contains PAHs above TAGM-4046 RSCOs. These soils will be addressed through a Site Management Plan and a soils management plan.

Five surface soil samples were collected from the southern berm during the Supplemental Final Site Investigation (ERM 2000) and analyzed for TAL metals. The samples were all collected from beneath the vegetative cover present at the sampling site at the time of sample collection. The concentrations of residual metals, except for lead, were generally within background levels or were below USEPA Region III Risk-Based Concentrations (RBC), risk-based acceptable levels for ingestion of soil based on residential soil use. ERM evaluated the concentrations of lead detected in the five surface soil samples collected along the southern berm using the values contained in 40 Code of Federal Regulations (CFR) Part 745.65 – Lead Based Paint Hazardous as a benchmark. The values specified in Part 475 are for residential property while the berm is located on commercial property. Therefore, the Part 745 values are not strictly applicable. Part 745.65 defines soil lead hazards in residential real properties or at child-occupied facilities in non-play areas as bare soil areas that contain lead at an average concentration equal to or exceeding 1,200 mg/kg. As indicated above, when the five bern samples were collected, they were collected from below the existing vegetative layer.

Lead was detected in two of five surface soil samples from the southern berm above the USEPA acceptable average concentration of 1,200 mg/kg (SB-01 at 3,880 mg/kg and SB-03 at 1,330 mg/kg). The average lead concentration in the five samples is 1290 mg/kg, slightly greater than the 40 CFR Part 745 benchmark. Because these samples were collected from beneath a vegetative layer present at the sampling location, there is low potential for contact. As indicated above, the site is commercial property

and children do not normally play at the site. Future potential contact with these areas will therefore be addressed by augmenting existing vegetation/maintenance of the vegetative cover along the berm, as necessary.

Eight soil samples were collected from the northwestern section during the supplemental investigation. These samples were analyzed for TAL metals, SVOCs, and PCBs. The TAL metal results showed that concentrations of residual metals were generally within background levels or were below USEPA Region III Risk-Based Concentrations (RBC), risk-based acceptable levels for ingestion of soil based on residential soil use. PAHs were above TAGM 4046 RSCOs in five of eight samples from the northwestern section that were collected between five and eight feet bgs. PCBs were below TAGM-4046 RSCOs. TCLP metals and PAHs sample results for the "tar-like" material, TAR-1, were not detected or were below TCLP standards. Potential future contact with these materials will be addressed by a Health and Safety Plan to be implemented if the area is excavated.

2.2 *REMEDIAL GOALS AND OBJECTIVES*

This section summarizes the remedial goals for the Site to ensure that the final remedy will be protective of human health and the environment. The Site RAOs are:

- prevent direct contact and incidental ingestion of soil containing chemical concentrations in excess of their RSCOs in areas underneath existing cover and in the area of the southern berm and in the northwestern section;
- prevent direct contact with the "black tar-like" material in the northwestern section;
- establish and maintain engineering controls;
- ensure existing engineering controls and the proposed engineering controls in this RAWP remain in place and effective;

- prevent ingestion of on-Site groundwater;
- continue to maintain the eastern buffer zone as a natural wooded area as stated in the Harrison Board of Zoning Appeals resolutions (referenced on page 2-11 of this document);
- execute the Environmental Easement; and
- file and adhere to deed restrictions and specific site use(s).

2.3 *SUMMARY: ENGINEERING EVALUATION OF SELECTED REMEDY*

The proposed remedial action described in Section 1.5 was developed through a review of NYSDEC guidelines, comment from the NYSDEC, and experience in developing remedial actions for similar types of environmental issues. The main elements of the proposed remedy are:

- preparation of deed restrictions and engineering controls in an Environmental Easement Document [1] that will a) restrict Site and groundwater uses and b) specify engineering controls to address non-mobile subsurface chemicals, which currently are substantially covered by an existing cap consisting of the parking lot, buildings, and landscaped areas and/or covered by natural vegetations. These measures will eliminate the limited potential for direct contact and the ingestion of soils and groundwater at the site through:
  1. control of uses and groundwater at the Site;
  2. maintenance of the landscaping cover in the northwestern section;
  3. monitoring and prevention of erosion of the vegetative cover on the southern side of the southern berm;
  4. routine inspection and maintenance of the parking lot, landscaping, soil cover for the northwestern section, and southern berm vegetation; and
  5. preparation and implementation of a soils management plan.

[1] The term Environmental Easement as used herein will refer to a recordable document in the form of an Environmental Easement or a Declaration of Restrictive Covenants, whichever form is required by the NYSDEC at the time of approval of this RAWP.

The following sections evaluate the proposed remedy with respect to the six evaluative criteria outlined in the Draft VCP Guide. The criteria include elimination of the remaining potential impacts to human health and the environment through implementation of the remedy, whether the remedy has proven reliable for the media and chemicals requiring remediation at the Site, and compliance with SCGs.

The effectiveness criteria consider whether the technology can handle the volume of affected media and meet the RAOs. The short- and long-term impacts for the Site and surrounding community and environment are considered, and whether any impacted media is left on-Site. The criteria for implementability focuses on zoning board requirements.

2.3.1 *Protection of Human Health and the Environment*

Protection of Human Health and the Environment can be measured by the remedy's ability to meet the RAOs. The Site RAOs were presented in Section 2.1. Institutional controls in the form of deed restrictions and the existing engineering controls address the following RAOs:

- prevention of direct contact and incidental ingestion of soil containing chemical concentrations in excess of their RSCOs in areas underneath existing cover;
- control of potential future site excavation;
- maintenance of the eastern buffer zone as a natural wooded area as stated in the Harrison Board of Zoning Appeals resolutions (referenced on page 2-11 of this document);
- ensuring that existing engineering controls remain in place and are effective; and
- prevention of ingestion of on-Site groundwater.

The existing engineering controls, consisting of the parking lot, landscaped areas and natural vegetation address soils that contain chemical concentrations in excess of their RSCOs. These engineering controls will be maintained and certified annually to the NYSDEC as described in Section 6.0.

The soils management plan will control potential future Site excavation as described in Section 6.0. The deed restrictions as set forth in the Environmental Easement will prevent groundwater from being ingested by limiting the use of groundwater at the Site and will insure the continued existence and maintenance of all on-Site engineering controls.

Standards, Criteria, and Guidance

The following are the standards, criteria, and guidance (SCGs) that are considered to be ARARs for the Site:

- NYSDEC Voluntary Cleanup Program Guide *Draft*, May 2002;
- NYSDEC Technical and Administrative Guidance Memorandum Number HWR-94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels, dated January 24, 1994 (TAGM-4046);
- NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values, October 1993 (TOGS 1.1.1);
- USEPA 40 Code of Federal Regulations (CFR) Part 745: Lead, Identification of Dangerous Level; and
- Guidelines and Requirements for Workers at Hazardous Waste Sites (Subpart 120), OSHA 29 CFR 1910.

The remedy will comply with the guidelines outlined in the VCP Guide. While the remedy will not reduce the concentrations of residual chemicals in soil to meet TAGM 4046 RSCOs, the capping and institutional controls will substantially eliminate the potential for exposure by eliminating direct contact pathways. Finally, since there have not been any anthropogenic chemicals detected in groundwater at concentrations above Class GA standards and guidance values, this criteria is met.

2.3.2 *Short-Term Effectiveness and Impacts*

The deed restriction and Environmental Easement will provide both long-term and short-term remedial effectiveness since they will ensure that all engineering controls will be identified, remain in place, and be maintained

and that the uses of the Site will minimize any potential for human contact and health concern.

2.3.3 *Long-Term Effectiveness and Permanence*

Long-term effectiveness and permanence is measured by the potential for exposure after remedy implementation and the adequacy and reliability of controls. Thus, the long-term permanence and effectiveness of the remedy can be measured in its long-term ability to meet the RAOs for the Site. The following are the RAOs for the Site:

- preventing direct contact and incidental ingestion of soil containing chemical concentrations in excess of their RSCOs in areas underneath existing cover and natural vegetation in the area of the southern berm and in the northwestern section;
- preventing direct contact with the "black tar-like" material in the northwestern section;
- preventing direct contact with debris in the southern berm;
- controlling potential future site excavation;
- ensuring existing engineering controls and the proposed engineering controls in this RAWP are still in place and effective; and
- preventing ingestion of on-Site groundwater.

The proposed remedy will provide long-term effectiveness and permanence. The deed restrictions as set forth in the Environmental Easement and engineering controls will provide protection of human health and the environment in the long-term. Specifically, the deed restriction and Environmental Easement will prevent non-permitted usage of the Site, such as residential day care, childcare, and medical care, and will prohibit potable use of the groundwater, as well as, use of the existing groundwater well for purposes other than the waterfall, without the consent of the NYSDEC.

In addition, the Environmental Easement will provide inquiring parties with information regarding Site conditions. As indicated in the VCA, the Environmental Easement will be filed with the Westchester County

Clerk's office and be available at the Site business offices. The Environmental Easement will inform present and potential future site owners and operators of the procedures that must be implemented to protect the health and safety of any workers performing intrusive work at the Site. These procedures will be addressed in the soils management plan (Section 8.0) by setting forth the procedures for potential future Site excavation and other intrusive activity.

Thus, the Environmental Easement setting forth deed restrictions and the system of existing and proposed engineering controls will effectively eliminate the potential for exposure to soil containing chemical concentrations above NYSDEC RSCOs. Furthermore, due to their locations, the southern berm and northwest section are unlikely to be developed. Particularly, as part of the zoning board resolution granting the right to implement the existing improvements at the Site, the southern berm cannot be developed. The Site Management Plan in combination with annual certification (Section 6.0) to the NYSDEC, ensure that engineering controls will remain in place and be effective in the long-term. With proper implementation, this approach has been proven to be effective at numerous sites.

2.3.4 *Reduction of Toxicity, Mobility, or Volume*

The PAHs detected at the Site are generally of high molecular weight with three or more rings. The molecular weights limit solubility and, therefore, mobility; however, the multi-ring structure makes the compounds persistent. Soil containing PAHs above RSCOs are currently sufficiently capped by asphalt pavement or vegetation and are inaccessible for direct contact. Normal biodegradation of the PAHs will continue to occur at a slow rate over time with the proposed remedy of institutional and engineering controls. Institutional controls provide for isolating the area from the general population and are aimed to prevent unauthorized site utilization. Beyond natural biodegradation, the remedy will not provide

any further substantial reduction of the volume of PAHs. The toxicity of chemicals will not be lowered, but their exposure pathway will be eliminated.

Maintenance/augmentation of the vegetative cover on the southern berm will eliminate the potential for direct contact with lead in surface soils. No reduction in the volume of lead is expected. As with the PAHs, the concentration (toxicity) of the lead will not be changed, but its exposure pathway will be eliminated.

2.3.5 *Implementability*

The engineering and institutional controls proposed for the Site can be completed in a reasonable time frame, and are readily implementable technologies.

2.3.6 *Summary of the Evaluative Criteria*

The proposed remedy was compared against the six evaluative criteria outlined in the *Draft* VCP guidelines. The proposed institutional and engineering controls will be protective of human health and environment in the long-term by reducing the potential for exposure through the elimination of direct contact with chemicals in soil. All SCGs will be met, with the exception of TAGM 4046 RSCOs. However, the pathway for exposure will be eliminated with the proposed remedy, thus soils containing chemical concentrations above TAGM-4046 RSCOs will be inaccessible.

The Site Management Plan will be in place to ensure the long-term effectiveness of engineering controls. In addition, annual certification of these and the deed restriction will be provided to the NYSDEC. Finally, while the volume and toxicity of chemicals in soil will not be reduced, as discussed above, the PAHs and metals identified (lead in southern berm)

in the Site soil are very immobile and will be made inaccessible through the use of the existing and to be implemented engineering controls.

3.0 *PROPOSED REMEDY*

The remedy for the Site will consist of institutional and engineering controls. Figure 3-1 shows the Site in plan view, which identifies the existing engineering controls. The accompanying Site Management Plan and soil management plan are discussed in Section 6.0.

3.1 *INSTITUTIONAL CONTROLS*

Institutional controls will be implemented at the Site to control future Site uses, ensure that engineering controls are in place and are maintained, control development on the Site, and restrict groundwater and surface water use. The deed restriction as set forth in the Environmental Easement will specify the allowable uses for the Site and restrict future Site uses. A figure similar to Figure 3-1 will be referenced in the Environmental Easement to identify all engineering control areas and the type of engineering control to be maintained.

The environmental easement will specify that the Site may continue to be used as a commercial facility and shall not be used for purposes other than set forth therein. The Environmental Easement shall state that the Site shall not be used for day care, childcare, or medical care without the consent of the NYSDEC. The groundwater will not be used for potable purposes without written consent of the NYSDEC. The deed restriction will state that the groundwater may be used for decorative fountains, waterfalls and other similar purposes consistent with its current use.

A Site Management Plan will include a soils management plan to govern the management of all potential future Site excavation activities. The Site Management Plan will be implemented to ensure engineering controls consisting of the existing asphalt parking lot, landscaped areas, and natural vegetation on the southern berm are in place and effective. The

soils management plan and Site Management Plan are discussed further in Section 6.0. An annual certification of the engineering controls will be provided by the Site owner to the NYSDEC.

3.2 *SOUTHERN BERM*

The samples collected from the south side of the Southern Berm contained residual concentrations of metals (lead). The north side and top of the Southern Berm are both covered by landscaping including grass and deciduous and coniferous trees. The south side of the berm is covered by native vegetation consisting of deciduous trees, low brush and vines.

The area to be inspected pursuant to the RAWP extends from the southern ridge of the berm to the property line, and is considered the backside of the berm (i.e., the side that faces away from the property, the south side of the berm). An initial inspection of the south side of the berm will be carried out when the RAWP is implemented. The initial inspection will assess the state of the natural vegetation, look for signs of erosion and identify areas where augmentation of the native vegetation will be considered and implemented, as necessary. During the initial inspection, surficial trash will be removed. The initial inspection will be used as a baseline to which subsequent yearly inspections and subsequent augmentation decisions will be compared.

Visible bottles, trash, tires, and other identifiable debris shall be removed from the surface of the southern berm. Materials shall be removed by hand, to minimize disturbance to the existing vegetation. Work teams shall walk through the southern berm area and hand pick bottles and other refuse from the soil surface. The trash will then be carried to a loading area where the trash will be placed in a container for disposal.

Vegetative plantings may be installed to augment the native vegetation. Any plants installed will mimic, to a reasonable extent, the existing

natural Site conditions, which consist of underbrush, and natural leaf mulch on the soil surface.

Vegetative plantings may consist of a combination of native plants and ferns. Vegetative species identified for their ability to thrive under native, full-shade conditions, as is the case for the southern berm area are:

- Low bush blueberry
- Rhus Aromatica (fragrant sumac
- Forsythia suspensa (weeping forsythia)
- Viburnum trilobum (American cranberry)
- Clethra alnifolia (summer sweet clethra)
- Vine Parthenocissus or engelman

The plants have strong root systems and will spread out horizontal roots, which then send up new stems. With these plants, significant ground cover will be obtained on a permanent basis in one to two growing seasons.

Ferns could be planted in the very shaded areas, to supplement the ground cover provided by the plants, and to enhance the aesthetic quality of the completed project. Ferns that could be planted include:

- Painted fern
- Autumn fern
- Cinnamon fern
- Christmas fern

If vegetative cover of the Southern berm is augmented by installation of additional plant/ferns, watering of the southern berm shall be conducted twice a week for the first month following planting. The building property landscapers shall water the southern berm as needed on a regular basis, and twice weekly should drought conditions occur. This will be conducted for the first year following construction.

3.3 *NORTHWESTERN SECTION*

The impacted northwestern section extends from the curb at the entranceway to a line of tall shrubbery at the eastern limit, and is approximately 5,400 square feet. The area will be inspected to determine if any additional cover is required. If the inspection indicates that no additional cover is required, the existing cover will be photo-documented for future comparison. The cover will be maintained as documented by the inspection by the building's landscaper as specified in the Site Management Plan.

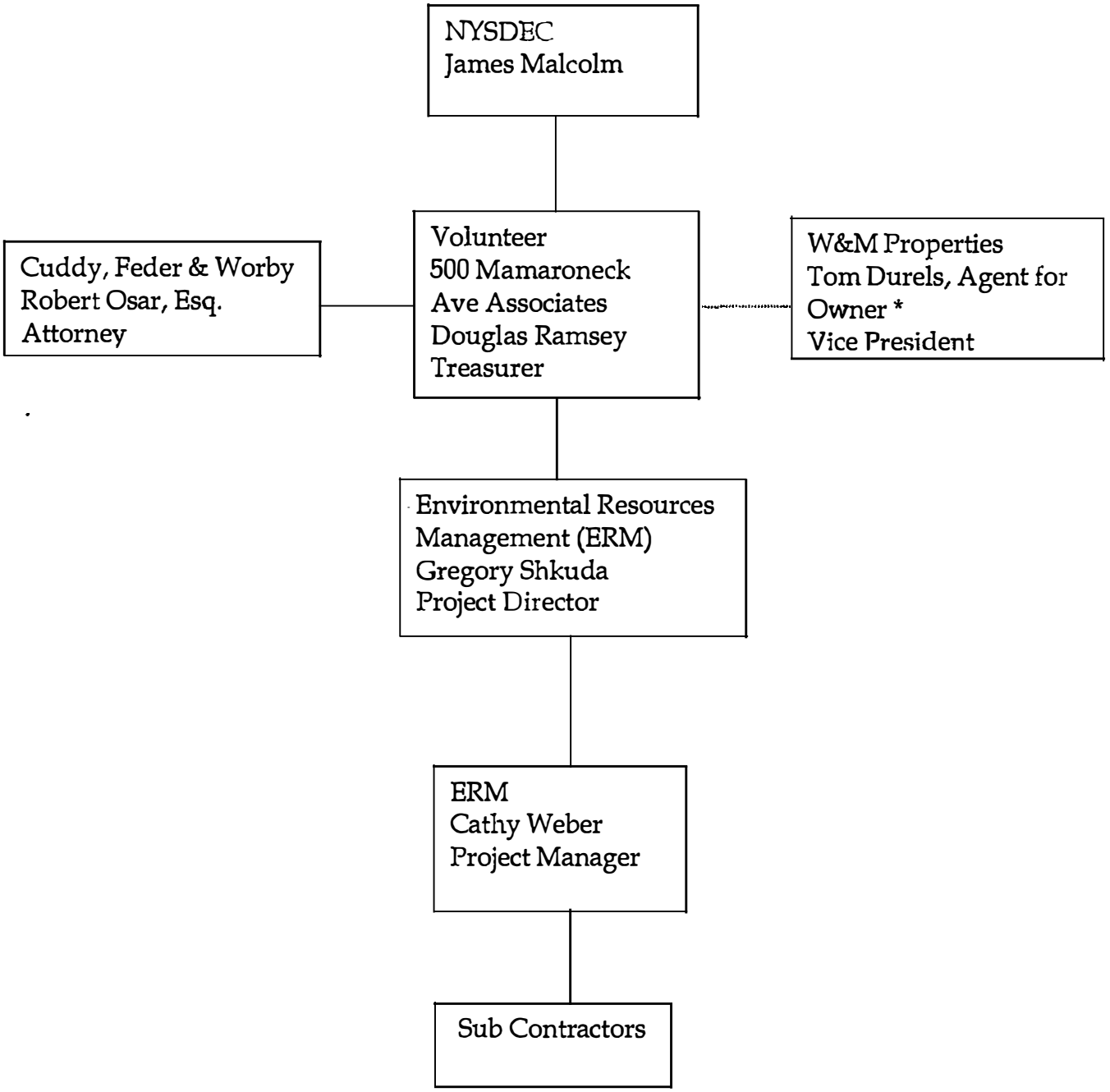
4.0 *HEALTH AND SAFETY PLAN*

A Health and Safety Plan (HASP) for the Site is included as Appendix A to this RAWP. The HASP is to address any potential future Site excavation.

The intent of the HASPs is to minimize the possibility of work-related injury or exposure to Site contaminants through providing site information, utilizing aware and qualified supervised personnel, and the use of appropriate protective equipment while performing remedial activities. The procedures set forth in this HASP are designed to reduce the risk of exposure to Site contaminants and physical or other hazards that may be present.

The HASP defines the measures to be taken to comply with applicable US Occupational Safety and Health Administration (OSHA) and other regulatory requirements during all applicable work at the Site, and focuses primarily on general health issues and personnel exposure issues during implementation of the RAWP.

5.0 *PROJECT ORGANIZATION*



* W&M Properties represents the current ownership group for 500 Mamaroneck Avenue and, as agent for owner, will coordinate with Volunteer regarding the RAWP and its implementation. All written notices and communications should be copied to Tom Durels and Gerrit Blauvelt at W&M Properties, as well as all work at the Site should be coordinated through these contacts.

6.0 *MONITORING AND MAINTENANCE REQUIREMENTS*

The proposed Site remedy described in this RAWP relies on various capping strategies to ensure that direct contact with impacted Site soil does not occur. For this remedial approach to remain protective in the future, monitoring and maintenance measures must be implemented at the Site to prevent unintended direct contact with impacted Site soils.

This section describes the monitoring and maintenance program that will be implemented through the Site Management Plan on an ongoing basis at the Site. The program consists of the following components, described in further detail herein:

- Engineering Controls;
- Soil Management Plan;
- Annual Certification; and
- Institutional Controls.

A draft Site Management Plan for the Site has been included in this RAWP as Appendix B.

6.1 *ENGINEERING CONTROLS*

Engineering controls are the actual physical Site features that prevent direct contact with impacted soil. Once the specific components of the Site remedy described in Section 3.0 have been identified and installed, if necessary, sufficient cover will be in place across the entire Site to prevent direct contact with impacted soil.

The purpose of the maintenance and monitoring program is to describe the on-going maintenance that will be necessary to ensure that the cover materials remain in place and maintains its effectiveness. These measures

will provide long-term protection and prevent unintended direct contact with impacted soil.

The engineering controls at the Site consist of asphalt cover over the parking areas and vegetative cover over the remaining areas. Specific inspection and maintenance procedures regarding these controls are discussed below. These are outlined in Table 8-1.

6.1.1 *Asphalt Cover*

The asphalt parking areas should be maintained in good condition, free of potholes, ruts, significant cracking, and other disrepair. These areas should be inspected semi-annually, with one inspection immediately following the spring thaw. During these inspections, the condition of the asphalt cover, surface water ponding, surface depressions, etc., will be noted and the Remedy Inspection Form (see Table 8-2) will be completed. A copy of the completed Remedy Inspection Form will be transmitted to the building's managing office.

The need for repairs will be determined during the semi-annual inspection and noted on the Remedy Inspection Form. Following inspections, any necessary repairs to the asphalt cover will be implemented to restore the surfaces. Repairs may include patching, sealing of cracks, and repaving. Documentation of the repairs will be filed in the building's managing office.

When so indicated by the Site inspections, asphalt repairs should be made as soon as possible following the inspection. The spring inspection should be scheduled to coincide with the opening of area asphalt batch plants, so that materials for the repairs are readily available. Likewise, the fall inspection should be scheduled prior to the closing of area batch plants, so that any necessary repairs can be made prior to winter. The appropriate asphalt mix shall be selected by the current Site owner/landlord.

6.1.2 *Vegetative Cover*

In most vegetated areas of the Site, the existing vegetation is the key component of the cover system over impacted soil. Therefore, the importance of the vegetation is twofold: to provide an actual barrier from potentially impacted soil, and to prevent erosion of the clean cover soil so that the cover soil thickness does not diminish.

Vegetated surfaces must be inspected regularly to ensure that the underlying soil is properly protected by the depth and vegetation of the cover. It is recommended that the vegetated areas be visually inspected on at least a semi-annual basis.

The protection provided by the vegetative cover should normally be complete with limited visible bare spots. The inspector should also look for erosion rivulets on slopes or any sign of settling. Holes from burrowing animals must also be noted and addressed if they pose an erosion problem.

If inspections reveal that the vegetative cover integrity may be compromised in any way, appropriate mitigative actions must be implemented. Repairs to bare soil areas may include reseeding, planting, fertilizer application and soil conditioning, if applicable. Erosion may be reduced by improving vegetation and altering contours (if appropriate) to minimize storm water run-off velocity. Sections of the slopes that have subsided will be backfilled, regraded and reseeded if necessary.

6.2 *SOIL MANAGEMENT PLAN*

For the Site remedy to remain protective in the future, 1) all subsurface soils must remain undisturbed, or 2) if required to be disturbed, such disturbance must be planned to ensure the protection of Site workers and proper management of the disturbed soil.

A draft Soil Management Plan has been prepared and incorporated into this RAWP as part of the Site Management Plan in Appendix B. The Soil Management Plan describes the means necessary to protect Site workers if intrusive excavation work is performed at the Site, and it should be consulted for procedures to properly manage any disturbed soil. The final version of the Site Management Plan and Soil Management Plan will be provided in the Remedial Action Report.

6.3 *ANNUAL CERTIFICATION*

As part of the Site remedy, NYSDEC requires that an annual inspection and certification be provided, stating that the engineering controls are in place and effective. It is recommended that the annual inspection be conducted toward the end of each calendar year, at the conclusion of seasonal repairs that are made in the fall. Because institutional and engineering controls are relied upon as part of the remedy implemented under the VCA, the volunteer shall file an initial annual report by January 15th as part of the RAWP and annually thereafter until the Department notifies Volunteer in writing that the remedial process is concluded. Thereafter, all annual certifications shall be prepared and filed by owner. Such annual report shall be signed by a NYS Professional Engineer and shall contain a certification that the institutional controls put in place pursuant to the Agreement are still in place, have not deteriorated, and are still effective.

A certification form will be provided in the final Site Management Plan for the Site.

6.4 *INSTITUTIONAL CONTROLS*

Institutional controls will be implemented for the Site. The institutional controls will be legal deed restrictions set forth in the Environmental Easement specifying the following:

- the Site may continue to be used for the uses set forth in the VCA only;
- the Site can not be used for day care, child care, or medical care purposes without the consent of the NYSDEC;
- groundwater at the Site may not be used for potable purposes unless the NYSDEC provides express written permission to allow use for a specific potable purpose; continued use of groundwater for the existing waterfall is permissible; and
- the asphalt parking areas and landscaped areas are considered engineering controls which must be perpetually maintained.

Evidence of the filing of the Environmental Easement by the owner with the Westchester County Clerk's Office will be forwarded to designated NYSDEC representatives.

7.0 *PROJECT SCHEDULE*

Initial vegetative and asphalt cover inspections can be carried out over a one-week period. If vegetative cover augmentation is required, installation of supplemental plants/ferns can be completed within three-weeks of the site inspection. Figure 9-1 shows the project schedule for remediation through submission of the Remedial Action Report (RAR).

Note that the schedule is entirely contingent on weather and seasonal timing. Planting will only be scheduled so that the conclusion of remedial activities coincides with a growing season.

Prior to submittal of the RAR, time periods must be allowed for other tasks that cannot be quantified at this time. These consist of: (1) NYSDEC approval of Environmental Easement language, if applicable; and (2) preparation and legal filing of Environmental Easement.

8.0 *REPORTING REQUIREMENTS*

Following completion of the remedial action, a RAR will be prepared and submitted to NYSDEC for approval. The RAR will summarize the activities that occurred during the remedial action phase of the project. The RAR will be submitted in accordance with Paragraph I.E of the VCA. Specifically, the RAR will contain:

- a summary of the applicable Site data (similar to Section 2.0 of this RAWP);
- a description of the current conditions (including photo-documentation) of the southern berm and the northwestern section;
- a detailed description of vegetative augmentation on the Southern Berm and Northwest sections, if applicable
- certification that all activities were completed in full accordance with the RAWP;
- copies of the Environmental Easement filed with the Westchester County town clerk and the NYSDEC;
- a detailed post-remedial Site Management Plan;

A NYS professional engineer shall prepare, sign, and seal the Site Management Plan, RAR, and certification.

9.0 *REFERENCES*

ERM, 2002. Final Supplemental Site Investigation Report, 500 Mamaroneck Avenue, Harrison, New York, June, 2002.

ERM, 2000. Final Investigation Site Assessment Report, 500 Mamaroneck Avenue, Harrison, New York, Volumes I and II, April 2000.

ERM, 1998. 500 Mamaroneck Avenue, Harrison, New York, June 1998.

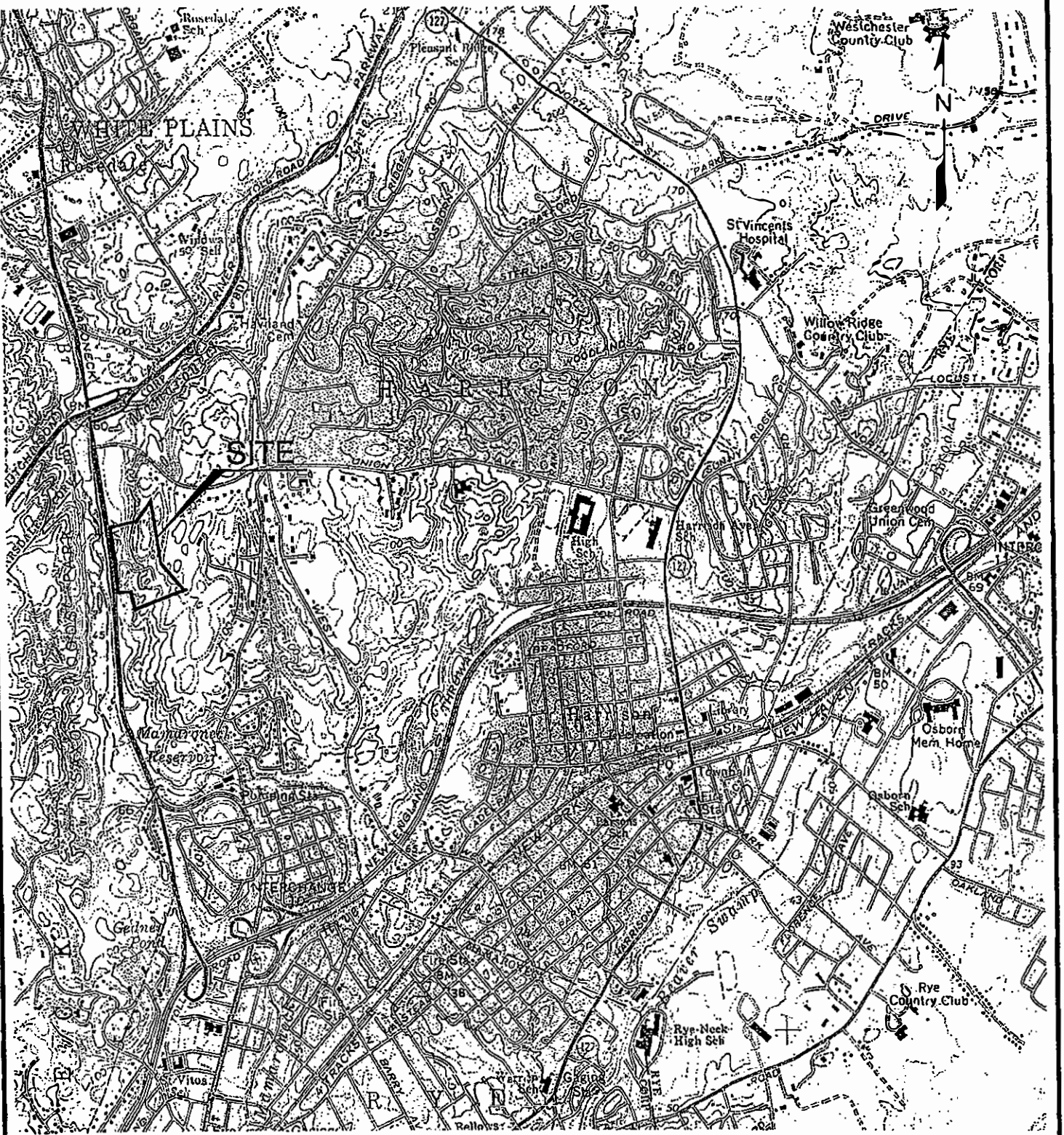
NYSDEC, 2002. Voluntary Cleanup Program Guide *Draft*, Division of Environmental Remediation, May 2002.

NYSDEC, 1994. Technical and Administrative Guidance Memorandum 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994.

NYSDEC, 1993a. Technical Guidance for Screening Contaminated Sediments, November 1993.

NYSDEC, 1993b. Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values, October 1993. Health and Safety Plan

USEPA, 2000. 40 CFR Part 745: Lead; Identification of Dangerous Levels of Lead; Final Rule.



SOURCE: U.S.G.S. QUADRANGLE MAPS, MAMARONECK, N.Y.-CONNECTICUT, 1967

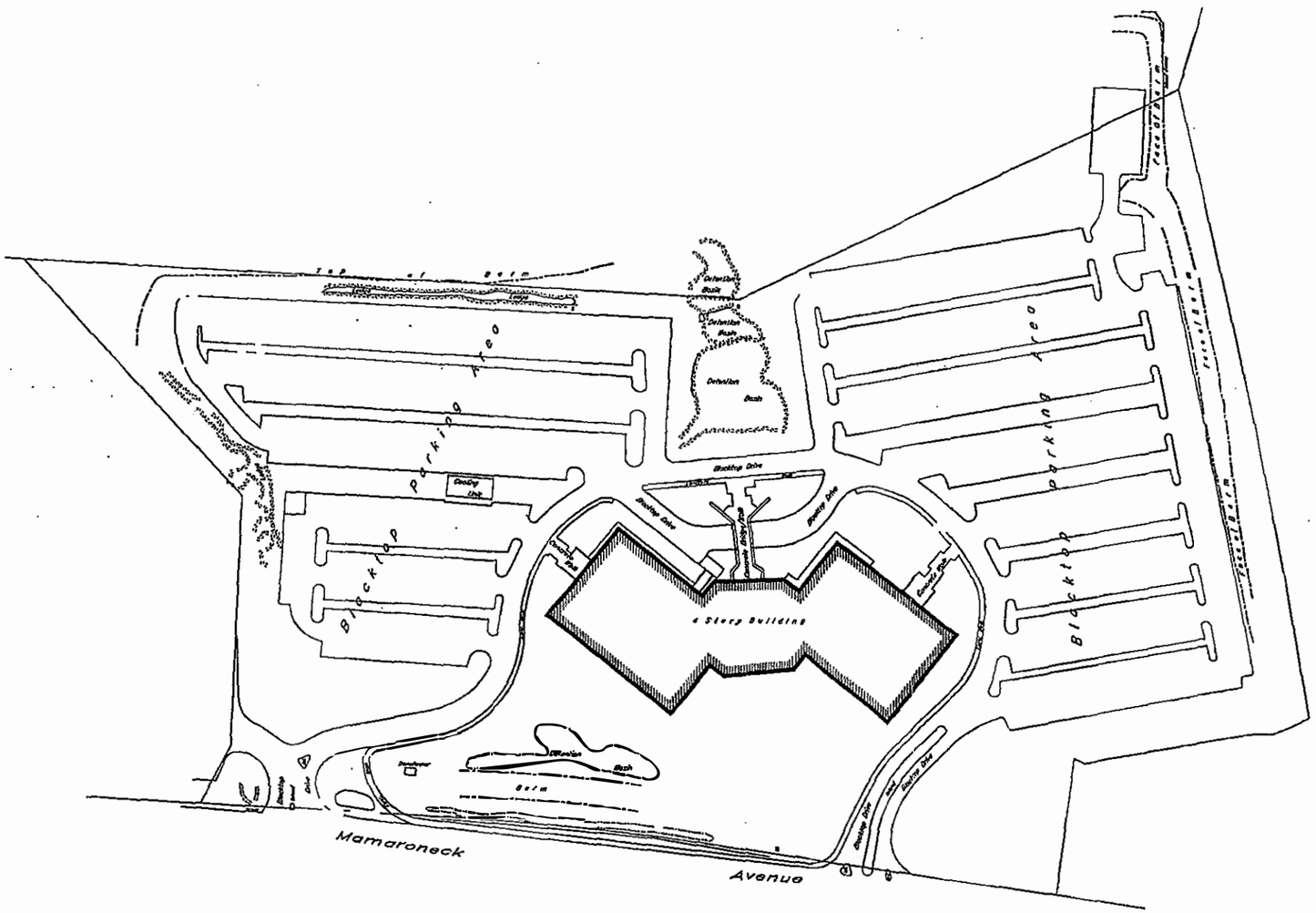
TITLE

SITE LOCATION MAP
500 MAMARONECK AVENUE
HARRISON, NY

PREPARED FOR

500 MAMARONECK AVE. ASSOCIATES

ERM Environmental Resources Management			SCALE: GRAPHIC	FIGURE: 1-1
DRAWN: Y.S.	JOB NO: X8101.00	FILE NAME: X810100025	DATE: 10/08/02	



0 160' 320'

APPROXIMATE GRAPHIC SCALE

TITLE

SITE PLAN
500 MAMARONECK AVENUE

PREPARED FOR
500 MAMARONECK AVENUE ASSOCIATES

Environmental Resources Management

SCALE GRAPHIC

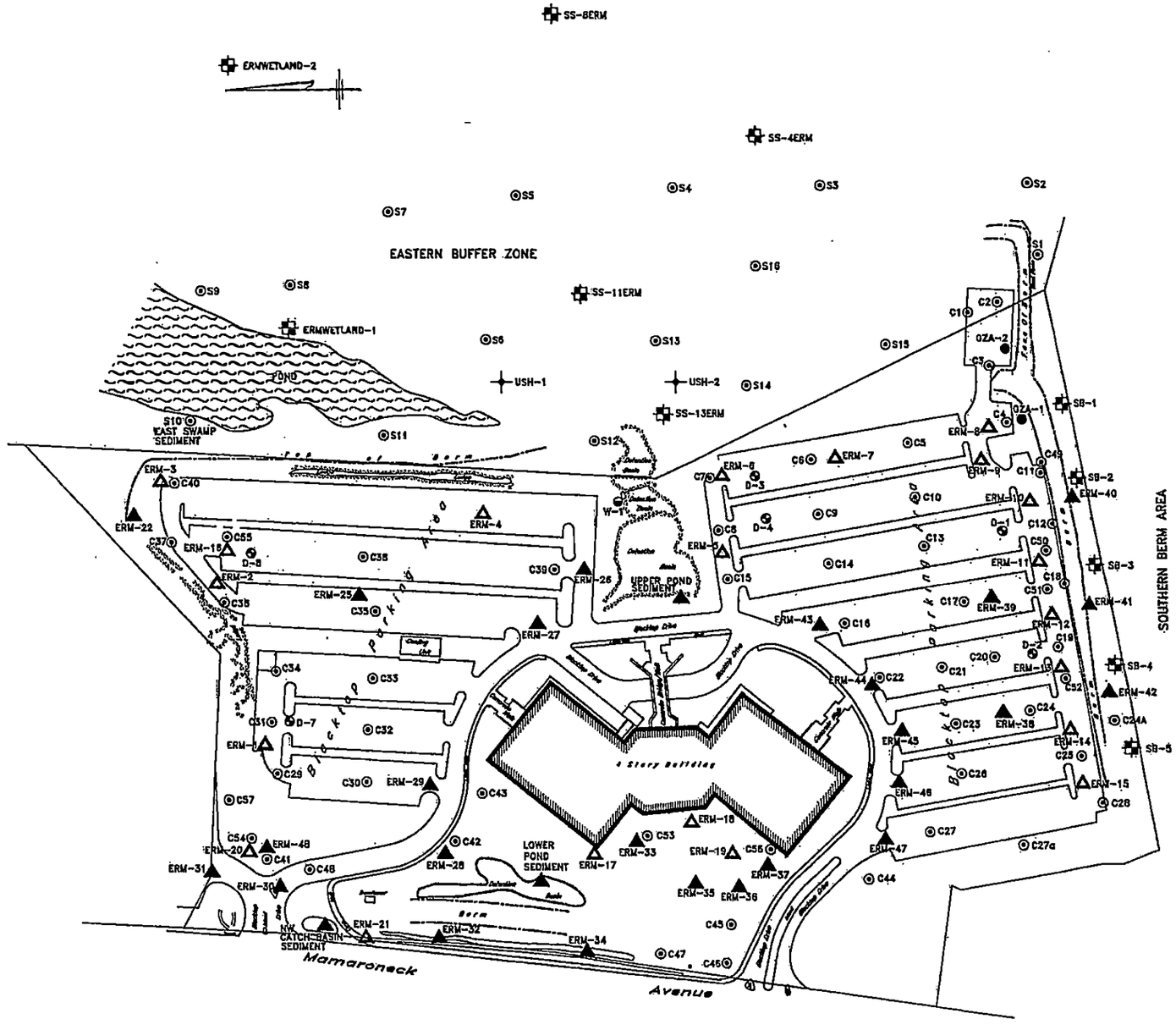
FIGURE 1-2

DRAWN BY R.J.R.

JOB NO. X8101.00.01

FILE NAME X8101007r14

DATE 5/29/02



LEGEND

- W-1 —GROUNDWATER SUPPLY WELL
- GZA-1 —GZA SAMPLING LOCATIONS – 1986
- USH-1 —USH INC. SAMPLING LOCATIONS – 1989
- D-1 —DAMES & MORE SAMPLING LOCATIONS–1998
- ERM-1 —ERM BORING LOCATIONS–1998
- C1, S1 —CONECO BORING LOCATIONS–1999
- ERM-22 —ERM BORING LOCATIONS–1999
- SB-1 —ERM SAMPLING LOCATIONS – 2000

0 160' 320'

APPROXIMATE GRAPHIC SCALE

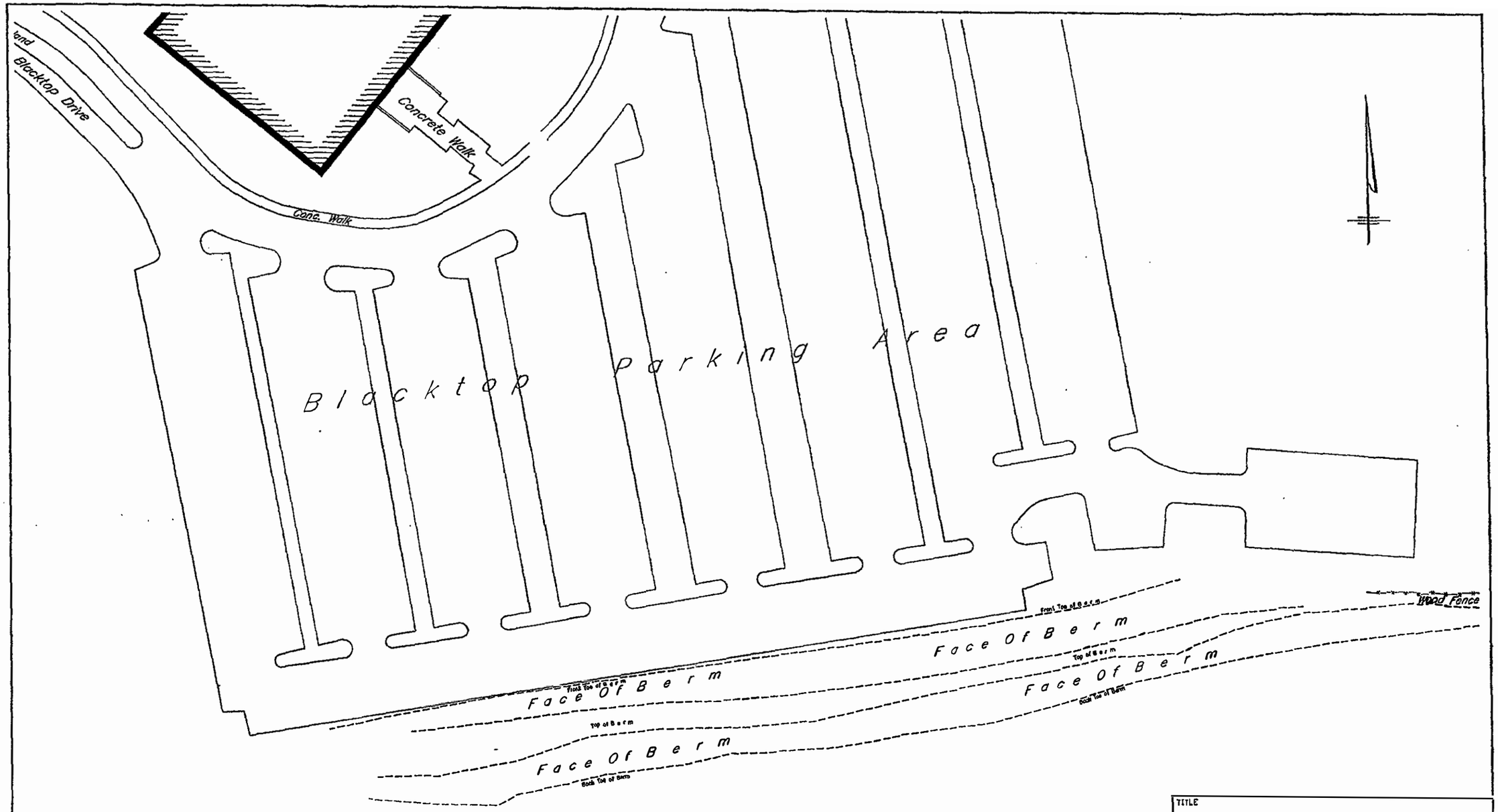
TITLE

SITE SAMPLE LOCATIONS
500 MAMARONECK AVENUE

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

Environmental Resources Management		SCALE: GRAPHIC	FIGURE: 1-3
DRAWN: R.J.R.	JOB NO: 0001496-00	FILE NAME: 0001496-01-00	DATE: 03/14/03



TITLE

PLAN VIEW OF SOUTHERN BERM AREA 500 MAMARONECK AVENUE

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

BRM Environmental Resources Management

SCALE 1"=60'

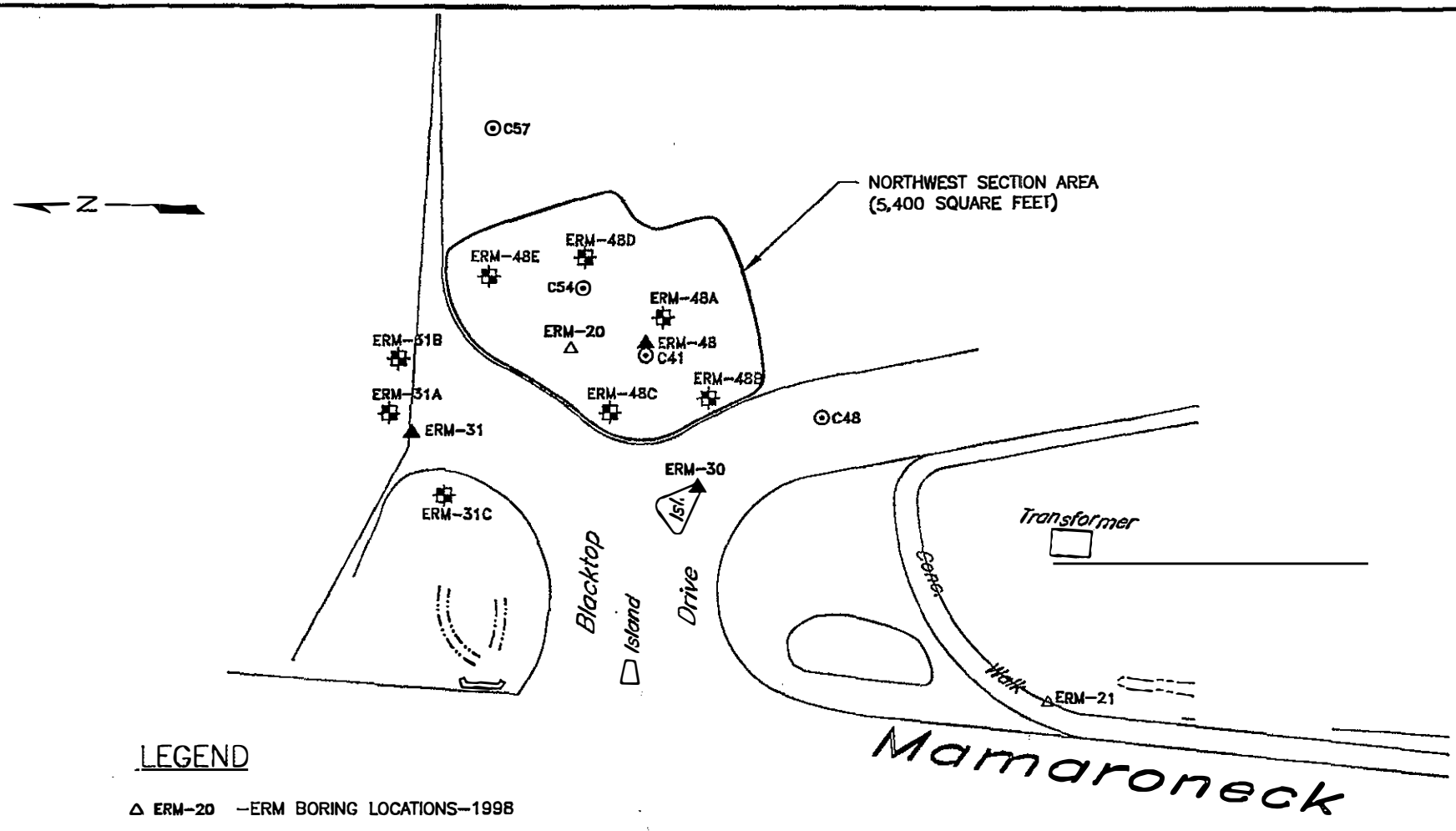
FIGURE 3-2

DRAWN R.J.R.

JOB NO. 0001496-00

FILE NAME 0001496-01-00

DATE 03/03/03



LEGEND

- △ ERM-20 –ERM BORING LOCATIONS–1998
- ▲ ERM-30 –ERM BORING LOCATIONS–1999
- ⊙ C41 –CONECO BORING LOCATIONS–1999
- ERM-48A –ERM BORING LOCATIONS – NOVEMBER 2000

0 50' 100'

GRAPHIC SCALE

TITLE

PLAN VIEW OF NORTHWEST SECTION AREA

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

ERM Environmental Resources Management

SCALE: GRAPHIC

DATE:

FIGURE: 3-3

DRAWN: R.J.R.

JOB NO.: 0001496-01

FILE NAME: 0001496-01-00303/03/03

Figure 9-1
Proposed Remedial Action Schedule
Remedial Action Work Plan
500 Mamaroneck
Harrison, NY

	Weeks Following NYSDEC Approval of Remedial Action Work Plan [1]																
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Pre-Remedial Action Work																	
Conduct Site Review and Submit Contractor Request for Proposal																	
Notify NYSDEC and Start Remediation Activities																	
Receive Bids																	
Award Contract																	
Lead Time to Order Materials																	
On-Site Activities																	
Mobilization																	
Southern Berm Planting, if needed																	
Report Preparation																	
Prepare Draft Remedial Action Report																	
Internal Review of Report																	
Submission to NYSDEC																	
NYSDEC Comments																	
Prepare and Submit Final Remedial Action Report [2]																	

Notes:

(1) The schedule is entirely contingent on weather and seasonal timing. Construction will only be scheduled so that the conclusion of remedial activities coincides with a growing season.

(2) The draft deed restriction language has been submitted to the NYSDEC, and NYSDEC Counsel has provided proposed substitute language. Volunteer will finalize the deed restriction language with NYSDEC Counsel while the final approved remediation is being implemented and the final agreed upon deed restriction documents will be submitted with final Remedial Action Report.

Figure 9-1
Proposed Remedial Action Schedule
Remedial Action Work Plan
500 Mamaroneck
Harrison, NY

	Weeks Following NYSDEC Approval of Remedial Action Work Plan [1]																
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Pre-Remedial Action Work																	
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Table 8-1
Remedy Inspection Schedule
500 Mamaroneck Avenue, Harrison, NY

Semi-Annually (once following the spring thaw and once during the fall)

- visually inspect the condition of the following remedy components:
  - asphalt cover
  - vegetated slopes along the southern berm
  - landscaping areas around the asphalt cover;
- complete the Remedy Inspection Form;
- complete any required maintenance to the above remedy components; and
- transmit documentation of repairs to the building management's office.

Annually

- File annual report to NYSDEC that engineering controls are still in place, have not been altered, and are still effective by January 15th
  - include certification of deed restriction

Table 8-2
Remedy Inspection Form
500 Mamaroneck Avenue, Harrison, NY

DATE(S) OF INSPECTION: _____

Note the location(s) of any the inspection findings described below on Figure 1-1 (attached).

	Yes	No	Corrective Action Needed?
Asphalt Cover			
Are there any cracks in the asphalt cover?	☐	☐	☐
Is there any surface water ponding on the asphalt cover?	☐	☐	☐
Is there any evidence of settlement?	☐	☐	☐

Specify Correction Actions Needed:

_____

_____

_____

	Yes	No	Corrective Action Needed?
Landscaped Areas			
Are there any visible bare spots?	☐	☐	☐
Are there any erosion rivulets?	☐	☐	☐
Is there evidence of any washouts or soil slides?	☐	☐	☐

Specify Correction Actions Needed:

_____

_____

_____

	Yes	No	Corrective Action Needed?
Vegetative Slopes Along the Southern Berm			
Are there any extensive visible bare spots?	☐	☐	☐
Are there any erosion rivulets?	☐	☐	☐
Is there evidence of any washouts or soil slides?	☐	☐	☐

Specify Correction Actions Needed:

_____

_____

_____

cc: Managing Office

Attach a copy of Figure 1-1

APPENDIX A

Site Management Plan

SITE MANAGEMENT PLAN

The site remedy relies on the continued maintenance of the existing engineering controls (parking lot, buildings, and landscaped areas) to prevent direct contact with soil in all areas of the Site, including the southern berm and northwestern areas of the site. Contact with impacted site soils may occur during future construction or related activities (tree planting, installation or maintenance of light poles, etc.). This section describes the monitoring and maintenance program that will be implemented on an ongoing basis at the Site. The program consists of the following components, described in further detail herein and set forth in the Environmental Easement:

- Engineering Controls;
- Soil Management Plan;
- Annual Certification;
- Institutional Controls.

1.0 ENGINEERING CONTROLS

Engineering controls are the actual physical Site features that prevent direct contact with impacted soil. Sufficient cover exists across the entire Site to prevent direct contact with impacted soil. The purpose of the maintenance and monitoring program is to describe the on-going maintenance necessary to ensure that the cover materials remain in place. These measures will provide long-term protection and prevent direct contact with impacted soil.

The engineering controls at the Site consist of asphalt cover over the parking areas, existing buildings, and structures and vegetative cover over the remaining landscaped areas. Specific inspection and maintenance procedures regarding these controls are discussed below.

1.1 ASPHALT COVER

The asphalt parking areas will be maintained in good condition, free of potholes, ruts, significant cracking, and other disrepair. These areas will be inspected on a semi-annual basis. One inspection will be scheduled to follow the spring thaw and the end of major winter storm events. The second inspection will occur six (6) months later in the fall and prior to first frost. During these inspections, the condition of the asphalt cover, ponding of surface water surface depressions, etc., shall be noted and documented on the Remedy Inspection Form. A copy of the completed Remedy Inspection Form (Table 8-2) should be transmitted to the building's managing office and retained by the Owner for future review purposes.

The need for repairs will be determined during the inspection events and noted on the Remedy Inspection Form. Following inspections, any necessary repairs to restore the surfaces to the asphalt cover will be carried out. Repairs may include patching, sealing of cracks, and paving. Documentation of the repairs will be filed in the building's managing office and retained by the

Owner for future review purposes.

When so indicated by the Site inspections, asphalt repairs should be made within 7 days of notice to the building manager. The date and nature of the repairs shall also be documented and retained by the Owner. The spring inspection should be scheduled to coincide with the opening of area asphalt batch plants such that materials for the repairs are readily available. Likewise, the fall inspection should be scheduled prior to the closing of area batch plants such that any necessary repairs can be made prior to winter. The asphalt mix selected shall match the existing pavement and shall be of sufficient quality to endure the weather conditions at the site.

1.2 VEGETATIVE COVER

In most vegetated areas of the site, the existing vegetation is the key component of the cover system. Therefore, the importance of the vegetation is to provide an actual barrier from potentially impacted soil, and to prevent surface erosion.

The final vegetated surfaces must be inspected regularly to ensure that the underlying soil is properly protected by the depth and vegetation of the cover (i.e. if any augmentation of the vegetative cover is carried out, the surfaces after this activity has concluded). It is recommended that the vegetated areas be visually inspected on at least a semi-annual basis and following major storm events as noted in Section 1.1.

The protection provided by the vegetative cover should normally be complete with no visible bare spots. The inspector must look for erosion rivulets on slopes or any sign of settling. Holes from burrowing animals must also be noted and addressed as they pose an erosion problem or threat.

If inspections reveal that the vegetative cover integrity may be compromised in any way, appropriate mitigative actions must be implemented. Repairs to bare soil areas may include plantings, seeding, fertilizer application and soil conditioning, if applicable. Erosion may be reduced by improving vegetation and altering contours (if appropriate) to minimize stormwater run-off velocities. Sections of the slopes that have subsided must be backfilled, graded and seeded if necessary. The nature of the repairs must be documented by the Owner and retained for future review purposes.

1.3 EXTERNAL BUFFER ZONE

At the time the 500 Mamaroneck Avenue property was developed, i.e. the office building and parking areas were constructed, the Harrison Board of Zoning required that approximately 20 acres of the site be set aside as buffer between the office and adjoining residences. A portion of the undeveloped portion of the property, the Eastern Buffer Zone, consisting of a wooded area and a seasonal pond cannot be developed. Yearly inspection of the portion of the property, coincident with one of the asphalt or berm inspections will be carried out to ensure that the portion of the property remains undeveloped as required by the Zoning Board Resolution.

2.0 SOIL MANAGEMENT PLAN

For the site remedy to remain protective in the future, all subsurface soils must remain undisturbed, or if required to be disturbed, such disturbance must be planned to ensure the protection of site workers, public health, and the environment. The Health and Safety Plan (Appendix B) will be used by workers carrying out these activities. Further, the NYSDEC shall be informed of any such work in writing before any such construction occurs. During future site development activity, the excavation of soil/fill may be necessary during the construction of footings, utilities, and other related activities. Residual contaminated soils may be excavated from the site during such activities. If this occurs, characterization of soil will be performed and, where applicable, disposal/reuse will be done in accordance with NYSDEC regulations. Proper management of the disturbed soil and any associated waste materials (groundwater, sediment, etc.) shall be necessary and will require the approval of the NYSDEC. Further, evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified will be performed. Finally, future redevelopment will be conducted such that all use restrictions (development and groundwater) detailed in the VCA are complied with.

3.0 ANNUAL CERTIFICATION

The Volunteer and Owner will be responsible for the recording of an institutional control in form of an Environmental Easement. The easement will require that the property owner comply with the approved site management plan, limit the use and development of the property to commercial or industrial uses as specified in the easement, restrict the use of groundwater as a source of potable or process water, and require the property owner to complete and submit to the NYSDEC an annual certification. The certification must state that the engineering controls described above are in place and effective. It is recommended that the annual inspection be conducted toward the end of each calendar year such that it follows the conclusion of any seasonal repairs performed during the calendar year.

The Property Owner shall file an annual report by January 15th to the NYSDEC Project Manager. The annual report can be signed by the Property Owner or their designee (Professional Engineer or Geologist) and shall contain a certification that the institutional and engineering controls put in place pursuant to the Agreement are still in place, are being complied with, have not deteriorated, and are still effective.

4.0 INSTITUTIONAL CONTROLS

Institutional controls in the form of an Environmental Easement will be implemented for the Site as noted above. The easement will be applicable to the entire Site and include a map showing the area of control, a description of the controls. The easement will be executed by the Property Owner in a manner enforceable by the State of New York to establish and maintain the environmental easement and will be in a recordable form pursuant to Real Property Law Section 291. The environmental easement will contain legal deed restrictions specifying the following:

- the site may continue to be used for the uses set forth in the VCA and Environmental Easement only;

- the site can not be used for day care, child care, or medical care purposes without the consent of the NYSDEC;

- groundwater at the site may not be used for potable purposes unless the NYSDEC provides express written permission to allow use for a specific potable purpose; continued use of groundwater for the existing waterfall is permissible; and

- the asphalt parking areas and landscaped areas are considered engineering controls which must be perpetually maintained.

Evidence of the filing of the Environmental Easement with the Westchester County Clerk's Office will be forwarded to designated NYSDEC representatives.

APPENDIX B

Health and Safety Plan

FINAL REPORT

500 Mamaroneck Avenue Associates

Health and Safety Plan
500 Mamaroneck Avenue Site
Harrison, New York

January 2005

0016447

Environmental Resources Management
475 Park Avenue, Floor 29
New York, NY 10016

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1.0 *INTRODUCTION*

1) This health and safety plan (HASP) has been developed for the completion of potential future intrusive work at the 500 Mamaroneck Avenue Site (Site) located in Harrison, New York. The HASP will be updated if needed to address specific work at the site.

1.1 *IMPLEMENTATION*

A copy of this HASP will be made available to all employees prior to their Site work. They will be required to review this plan before the start of any Site activities. All other personnel involved with intrusive activities will have received a pre-entry briefing.

The procedures set forth in this HASP are designed to reduce the risk of exposure to chemical substances and physical or other hazards that may be present. The procedures described herein were developed in accordance with the publications indicated below:

1. Safety and Health Standards 29 CFR 1910 (General Industry), US Department of Labor, Occupational Safety and Health Administration (OSHA). Hereafter, referred as "29 CFR 1910."

2. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response, U.S. Dept. of Labor, OSHA.

3. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry), U.S. Department of Labor, OSHA.

4. OSHA Safety and Health Standards 29 CFR 40 Part 61 Nation Emissions Standards of Hazardous Air Pollutants, U.S. Dept. of Labor, OSHA.

5. OSHA Safety and Health Standards 29 CFR 40 Part763 Asbestos, U.S. Dept. of Labor, OSHA.

6. Standard Operating Safety Guides, U.S. Environmental Protection Agency (EPA), Office of Emergency and Remedial Response.

7. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health (NIOSH).

The recommended health and safety guidelines within this HASP will be modified if future information changes the activities to be performed or the characterization of the area in which work is to be performed.

1.2 *BACKGROUND*

The site is located on the east side of Mamaroneck Avenue, approximately ½ mile south of the Hutchinson River Parkway at 500 Mamaroneck Avenue in Harrison, New York, as shown on Figure 1-1. The Town of Harrison defines the property as Block 482, Lot 8.

The site is approximately 34.5 acres and is occupied by a five-story commercial office. The building construction began in 1983, with tenant occupancy beginning around 1986. Approximately 14 acres of the site have been improved in conjunction with the construction of the office complex. This includes bituminous paved parking areas covering approximately 9 acres and a building foot print of approximately 1.5 acres. The remaining sections of the developed portion of the site include landscaped shrubbery and lawns. The undeveloped portion of the property is located to the east of the office complex and serves as a buffer for the adjacent properties.

Site topography has changed substantially as a result of construction activities. Approximately 340,000 cubic yards of soil and rock were

removed prior to construction of the current office building development. This material was removed only from that portion of the site that was improved (the portion closest to Mamaroneck Avenue). Water is provided by the local municipal system and the site therefore has no drinking water well(s). A bedrock well supplies water to a decorative waterfall on the property. Septic waste is handled via the municipal sewer system.

The site rises gradually over the parking area, and then is relatively level over the eastern portion. A small seasonal wet area is located in the northeastern portion of the property, immediately east of the northern portion of the parking area. The wet area appears on the 1990 U.S. Department of the Interior Wetlands Inventory Map and is described as a Palustrine - Scrub/Shrub - Broad leaf - deciduous-seasonally flooded area. The area is not shown on the 1987 N.Y. State Fresh-Water wetlands map and is therefore not regulated by the NYSDEC.

The surrounding properties are primarily commercial structures along Mamaroneck Avenue (to the south and north of the subject property) and single family residences further to the east. To the west of the site is Saxon Woods Park. Saxon Woods Park is separated from the site by Mamaroneck Avenue. Non-residential buildings in the vicinity of the site include office complexes, a law office and a home and garden store.

Based on review of available aerial photographs, the site appears undeveloped until 1954. In the 1954, the Harrison Town incinerator is visible along Mamaroneck Avenue. From 1954 until 1980, there were no major changes at the site, i.e., the incinerator appears in all of the aerials. In the 1986 aerial, the office building on the site is under construction. This corresponds with Town records which list the date of construction of the building as 1986.

1.3 CHEMICAL AND PHYSICAL HAZARDS

1.3.1 Chemical Hazards

The exposure limits and physical properties for the chemicals of concern (PAHs, PCBs, and metals) are summarized in Table 1-1. The potential pathways of chemical exposure include inhalation, ingestion, injection, and skin contact. This information was used to develop action levels for on-Site activities. Although the chemicals identified are a potential health concern, measures will be taken to minimize potential for exposure.

1.3.2 Physical Hazards

Table 1-2 contains a summary of potential physical hazards that may be encountered during potential intrusive work activities. In addition, employee exposures to excessive noise may adversely effect their safety and health. As with chemical exposures, noise exposures are time dependent and guidelines will be established in accordance with OSHA 1910.95.

2.0 *PERSONNEL RESPONSIBILITIES*

The following responsibilities and authorities should be assigned to personnel during intrusive activities.

2.1 *HEALTH AND SAFETY PROGRAM MANAGER*

A designated Health and Safety Program Manager (HSPM) is assigned to manage the health and safety program. The HSPM must have a certified industrial hygienist (CIH) or certified safety professional (CSP) certification at a minimum, and has the authority to command sufficient resources to safely perform the work. The HSPM shall also demonstrate experience at numerous hazardous waste sites and has experience with State and Federal Occupational Safety and Health regulations.

2.2 *SITE HEALTH AND SAFETY OFFICER*

The Site Health and Safety Officer (SHSO) is assigned to manage health and safety at the Site. The SHSO will provide day-to-day industrial hygiene support, including air monitoring, training, and Site safety inspections. The SHSO has the authority to stop on-Site operations whenever conditions threaten the health or safety of employees or the surrounding community. The SHSO or designee will remain on-Site during all project operations.

- The SHSO will complete a daily diary of activities, which includes Health and Safety procedures, such as equipment calibration and maintenance.

2.3 *SUBCONTRACTORS*

Subcontractors hired to conduct intrusive work involving impacted soils at the Site will be provided a copy of this HASP. Subcontractors involved

with intrusive activities involving impacted soils at the Site will be informed of the health and safety concerns and will be responsible, at a minimum, for maintaining the health and safety requirements presented in this HASP. Information, such as air monitoring and analytical results, will be shared with subcontractors to assist them in addressing the health and safety recommendations.

Subcontractors involved with intrusive activities involving impacted soils at the Site must meet the training, respirator certification and medical examination requirements of the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120). Subcontractors involved with intrusive activities involving impacted soils at the Site will be required to provide completed certification forms for this purpose.

3.0 *PERSONNEL TRAINING*

All personnel associated with intrusive activities involving impacted soils at the Site must participate in a health and safety training program that complies with OSHA 29 CFR 1910.120, HAZWOPER, prior to mobilization at the Site. This program instructs employees on the intent of the standard, health and safety principles/procedures, proper operation of monitoring instruments, use of PPE, decontamination, and Site specific emergency plans.

All personnel have an initial 40-hour training course. This course is supplemented by an annual 8-hour refresher course. Any chemical specific training that may be required will be based upon compliance with 29 CFR 1910.1200, Hazard Communication. Personnel responsible for supervision and on-site management relative to Site operations receive an additional 8 hours of specialized training. Additional training is provided for those employees responsible for responding to Site emergencies.

A copy of this HASP will also be made available to all personnel for review. All employees will complete a Health and Safety Plan review form to verify they have reviewed this plan and a copy of the form is provided as Exhibit 1 in Appendix B. All subcontractors involved with intrusive activities involving impacted soils at the Site are required to certify that their employees have received medical exams, training and are capable of respirator usage. The Contractor Occupational Safety and Health Certification form is attached as Exhibit 3. All employees and subcontractors will also be required to fill out a field medical data sheet (Exhibit 5) prior to starting activities at the Site.

All on-Site personnel involved with intrusive work will attend a pre-entry briefing on the chemical and physical hazards associated with the Site.

The initial health and safety briefing will consist of the following information:

- Names of personnel and alternates responsible for Site safety and health.
- Injury, illness, and other hazards present on the Site.
- Safe use of engineering controls and equipment on-Site.
- Work practices by which the employee can minimize risks from hazards.
- Selection, use, care, and maintenance of Personal Protection Equipment (PPE).
- Site control procedures.
- Site decontamination procedures.
- Standard operation safety procedures.
- Review of Emergency Response Plan.

A daily tailgate meeting will be conducted prior to starting any intrusive activities. The topics covered will include a reminder of Site hazards, target activities for the day's work, potential changes in observed exposure levels, staff changes (e.g., due to illness) and responsibilities.

4.0 SITE MONITORING AND PERSONAL PROTECTIVE EQUIPMENT

4.1 PERSONAL PROTECTIVE EQUIPMENT

The various types of PPE and levels of protection to be used during Site activities are discussed in this section. These levels are based upon OSHA guidelines presented in 29 CFR 1910.120 as well as previous investigation results summarized in Table A-1 of Appendix A. All equipment will carry applicable MSHA/NIOSH approvals.

The SHSO will determine the necessity to upgrade, downgrade or modify levels of protection. The SHSO will make entries in the Daily Site Safety Log when protection levels are modified, explaining the reason for the modification. Currently, Level D PPE and potentially Level C are required for Site activities. If level C protection is determined to be necessary during the implementation of the remedy based upon particulate air monitoring (see Section 9.0), the HASP will be revised at that time. Descriptions of Levels D and C PPE are as follows:

Level D Protection

- Coveralls or work uniform affording protection from nuisance dust contamination.
- Steel-toe work boots.
- Safety glasses.
- Hard hat.

Optional Equipment as required by the SHSO

- Chemical resistant outer gloves and inner latex surgical gloves;
- Rubber overboots;
- Hearing protection;
- Disposable dust masks;
- Disposable outer coveralls;

- Portable 2-way radios;
- Chemical splash goggles.

Level C Protection

- Full-face air purifying respirator (APR) equipped with a HEPA pre-filter and organic vapor cartridge (combination cartridge). This type of respirator should be used when employees risk exposure to volatile organics and/or particulate matter.
- Chemical-resistant coveralls (i.e., SARANEX coated Tyvek).
- Chemical resistant outer gloves (i.e., polyvinyl alcohol-PVA) and inner latex surgical gloves.
- Steel-toe work boots with rubber overboots.
- Chemical-resistant tape over seams in protective clothing (gloves and boots).
- Hard Hat.

Optional Equipment as Required by the SHSO

- Hearing protection.
- Splash-shield (full-face coverage, eight-inch minimum) or splash hood.
- portable 2-way radios.

4.2 SITE MONITORING AND LEVELS OF PROTECTION

Intrusive activities at the Site may create potentially hazardous conditions, such as the release of hazardous substances into the employee breathing zone or surrounding area. An evaluation of chemical hazards at the Site will be performed to ensure employee safety and selection of appropriate PPE. Air monitoring will be conducted using direct reading instruments.

The following section describes the monitoring parameters to be evaluated during intrusive activities. Specific analytical instruments and air monitoring action levels are also discussed in the following section.

Contaminants found at the Site include poly aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and metals within dust generated from impacted soils. These contaminants were detected in on-site soils. Generally, metals, PCBs, and PAHs will not be volatile, therefore the primary exposure pathway for these constituents is considered to be respiratory inhalation of dust (airborne particulates) and/or ingestion, injection, and/or skin contact with soil which contains concentrations of these metals, PCBs, and PAHs.

Since particulates may become airborne when intrusive activities involving impacted soils at the Site are conducted, employee exposures may occur through inhalation. Since there are no practical, direct-reading monitors to determine the actual concentrations of metals, PCBs or PAHs in dust that site workers may be exposed to during intrusive activities involving impacted soils at the Site, dust action levels have been established that provide adequate protection for exposure to airborne metals, PCBs, and PAHs in dust. These action levels are established by 1) assuming that all soils contain the maximum known concentrations of the metals, PCBs, and PAHs of concern, and then 2) calculating applicable dust concentrations that would ensure that the contaminant concentrations are less than the OSHA PELs for those contaminants. The equation, and actual calculations for these contaminants are presented in Appendix A and in Section 4.2.3.

These estimates are to be used as "potential" maximum concentrations within the employee breathing zones if employees are working within 2 feet of the exposed contaminant source. Temperature, wind speed, and other environmental factors have not been used in these calculations, and, therefore, the results in Appendix A are worst case estimates.

Total dust concentrations at the Site will therefore be monitored under the direction of the SHSO. These continuous air monitoring results will be

compared to the action level criteria for upgrading or downgrading levels of protective equipment and implementing additional precautions or procedures. Dermal protection afforded by Level D protective clothing shall be required regardless of air monitoring results.

Due to the anticipated low concentrations of constituents during intrusive activities, personnel working within the EZs will begin work operations with Level D PPE. Air monitoring will be utilized to determine if upgrade to Level C PPE is necessary based upon comparisons to the Site specific action levels. Field personnel will first implement engineering and administrative controls (e.g. work upwind and apply basic hygiene principles) to reduce the risk of exposure. If further protection is necessary, then PPE will be upgraded to Level C.

4.2.1 *Site Monitoring Instruments*

All air monitoring will be conducted with appropriate equipment to identify the contaminants of concern at the Site. The following instruments will be utilized, as necessary, to quantify the suspected materials at the Site:

- *Particulate* – A digital particulate monitor such as the MIE Personal DataRam (PDR-1000) will be used to measure total particulate levels in air. The SHSO may elect to utilize additional instrumentation, such as the MIE DataRAM, to obtain respirable airborne particulate concentration data.

Direct reading instruments will be used continuously during any intrusive activities. All instruments used during Site activities will be intrinsically safe for use in designated areas. Instruments will be calibrated prior to use and on an as-needed basis, thereafter consistent with the manufacturer's recommendations. Calibration information will be documented in a Daily Site Safety Log.

All Site monitoring will be conducted under the supervision of the SHSO. All on-Site readings will be recorded by the SHSO in the Daily Site Safety Log.

4.2.2 *Site Monitoring Frequency*

Site monitoring will be conducted to assess both the current conditions and changing status of airborne dust concentrations. The following air monitoring schedule will be performed at the Site:

- *Initial Background* - Upon initial entry and prior to initiation of any Site activities, to identify background baseline conditions, exposures above OSHA-PELs and Site specific action levels.
- *Daily Background* - Prior to initiation of daily Site activities within the EZ and at the conclusion of daily Site activities. Includes both upwind and downwind locations.
- *Work Activities* – Rotate between work areas on a continuous basis.
- *Contaminant Migration* - Degree of contaminant migration will be evaluated by viewing the perimeter monitoring instruments every two hours or more frequently if deemed necessary by the SHSO during intrusive activities. Readings will be obtained from a minimum of four stations.

Site monitoring will be conducted under the direction of the HSO and may be revised based on previous sampling results and current Site conditions. Site monitoring results will be documented in the Daily Site Safety Log provided as Exhibit 2. Sampling for subsequent laboratory analysis will not be performed unless otherwise specified.

4.2.3 *Action Levels*

The following action levels have been established for activity cessation, site evacuation, emergency response, implementation of special procedures, and the upgrade or downgrade in the level of PPE. The action levels are based upon OSHA Final Rule PELs promulgated by 29 CFR 1910 Subpart Z - Toxic and Hazardous Substances. However, not all

OSHA regulated compounds have action levels. As a result, often times 50% of the PEL or TLV is used as an action level, which indicates the need for further investigation, improved engineering controls and/or upgrading PPE.

The primary exposure pathway for all site contaminants is considered to be respiratory inhalation of dust (airborne particulates) generated during intrusive activities disturbing the soil. Based on the methodology described at the beginning of this section, the following action levels (allowable particulate concentrations) have been calculated:

Copper:

[1.0 mg copper/m^3 of air)] * [1,000,000 mg soil/kg soil] = [625 mg soil/m^3 of air]
[1,600 mg copper/kg soil]

Lead:

[0.05 mg lead/m3 of air)] * [1,000,000 mg soil/kg soil] = [2.43 mg soil/m3 of air]
[20,600 mg lead/kg soil]

Zinc:

[15.0 mg zinc/m3 of air)] * [1,000,000 mg soil/kg soil] = [3,119 mg soil/m3 of air]
[4,810 mg zinc/kg soil]

Arsenic:

[0.01 mg arsenic/m3 of air)] * [1,000,000 mg soil/kg soil] = [262 mg soil/m3 of air]
[38.2 mg arsenic/kg soil]

Cadmium:

[0.005 mg cadmium/m3 of air)] * [1,000,000 mg soil/kg soil] = [128 mg soil/m3 of air]
[39 mg cadmium/kg soil]

Chromium:

[0.5 mg chromium/m3 of air)] * [1,000,000 mg soil/kg soil] = [3,846 mg soil/m3 of air]
[130 mg chromium/kg soil]

Magnesium:

[5 mg magnesium/m3 of air)] * [1,000,000 mg soil/kg soil] = [227 mg soil/m3 of air]
[22,000 mg magnesium/kg soil]

Mercury:

[0.1 mg mercury/m3 of air)] * [1,000,000 mg soil/kg soil] = [1,550 mg soil/m3 of air]

[64.5 mg mercury/kg soil]

Nickel:

[1 mg nickel/m3 of air)] * [1,000,000 mg soil/kg soil] = [7,692 mg soil/m3 of air]
[130 mg nickel/kg soil]

Polychlorinated Biphenyls:

[0.5 mg PCBs/m3 of air)] * [1,000,000 mg soil/kg soil] = [119,000 mg soil/m3 of air]
[4.2 mg PCBs/kg soil]

PAH[1]:

[0.2 mg coal tar pitch volatiles/m3 of air)] * [1,000,000 mg soil/kg soil] = [71.8 mg soil/m3 of air]
[2,784 mg total PAH in B-41/kg soil]

These calculations show that any particulate action levels less than 2.4 mg soil/m^3 are also protective of exposures to the metals, PAHs, and PCBs of concern. The complete rationale and derivation of these calculations are presented in Appendix A and the contaminant migration guidelines are described in Section 9, Community Air Monitoring Program.

4.3 *LEVELS OF PROTECTION*

Until otherwise necessary, all employees performing Site activities will utilize Level D PPE. The number of intrusive activities occurring at one time will be minimized to limit the potential for dust to become airborne. Ambient air monitoring will be conducted daily within the EZs to evaluate potential employee exposures.

Monitoring results for the total airborne particulate concentration will be compared to established action levels to determine if the level of PPE currently used for the specific work activity offers adequate protection. The HSO will make the final decision regarding the level of protection for on-Site workers based upon the measurements indicated by direct reading instruments.

Furthermore, ambient air monitoring will also be conducted at the perimeter of the EZs to determine potential contaminant migration. Perimeter monitoring is described in further detail in section 10.0.

4.4 *REASSESSMENT OF THE HEALTH AND SAFETY PROGRAM*

The levels of protection chosen for the intrusive work at the Site are based on information obtained from historical Site records and the results of investigations already completed at the Site. As additional work is conducted, additional information concerning the types and quantities of material present at the Site will be obtained. This additional information will be used to re-evaluate the chosen levels of protection. Levels of protection for various work activities will be modified if this additional information warrants such an action.

4.5 *LOGS, REPORTS AND RECORDKEEPING*

All logs, reports and records related to this project will be maintained in the custody of the SHSO.

5.0 DECONTAMINATION

5.1 GENERAL PERSONNEL DECONTAMINATION

Personnel involved with intrusive activities may be exposed to contaminants in a number of ways, despite the most stringent protective procedures. While performing intrusive activities involving impacted soils, Site personnel may come in contact with hazardous substances. Site equipment and monitoring instruments may also be exposed to hazardous substances.

In general, decontamination involves scrubbing with a detergent/water solution followed by clean water rinses. All disposable items shall be disposed of in designated lined containers to be sent for off-Site disposal. Non-disposable equipment will be decontaminated in the CRZ each time it leaves the EZ. Certain parts of equipment, such as cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be soaked for a period of time in a cleaning solution. Rubber components shall be soaked in detergent/water and scrubbed with a brush.

In addition to decontamination, all non-disposable protective clothing and personal articles soiled from exhalation or perspiration, must be sanitized before they can be used again. Each worker will be responsible for the proper maintenance, decontamination, and sanitizing of his/her own non-disposable PPE.

All PPE and decontamination water will be contained in 55-gallon drums for sampling and a determination of appropriate disposal. Details of this procedure are provided in Section 5.4.

5.2 *PERSONNEL DECONTAMINATION PROCEDURES*

The following procedures have been established to provide Site personnel with minimum guidelines for proper decontamination. These minimum procedures must be followed by personnel leaving the EZ (see Section 6.3). The decontamination process shall take place at a reasonable distance from any area of potential contamination.

Designated stations will be established within the CRZ and include at least wash tubs, scrub brushes, detergent/water and rinse water when appropriate for non-disposable equipment. Non-disposable equipment will be cleaned and staged for the next use. Wash stations shall consist of a potable water supply, hand soap and clean towels. In most instances, employees will perform self-decontamination. In cases where further assistance is necessary, employees will be designated to work within the CRZ to assist employees with decontamination. Modifications of the decontamination procedures may be necessary as determined by the HSO. Decontamination solutions will be contained in 55-gallon drums, sampled and disposed of consistent with regulatory guidance and applicable regulations.

5.3 *DECONTAMINATION PROCEDURES FOR PRESCRIBED LEVELS OF PROTECTION*

The following decontamination procedures shall be implemented during Site activities for the appropriate level of protection.

Level D - Personal Protection Decontamination Procedure

Step 1 - Segregated Equipment Drop: Deposit contaminated equipment (tools, sampling devices, monitoring instruments, etc.) onto plastic drop cloths.

Step 2 - Boot, Outer Glove and Coverall Wash: Brush overboots (if used), outer gloves (if used) and coveralls (if used) free of residual materials. If necessary, wash with detergent/water solution and rinse with water.

Step 3 - Boot, Outer Glove and Coverall Removal: Remove overboots (if used), outer gloves (if used), and coveralls (if used) in that order. Place disposable overboots, outer gloves, and coveralls into a container with a plastic liner. Stage non-disposable equipment for future use.

Step 4 - Inner Glove Wash and Removal: Wash and remove inner gloves (if used) and place in lined container.

Step 5 - Field Wash: Wash hands and face thoroughly.

Level C - Personal Protection Decontamination Procedure (if required)

Step 1 - Segregated Equipment Drop: Previously described.

Step 2 - Overboot, Outer Glove and Coverall Wash: Overboots, outer gloves and coveralls shall be scrubbed with a detergent/water solution.

Step 3 - Overboot, Outer Glove and Coverall Rinse: Rinse overboots, outer gloves and coveralls using generous amounts of water.

Step 4 - Tape Removal - Remove tape from around boots and gloves and place into container with a plastic liner.

Step 5 - Removal of Overboots and Outer Gloves: Remove overboots and outer gloves in that order. Non-disposable overboots and gloves will be staged for future use and disposable overboots and gloves will be placed into a container with a plastic liner.

Step 6 - Cartridge Change: This is the last step in the decontamination procedures for those workers wishing to change respirator cartridges and return to the EZ. The workers cartridges are exchanged, new outer gloves and overboots are donned, and joints are taped. For workers moving to support zone (SZ), spent cartridges will be removed as part of step 9.

Step 7 - Removal of Chemical-Resistant Clothing: With care, remove chemical resistant suit. The exterior of the suit shall not come into contact with any inner layers of clothing. Place disposable clothing in container with plastic liner.

Step 8 - Inner Glove Wash and Rinse: Inner gloves shall be washed with a detergent/water solution and rinsed with water.

Step 9 - Remove Respirator: Remove respirator and place on plastic. Keep face/glove contact to a minimum.

Step 10 - Inner Glove Removal: Remove inner gloves and deposit in container with plastic liner.

Step 11 - Field Wash: Wash hands and face thoroughly.

5.4 *DECONTAMINATION WASTEWATER, PPE AND SAMPLING EQUIPMENT DISPOSAL PROCEDURES*

Intrusive work activities will generate small quantities of decontamination wastewater, spent PPE, and expended disposable sampling equipment that will be contained in 55-gallon drums for off-Site disposal. Drums must be sampled, characterized and disposed of within a reasonable time period after sampling has been completed, as defined below. Drums will be placed adjacent to the CRZ for ease in placing waste materials in the drums, and for subsequent transportation and off-Site disposal. All drums will be secured at the end of each day by placing the lid on the drums, securing the ring back on the drums, and by tightening the drum bolts.

Drums containing spent PPE and disposable, sampling equipment will be assumed to be a non-hazardous waste, labeled with commercially available DOT labels, and disposed of at a permitted off-Site facility. Waste characterization samples will be collected from the drums and analyzed prior to disposal. The PPE and sampling equipment drums as well as the drums containing decontamination wash water will remain on-Site until the waste characterization data is available and arrangements for disposal have been finalized.

Waste characterization samples of the decontamination wash water will be collected on the last day of fieldwork and shipped to an NYSDOH accredited laboratory for analysis. The drums containing decontamination wash waters will be labeled indicating that the drums

contain waste material that must be managed as "Non-Hazardous" unless classified otherwise in accordance with ongoing laboratory analysis. All spent PPE, disposable sampling equipment and decontamination wash water drum labels will contain the following information:

- the name and address of the generator;
- the contents of the drum;
- drum content classification (i.e. Hazardous, Non-Hazardous, PCBs etc.);
- appropriate warnings relative to the material classification;
- the operation that generated the contents;
- the start accumulation date;
- the telephone number of the responsible contact; and
- any other appropriate information relative to the drum's classification.

Following receipt of the analytical results of the drum characterization samples, the waste decontamination wash water will be profiled as either "RCRA and/or TSCA Hazardous" or "Non-Hazardous" and appropriate arrangements will be made for transportation and off-Site disposal of the drums. The labels on the drums will then be changed to reflect the appropriate classification prior to shipment for off-Site disposal. In addition, the waste characterization data will be used to complete the appropriate hazardous waste classification and waste manifest forms for the spent PPE and the disposable sampling equipment.

It is anticipated that the drums of waste to be generated through the sampling work will be removed from the Site for disposal within 45 days after the termination of field activities. All activities related to drum storage and/or transportation for off-Site disposal should be with the NYSDEC. Copies of all waste disposal manifests and other documentation (i.e. Certificates of Disposal) will be provided when they become available.

6.0 SITE ACCESS AND SITE CONTROL

6.1 SITE ACCESS

Access to Site activity areas will be limited to authorized personnel only. Such personnel include workers, subcontractors and regulatory personnel. Access into the work areas will be limited to those authorized personnel with appropriate training, fit testing and medical surveillance, and wearing appropriate PPE. All active areas will be monitored by the SHSO to ensure unauthorized personnel do not enter.

6.2 SITE CONTROL

Certain procedures must be followed to ensure suitable control and limitation of access. For purposes of this plan, the "Site" refers to all work areas of the project. All personnel entering the Site will report to the SHSO prior to conducting any field activities. Entrance onto the Site will only be permitted for authorized personnel. Specific work areas will be delineated.

6.3 WORK ZONES

Both physical and chemical hazards can be minimized by the establishment and maintenance of work zones. No zones shall be delineated so as to block active roads. Work activities should always be conducted using the "buddy" system, which includes two or more employees.

Intrusive work performed at the Site may have the potential to cause elevated employee exposures to contaminants.

1)

All work areas for specific activity should have its own Exclusion Zone (EZ) and Contaminant Reduction Zone (CRZ), or some activities may have overlapping or shared EZs and CRZs. The Support Zone (SZ) will typically be a contiguous common area. *Exclusion Zones*

An EZ shall be established for each respective intrusive activity work area. The EZ will be an area where contamination may be present. All personnel entering an EZ shall wear the prescribed level of PPE.

The EZ shall be delineated by the field personnel to take into account the limits of the operating area and the spatial requirements of equipment and personnel. The perimeter of the EZ shall be delineated with a temporary warning tape or equivalent to ensure no unauthorized entry. All persons within the EZ shall wear the required level of personal protection. A wind direction indicator (i.e., wind sock or surveyor tape) will be located in the EZ to continuously monitor wind direction. A work area shall remain an EZ until sampling and intrusive work are completed.

Contaminant Reduction Zones

The CRZ will be the area designated as the transition zone between the EZ and the SZ. A CRZ shall be established for each respective EZ. The CRZ will be used for performing decontamination of personnel and equipment. Each CRZ will be clearly labeled by placing tape around the CRZ boundary. Entry to these areas will be restricted to necessary personnel required to perform the designated activity.

Support Zone

The SZ will consist of all the remaining areas of the Site that are considered non-contaminated or "clean." The SZ is the remaining area outside the EZs and CRZs. Support equipment is located within this zone,

and personnel may wear normal work clothes within this zone. While in the SZ, employees will don the required PPE prior to entering the EZ. Any potentially contaminated clothing, equipment, and samples shall remain in the CRZ until decontaminated.

7.0 *EMERGENCY RESPONSE*

An emergency response contact list is provided as Table 7-1. A Hospital Route Map and contact information is presented as Figure 7-1. Both are located at the end of this Section.

An on-Site emergency may be the result of chemical exposures, chemical spills, and/or physical exposures, such as fire. In order to ensure that all employees involved with Site activities are familiar with emergency procedures, the following emergency response plan has been developed in accordance with 1910.120 (l) and 1910.38 (a). This plan includes the following:

- Pre-emergency planning
- Reporting systems
- Emergency evacuation procedures, routes, and Roster Point
- Employee alarm systems
- Rescue and medical duties for those employees trained to perform them

This plan will be communicated orally to the employees, in accordance with 1910.38 (a)(5)(iii) and presented herein.

7.1 *PRE-EMERGENCY PLANNING*

Pre-emergency planning is an integral part of any emergency response. Prior to the commencement of fieldwork, the project team will meet to discuss the projects' health and safety requirements. Personnel roles, lines of authority and communication will be addressed, so that when the fieldwork begins, the field team will be familiar with their responsibilities.

7.2 *NOTIFICATION OF SITE EMERGENCIES*

Appropriate authorities, as indicated on Table 7-1, will be immediately notified of the nature and extent of the emergency. Emergency procedures, under direction from the SHSO, will be initiated as indicated in Section 7.8. The SHSO will notify and coordinate activities with regulatory representatives.

7.3 *RESPONSIBILITIES*

The SHSO will be responsible for responding to all emergencies, and will:

- Notify appropriate authorities and/or health care facilities of the activities and hazards of Site operations. Table 7-1 provides emergency telephone numbers that will be posted within the support zone.

- Ensure that a hospital route map (Figure 7-1) which details the most direct route to the nearest hospital and the list of emergency telephone numbers (Table 7-1) are posted on Site in the trailers, and in all Site support vehicles. Both the route to the hospital and emergency contacts will also be posted in the SZ adjacent to where intrusive activities are being conducted. The SHSO will require all drivers of the support vehicles to become familiar with the emergency route and the travel time required at the beginning of project operations.

First Aid

At least one "industrial" first aid kit shall be provided and maintained fully stocked at an easily accessible uncontaminated location. In addition, dry chemical fire extinguishers shall be provided at any site location where flammable materials may present a fire risk.

All certified first aid responders have received and reviewed a copy of the Bloodborne Pathogens Standard, OSHA 29 CFR1910.1030, which describes the requirements regarding training, PPE, and post-exposure follow-up in the event of an exposure incident.

7.4 *DECONTAMINATION PROCEDURES FOR EMERGENCY INCIDENTS*

Should an injured person have an excessive exposure to contaminated soil they will be decontaminated, if appropriate, and brought immediately to the hospital. The SHSO will decide whether or not to decontaminate an affected employee, and the decision will be based upon the type and severity of the illness or injury and the nature of the contaminant. For some emergency victims, immediate decontamination may be an essential part of life-saving first aid. For others, decontamination may aggravate the injury or delay life-saving treatment. If decontamination does not interfere with essential treatment, it may be performed by any employee trained in the appropriate decontamination procedures, including personal protective clothing.

While performing the decontamination procedures, the protective clothing of the affected employee will be washed, rinsed and/or cut off. If decontamination cannot be performed, then the victim will be wrapped in blankets, plastic or rubber to reduce contamination of other personnel. Emergency and offsite personnel will be alerted to potential contamination, and they will be instructed in specific decontamination procedures if necessary. At least one person familiar with the incident will be sent along with the victim during emergency treatment.

7.5 *ACCIDENTS AND INJURIES*

In the event of an accident or injury at the Site, appropriate emergency measures must be taken immediately to assist those who have been

injured or exposed, and to protect others from hazards. The SHSO shall be immediately notified and will respond according to the seriousness of the injury.

If the emergency involves personnel injuries, local Emergency Services will be contacted immediately. The SHSO, or a person designated by the SHSO, should be prepared to provide the following information:

- exact location of the emergency;
- phone number he/she is calling from;
- type of injury(ies);
- how many persons have been injured; and
- what assistance or first aid is being given to the injured person(s).

Do NOT hang up unless told to do so. In most cases, the EMS dispatcher will require the caller to *stay on the phone.*

When emergency services arrive, Site personnel shall immediately inform them of the details of the situation and what type of chemicals and hazards may be encountered on the Site. If available, Material Safety Data Sheets (MSDSs) should be given to the responders.

If warranted by the severity of the incident, emergency response personnel may enter the EZ dependent upon monitoring data. If appropriate, emergency personnel will exit the EZ through the CRZ utilizing the same decontamination procedures as are applicable to remediation workers.

The SHSO will observe and document any and all recognized symptoms of injury or illness. A reference of common symptoms is provided as Table 7-2.

All occupational injuries and illnesses will be documented by the SHSO on an OSHA 101 form. Completed forms will be faxed immediately to the HSO for appropriate action.

7.6 *SITE COMMUNICATIONS*

Telephones will be used as the primary off-Site communication network. Telephone services will be made available on-site by personnel mobile phones.

On-Site communications will be maintained via verbal communication and hand signals. Site communication systems will be set up by the SHSO. When verbal communication is ineffective, hand signals will be utilized.

- Hand grips throat - Can't breathe!
- Grip partner's wrist - Evacuate area immediately!
- Hands on top of head - Need Assistance.
- Thumbs up - O.K., No problem.
- Thumbs down - No, Negative.

Since the communication system also serves as the employee alarm system, all emergency messages shall have priority over all non-emergency messages. A test of the reliability and adequacy of non-supervised employee alarm systems should be conducted every two months, in accordance with 1910.165(d)(2).

7.7 *SITE ACCESS AND SECURITY*

In an emergency the SHSO must know who is on the Site and must be able to control the entry of personnel into the EZ areas to prevent additional injury and exposure. Therefore, access to Site activity areas will be limited to authorized personnel with appropriate training and medical surveillance, and wearing appropriate PPE. Such personnel may include authorized Owner representatives, subcontractors, and regulatory

personnel. All active areas will be monitored by the SHSO to ensure unauthorized personnel do not enter.

Sign-in procedures will be implemented to ensure that only authorized personnel participate in EZ activities. The SHSO will coordinate this effort and maintain documentation accordingly. An EZ Sign-In Sheet is presented as Exhibit 6 and a Site Sign-In Sheet is presented as Exhibit 7.

8.0 SPECIAL PRECAUTIONS AND PROCEDURES

8.1 POTENTIAL RISKS

Intrusive activities at the Site may pose potential exposure risks from both chemical and physical hazards. The potential for chemical exposure to hazardous substances is significantly reduced through the use of personal protective clothing, dust suppression and other engineering controls and implementation of safe work practices including air monitoring.

Physical hazards associated with the activities can also be encountered. Physical hazards may be encountered during activities involving sampling, heavy equipment, temperature extremes, traffic and overhead or underground utilities. This plan establishes precautionary measures to reduce the risks of these hazards. The hazards are addressed below.

8.2 EXCAVATION PROCEDURES

Minimal excavation is anticipated at the Site. If excavation is necessary for any reason, employees performing excavation activities are required to follow guidelines established by OSHA in 1926.651. In accordance with this standard, employees will implement the following procedures:

- All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees;

- Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. When ramps or runways are constructed of two or more structural members of uniform thickness, they will be connected together to prevent displacement;

- A safe means of egress shall be located in trench excavations that are 4 feet or more in depth, so as to require no more than 25 feet of lateral travel for employees;

- Since potentially hazardous atmospheres may exist in the excavations at the Site, excavations 4 feet or greater in depth should be monitored using a PID and LEL/O_2 meter prior to entering the confined space;

- Emergency rescue equipment, such as breathing apparatus and a safety harness and line, shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation;

- Employees will not work in excavations in which there is accumulated water;

- If excavation work disrupts the natural drainage of surface water, diversion ditches or dikes will be used to prevent the surface water from entering the excavation;

- Daily inspections of excavations will be made by a competent person as needed; and

- Walkways will be provided where employees or equipment are required to cross over excavations. Guard rails that comply with 1926.502 (b) will be provided where walkways are 6 feet or more above lower levels.

8.3 *HEAVY MACHINERY/EQUIPMENT*

All Site personnel must remain aware of those Site activities that involve the use of heavy equipment and machinery. It is essential that all personnel at the Site exercise extreme caution during operation of equipment and machinery to avoid physical injury to themselves or others. Personnel will always work under the assumption that the operator is not aware of their presence.

Machinery and equipment will be equipped with all appropriate safety and warning devices. Operators will inspect all machinery and equipment prior to operations. All unsafe or damaged equipment shall be identified by a "Danger - Do Not Operate" tag or equivalent.

8.4 *MAINTENANCE WORK*

Employees performing any type of maintenance work on mechanical equipment will take special precautions for potential exposures to dust. The particulate monitors will be used continuously during maintenance work to ensure that the most appropriate PPE is used, and for detecting excessive dust generation. In addition, lock-out/tag-out procedures will be implemented whenever maintenance activities are performed. These procedures will help protect all employees at the Site.

8.5 *HEAT STRESS*

The timing of activities may be such that heat stress may pose a threat to the health and safety of Site personnel. Acclimation periods and work/rest regimens will be implemented as necessary so that personnel do not suffer adverse effects from heat stress. Workers should be aware that heat stress can occur, and take applicable precautions.

8.6 *COLD STRESS*

The timing of intrusive activities may be such that cold stress may also present a threat to the health and safety of Site employees. Work/rest schedules, with rest in a warming shelter, will be implemented as necessary to reduce adverse effects from cold exposure. Cold stress, if necessary, will be monitored in accordance with the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) for Cold Stress or equivalent. The addition of wind speed and the resulting wind chill will be considered when determining an appropriate work/rest schedule and appropriate clothing.

Site personnel will be encouraged to consume water to avoid dehydration. Potable water and/or a drink substitute (i.e., Gatorade) shall be available

for employee consumption. Workers will wear adequately insulated clothing to limit exposure to cold.

8.7 *TRAFFIC*

Areas of operation located along active thoroughfares will utilize traffic cones, flagmen, warning signs or other applicable measures to divert motorists safely around the Site activities. All employees involved in these activities will wear orange reflector safety vests.

8.8 *STANDARD SAFETY OPERATING PROCEDURES*

The following are additional safety precautions for Site activities:

- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in the exclusion, decontamination and other designated work areas.
- Hands and face will be thoroughly washed upon leaving the work area and before eating, drinking, or any other activity.
- Contact with potentially contaminated surfaces will be avoided. Personnel, wherever possible, will not walk through puddles, mud, or other discolored surfaces; kneel on ground; lean, sit or place equipment on drums, containers, vehicles or the ground.
- Medicine and alcohol can increase the effect of exposure to toxic chemicals. Therefore:
  - Personnel using prescription drugs shall inform the doctor who prescribed them of their potential contact with toxic materials;
  - Personnel who take over-the-counter drugs within a day before work on-Site must inform the SHSO of the warnings listed on the drug's container (the part of the label that says, for example, "Do not take this medication if you are operating a motor vehicle");
  - Alcoholic beverage intake will be prohibited during project operations. Personnel under the influence of alcohol or recreational or illegal drugs will not be allowed on-Site.

- Personnel and equipment in the work areas will be minimized and consistent with effective Site operations.

- Hearing protection may be required for Site personnel working around heavy equipment. This requirement will be at the discretion of the SHSO.

- Any work operations conducted on hazardous energy sources will be performed in accordance with 29 CFR 1910.147 - Control of Hazardous Energy Sources.

- Employees will always utilize the buddy system.

- Material Safety Data Sheets (MSDSs) will be provided for all materials brought on-Site. MSDSs will be stored in a labeled binder inside the main trailer unit. Compliance with 1910.1200 Hazard Communication standard will be achieved by the SHSO during training sessions, as needed.

- All on-Site electrical systems will be maintained in accordance with 29 CFR 1926 Subpart K - Electrical and will meet applicable 1999 National Electric Code specifications.

- General trash and waste material will be deposited in designated receptacles.

- Whenever decontamination procedures for protective clothing are in effect, the entire body shall be thoroughly washed as soon as possible after the protective clothing is removed.

8.9 ACCIDENT PREVENTION PLAN

An accident prevention plan (APP) has been incorporated into this HASP as indicated below and as referenced in the appropriate sections.

Safety Meetings

Safety meetings will be performed each week. Pre-entry briefings will also be performed prior to the initiation of any new activity. Additional information is provided in Section 3.2.

Site Housekeeping

Form and scrap lumber with protruding nails and all other debris will be kept clear from all work areas in accordance with 29 CFR 1926.25. Combustible scrap and debris will also be removed at regular intervals. Containers will be provided for collection and separation of all refuse. Covers will be provided on containers used for flammable or harmful substances. Wastes will be disposed of at frequent intervals.

Mechanical Equipment Inspection

All vehicles in use will be checked at the beginning of each shift to ensure that all parts, equipment, and accessories that affect safe operation are in proper operating condition and free from defects. All defects will be corrected before the vehicle is placed in service in accordance with 29 CFR 1926.601.

9.0 COMMUNITY AIR MONITORING PLAN

Real-time air monitoring for particulate levels at the perimeter of each intrusive activity area will be conducted to ensure that the health and safety of on-Site workers and the Community is protected. The community air monitoring activities that will be conducted at the Site are described in the following sections.

9.1 PARTICULATE MONITORING

Particulates may become airborne during intrusive activities. The *Draft* Voluntary Cleanup Program Guide (NYSDEC, May 2002) Appendix D: "Generic Community Air Monitoring Plan" provides guidance for particulate monitoring, which is summarized herein. Because real-time monitoring can provide measurement results for respirable particulates, but not the non-volatile constituents of concern (metals, PAHs, and PCBs), perimeter monitoring for particulates will be conducted at the EZ boundaries rather than the perimeter of the property. The monitoring of total particulates, however, requires complex instrumentation. Therefore, the perimeter may be monitored for respirable particulates. This would result in a more conservative monitoring approach, providing greater protection to the community. The particulate monitoring instrumentation will measure particulate matter less than 10 micrometers in size (PM-10). The right to implement respirable particulate monitoring in lieu of total particulate monitoring is reserved should it be needed as the project progresses. In addition, fugutive dust migration will be visually assessed during all work activities. Particulate levels will be monitored as follows:

- A real time particulate datalogging monitor, such as an MIE Personal Data RAM (PDR-1000) or an MIE DataRAM for respirable particulates, will be set up to continuously collect and log particulate concentrations. Particulate concentrations will be continuously

measured and logged at the upwind and downwind perimeters of the EZ at temporary particulate monitoring stations.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than the upwind measurement for a 15-minute period an audible alarm will sound and dust suppression techniques will be employed.

- The monitoring stations must be viewed/inspected at least every two hours to determine the current airborne particulate concentrations. If the audible alarm sounds between inspections, the monitors will be checked immediately. The upwind and downwind concentrations will be compared to determine whether the downwind PM-10 level is 100 mg/m^3 greater than the upwind concentration and dust control measures need to be implemented. Airborne particulate concentrations observed during these inspection rounds will be documented in writing in the health and safety log.

- At any time that visible dust is observed crossing the property line, EZ activities will be stopped at that time and corrective action taken.

- Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If after implementation of dust suppression techniques, PM-10 particulate levels integrated over the STEL period are observed to exceed 0.150 mg/m^3 above the upwind level at the perimeter of the EZ, work will be stopped and a re-evaluation of activities initiated.

- Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/ m^3 of the upwind level and in preventing visible dust migration.

- All conditions and response actions must be recorded and be available for NYSDEC and NYSDOH personnel to review.

FIGURES

0 2000' 4000'

APPROX. GRAPHIC SCALE

SOURCE: U.S.G.S. QUADRANGLE MAPS, MAMARONECK, N.Y.–CONNECTICUT, 1967

TITLE

SITE LOCATION MAP
500 MAMARONECK AVENUE
HARRISON, NY

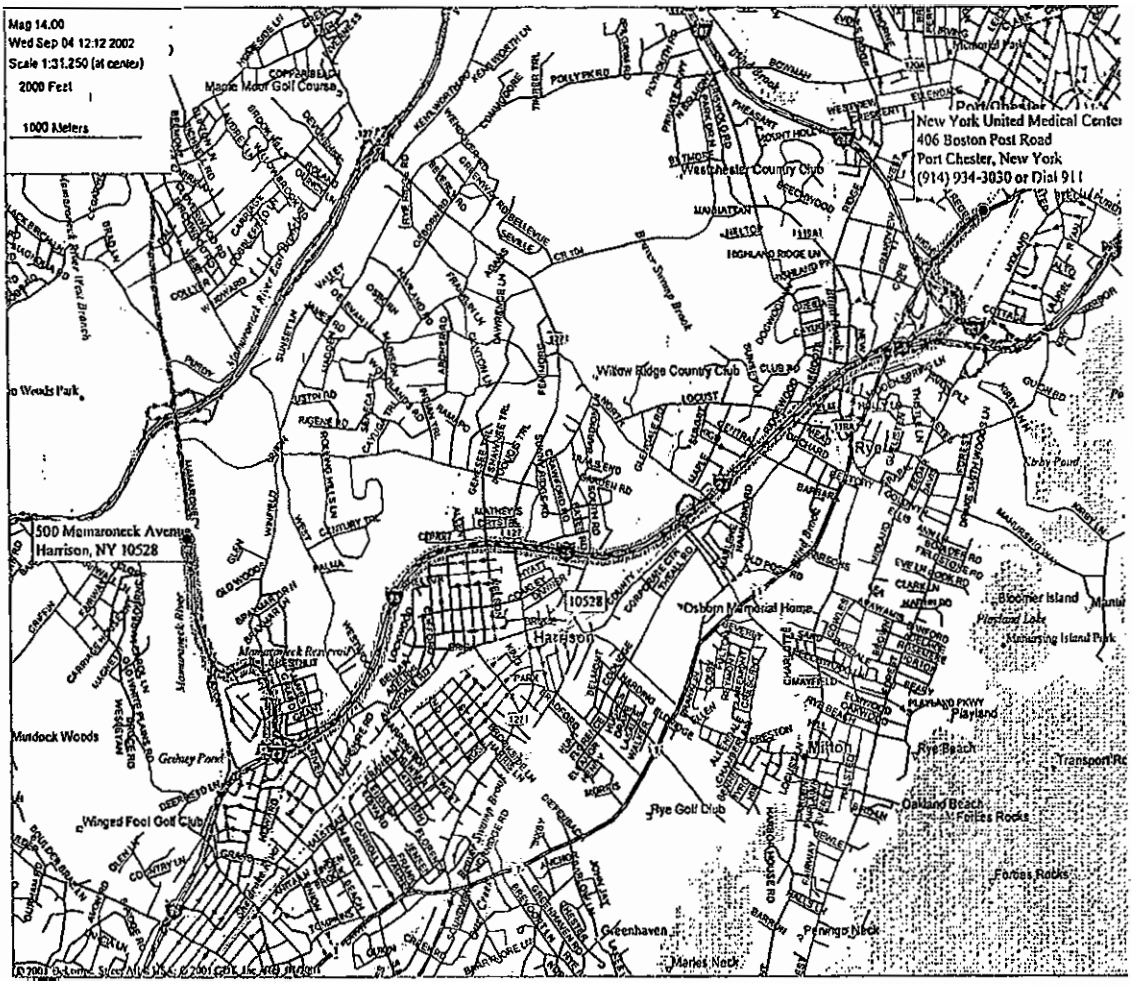
PREPARED FOR

500 MAMARONECK AVE. ASSOCIATES

			SCALE	FIGURE
ERM Environmental Resources Management			GRAPHIC	1—1
DRAWN: Y.S.	JOB NO.: X8101.00	FILE NAME: X810100025	DATE: 10/08/02	

FIGURE 7-1
ROUTE TO HOSPITAL

New York United Hospital Medical Center - Emergency Room
406 Boston Post Road
Port Chester, NY 10573
(914) 934-3030 or Dial 911



DIRECTIONS:

Start - 500 Mamaroneck Road (Site)

Go 1.2 miles south on Mamaroneck Ave and turn left (NE) *Toll Road* I-95 N (New England Thruway)

Go 4.0 miles on I-95 N and exit on ramp to US 1 (Boston Post Rd/South Main St)

Go 0.5 miles on ramp and bear right (NE) US 1 (Boston Post Rd/South Main St)

Go 0.5 miles to Westchester County Hospital.

End Point (406 Boston Post Road, Port Chester, NY 10573)

TABLES

TABLE 1-1
EXPOSURE LIMITS AND PHYSICAL PROPERTIES OF COMPOUNDS OF POTENTIAL CONCERN

Compound	Exposure Limits	IDHL Level (1994)	Physical Description	Chemical Properties & Physical Properties
Particulates				
Total PNOC, Particulate Not Otherwise Classified	PEL: 15 mg/m³ REL: NA TLV: 10 mg/m³	NA	Inhalable solid particulate suspended in air.	Median particle size is 100 micrometers.
Respirable PNOC, Particulate Not Otherwise Classified	PEL: 5 mg/m³ REL: NA TLV: 3 mg/m³	NA	Respirable solid particulate suspended in air.	Median particle size is 4 micrometers. NA
Copper (dusts and Mists)	PEL: 1mg/m³ REL: 1mg/m³ TVL: 1mg/m³	100 mg/m³	Reddish, lustrous, mallable, odorless solid	MW: 63.5 NA BP: 4702F SOL: Insoluble
Lead	PEL: 0.05mg/m³ REL: <0.1mg/m³ TVL: 0.05mg/m³	100 mg/m³	A heavy, ductile, soft, gray solid.	MW: 207.2 NA BP: 3164F SOL: Insoluble

TABLE 1-1
EXPOSURE LIMITS AND PHYSICAL PROPERTIES OF COMPOUNDS OF POTENTIAL CONCERN

Compound	Exposure Limits	IDHL Level (1994)	Physical Description	Chemical Properties &	Physical Properties
Zinc	PEL: 15 mg/m³ REL: 5mg/m3 TLV: 10 mg/m³	500 mg/m³	White odorless solid	MW: 81.4 BP: ? Sol: Insoluble	NA
Noise	AL= 85 dBA (50%) PEL = 90 dBA STEL: 115 dBA	140 dB unweighted	If employee noise exposures exceed a 50% 8-hour dose, then hearing protection should be required as well as all other elements of an HCP 1910.95.	NA	NA

Notes:
PEL - OSHA Permissible Exposure Limit, based on 1992 Transitional limits in 29 CFR 1910.100.
REL - NIOSH Recommended Exposure Limit
TLV - ACGIH Threshold Limit Value (Listed only when it is more restrictive than the PEL or REL)
ppm - parts per million
mg/m³ - milligrams per cubic meter
NA - Not Available

Mixture TLV/PEL /STEL = $\frac{1}{F_1/TLV_1 + F_2/TLV_2 \ldots F_n/TLV_n}$ where F=percent composition by weight

TLV=chemical specific

TABLE 1-2
PHYSICAL SAFETY CONCERNS

HAZARD	DESCRIPTION	LOCATION	PROCEDURES USED TO REDUCE HAZARD
Heavy equipment	Vehicles	Used throughout Site	Personnel maintain eye contact with operators; hard hats, safety shoes and safety glasses worn during equipment operation when required.
Existing Underground Utilities	Storm water, sewer, electrical, gas	Verify with area utilities.	Verify number and location of utilities prior to Site operations. Locate prior to subsequent excavation activities.
Water	Surface water	Throughout Site	At least two workers present; safety fencing and barricade tape.
Power lines	Aboveground	On-Site and off-Site.	Maintain at least 10 feet of total clearance for lines 50 KV or less. For lines over 50kv, the minimum clearance shall be 10 feet plus 4 inches for each 10kv. In transit, with the boom lowered, equipment clearance shall be 4 feet for voltages less than 50kv and for voltages from 50kv up to 345kv, the clearance shall be increased 4 inches for every 10kv over that voltage.
Noise	During Site activities	Throughout Site	Hearing protectors with proper noise reduction rating.
Temperature extremes	Hot weather activities. Cold weather activities.	Throughout Site	Protection as designated by Site Safety Officer.
Demolition	Potential pinch points	Throughout Site	Maintain adequate clearance between objects

TABLE 4-1
AIR MONITORING ACTION LEVELS

Compounds	Monitoring/Contaminant Source	Action Level (2)	Respiratory Protection(3)
I. Particulates			
Total Dust (including Metal Dusts)	General screening: real time particulate monitor Source: Onsite Soils	Background to 1.2 mg/m^3 1.2 mg/m^3 to 250 mg/m^3 >=250 mg/m^3 (Action Level=1.2 mg/m^3)	D - None Required C - Full-Face with combination HEPA/OV cartridge Exit work zone
Respirable Dust (including Metal Dusts)	General screening: real time particulate monitor Source: Onsite Soils	Background to 1.2 mg/m^3 1.2 mg/m^3 to 75 mg/m^3 >=75 mg/m3 (Action Level=1.2 mg/m^3)	D - None Required C - Full-Face with combination HEPA/OV cartridge Exit work zone

Notes:

mg/m^3- milligrams per cubic meter

(1) The OV cartridges used must meet the requirements of 29 CFR 1910.134. In order to prevent potential overexposure within the respirator facepiece, new OV cartridges will be installed at the beginning of the shift. Combination cartridges will be used in order to satisfy the protection requirements of particulate matter.

(2) Action levels are based on 50% of the TLV or the most conservative applicable exposure limit (lead), whichever is more restrictive.

(3) Full-facepiece respirators have an APR of 50 X TLV.

Changes to the action levels (for particulates) and use of any personal protective equipment are allowed according to the professional discretion of the Site Health and Safety Officer based upon the nature of the field operations, observations, and their previous experience during other similar activities at other similar Site.

References:

American Conference of Governmental Industrial Hygienists, 1992-1993. Threshold Limit Values and Biological Exposure Indices for 1992-1993.

U.S. Department of Health and Human Services, 1990. NIOSH Pocket Guide to Chemical Hazards. June 1990.

Montgomery, John H., and Welkom, Linda M., 1990. Groundwater Chemicals Desk Reference.

Sax, N. Irving, 1984. Dangerous Properties of Industrial Materials

TABLE 7-1
EMERGENCY CONTACT/NOTIFICATION SYSTEM

Emergency Contacts	Name	Telephone
Site Owner, W&M Properties	Tom Durels	(203) 353-5220
New York United Hospital Medical Center Emergency Room		(914) 934-3030 or Dial 911
Police Department		911
Fire Department		911
Poison Information System		(800) 962-1253
National Response Center		(800) 424-8802
Center for Disease Control		(404) 488-4100

DIRECTIONS TO IMMEDIATE MEDICAL CARE CENTER (see Figure 7-1)

Go 1.2 miles south on Mamaroneck Ave and turn left (NE) *Toll Road* I-95 N (New England Thruway)
Go 4.0 miles on I-95 N and exit on ramp to US 1 (Boston Post Rd/South Main St)
Go 0.5 miles on ramp and bear right (NE) US 1 (Boston Post Rd/South Main St)
Go 0.5 miles to Westchester County Hospital.
End Point (406 Boston Post Road, Port Chester, NY 10573)

TABLE 7-2
REFERENCE OF COMMON SYMPTOMS

Type of Injury of Exposure	Symptom
Chemical Exposure, Ingestion or Inhalation	Symptoms of chemical exposure, ingestion or inhalation may include one or more of the following: Abnormal pulse Behavioral changes Breathing difficulties or abnormal breathing Changes in complexion or skin color Convulsions Coordination difficulties Coughing Dizziness or drowsiness Drooling Diarrhea Fatigue and/or weakness Irritation of eyes, nose, respiratory tract, skin, throat, mouth, or lips Headache Itching Light-headedness Nausea/vomiting Skin irritation or rash Sneezing Sweating Tearing Tightness in the chest Unconsciousness
Heat Stroke	Signs and symptoms of heat stroke are hot, red skin; very small pupils; and very high body temperatures-sometimes as high as 105 degrees. If the victim was sweating from heavy work or exercise, his or her skin may be wet; otherwise, it will feel dry.

TABLE 7-2
REFERENCE OF COMMON SYMPTOMS

Type of Injury of Exposure	Symptom
Heat Exhaustion	The usual signs and symptoms of heat exhaustion are cool, pale, and moist skin, heavy sweating; dilated pupils, headache, nausea; dizziness; and vomiting. Body temperature will be nearly normal.
Hypothermia	Signs and symptoms of hypothermia are: shivering; a decreased and sometimes irregular heart rate; a weak pulse; cool skins; decreased blood pressure; decreasing core temperature and slow, irregular breathing.
Frostbite	Signs and symptoms of frostbite area: a sensation of cold followed by numbness; tingling, stinging and aching may be felt initially. The skin may appear white, reddish-purple and finally black; blisters may also be present.

TABLE 7-3
BASIC FIRST AID PROCEDURES

Chemical Exposure: **Ingestion or inhalation**

1. Contact Emergency Services.
2. If possible move chemical hazards away from the area of the injured person or the injured person away from the area of chemical hazards and decontaminate.
3. If appropriate, remove PPE.
4. Await Emergency Services.

First Aid:

1. Be calm and quickly evaluate the emergency.
2. Contact Emergency Services.
3. Do not move the injured person unless necessary or instructed to do so.
4. If possible, move any physical and chemical hazards away from the area of the injured person.
5. Take care of the most serious injuries first - breathing must be restored, bleeding must be stopped, etc.
6. Cover injured person to keep warm and monitor for shock.

Heat Related Injuries: **Heat Stroke**

1. Contact Emergency Services.
2. Remove person from heat to cool location.
3. Lie victim on back.
4. Remove PPE and loosen up clothing.
5. Cool victim fast (i.e. immerse in cool bath, ice packs, wrap with wet sheets or towels).
6. Care for shock and monitor breathing.
7. Await Emergency Services.

Heat Related Injuries: **Heat Exhaustion**

1. Remove person from heat to cool location.
2. Lie victim on back with feet up.
3. Remove personal protection equipment and loosen up clothing.
4. Cool victim (i.e. fanning, ice packs, wrap with wet sheets or towels).
5. Care for shock and monitor breathing.
6. If conscious and can tolerate it, provide a half-glass of water every 15 minutes.
7. Should see improvements within 30 minutes. (If not, contact Emergency Services).

TABLE 7-3 (Continued)
BASIC FIRST AID PROCEDURES

Cold Related Injuries: **Hypothermia**

1. Contact Emergency Services.
2. Remove person from cold to warm location.
3. Remove any wet clothing.
4. Warm body slowly.
5. Care for shock and monitor breathing.
6. Await Emergency Services

Cold Related Injuries: **Frostbite**

1. Remove person from cold to warm location.
2. Remove PPE and clothing covering effected areas.
3. Place affected area in warm water to re-warm.
4. After re-warming, loosely bandage affected area.
5. Seek medical attention.

APPENDICES

APPENDIX A
Action Levels for Metals, PCBs, and PAHs Contained in Dust

Appendix A - Calculation Sheet
Action Levels for Metals, PCBs and PAHs Contained in Dust
Upgrade from Level D Respiratory Protection to Level C Respiratory Protection

Approach: There are no direct-reading monitors to determine the actual concentrations of metals, PCBs or PAHs that site workers may be exposed to in air during remedial work or general activities disturbing the soil. The metals, PCBs, and PAHs also are not volatile, therefore the primary exposure pathway would be respiratory inhalation of dust (airborne sand/soil) which contains concentrations of these metals, PCBs, and PAHs.

To provide adequate protection for exposure to airborne metals, PCBs, and PAHs in dust, dust action levels will be established to be protective of the metals, PCBs and PAHs. The action levels are established by 1) assuming that all soils contain the maximum known concentrations of the metals, PCBs, and PAHs of concern, and then 2) calculating applicable dust concentrations that would ensure that the contaminant concentrations are less than the OSHA PELs for those contaminants. The equation, and calculations for these contaminants are presented below.

Calculation Formulas:

$$\frac{[\text{Max. concentration of metal/PCB/PAH in soil (mg metal/kg soil)}] * [\text{Dust concentration in air (mg soil/m}^3\text{ of air)}]}{[1{,}000{,}000\text{ mg soil/kg soil}]} = [\text{Metals/PCB/PAH in air (mg metal/m}^3\text{ of air)}]$$

Rearrange and solve for "dust concentration in air", by assuming the metals/PAH concentration in air is the metal' OSHA PEL:

$$\frac{[\text{OSHA PEL metal/PCB/PAH in air (mg/m}^3\text{ of air)}] * [10^6\text{ mg soil/kg soil}]}{[\text{Maximum concentration of metal/PCB/PAH in soil (mg metal/kg soil)}]} = [\text{Dust concentration in air (mg soil/m}^3\text{ of air)}]$$

Copper:

$$\frac{[1.0\text{ mg copper/m}^3\text{ of air)}] * [1{,}000{,}000\text{ mg soil/kg soil}]}{[1{,}600\text{ mg copper/kg soil}]} = [625\text{ mg soil/m}^3\text{ of air}]$$

Lead:

$$\frac{[0.05\text{ mg lead/m}^3\text{ of air)}] * [1{,}000{,}000\text{ mg soil/kg soil}]}{[20{,}600\text{ mg lead/kg soil}]} = [2.43\text{ mg soil/m}^3\text{ of air}]$$

Zinc:

$$\frac{[15.0\text{ mg zinc/m}^3\text{ of air)}] * [1{,}000{,}000\text{ mg soil/kg soil}]}{[4{,}810\text{ mg zinc/kg soil}]} = [3{,}119\text{ mg soil/m}^3\text{ of air}]$$

Arsenic:

$$\frac{[0.01\text{ mg arsenic/m}^3\text{ of air)}] * [1{,}000{,}000\text{ mg soil/kg soil}]}{[38.2\text{ mg arsenic/kg soil}]} = [262\text{ mg soil/m}^3\text{ of air}]$$

Cadmium:

[0.005 mg cadmium/m^3 of air)] * [1,000,000 mg soil/kg soil] = [128 mg soil/m^3 of air]
[39 mg cadmium/kg soil]

Chromium:

[0.5 mg chromium/m^3 of air)] * [1,000,000 mg soil/kg soil] = [3,846 mg soil/m^3 of air]
[130 mg chromium/kg soil]

Magnesium:

[5 mg magnesium/m^3 of air)] * [1,000,000 mg soil/kg soil] = [227 mg soil/m^3 of air]
[22,000 mg magnesium/kg soil]

Mercury:

[0.1 mg mercury/m^3 of air)] * [1,000,000 mg soil/kg soil] = [1,550 mg soil/m^3 of air]
[64.5 mg mercury/kg soil]

Nickel:

[1 mg nickel/m^3 of air)] * [1,000,000 mg soil/kg soil] = [7,692 mg soil/m^3 of air]
[130 mg nickel/kg soil]

Polychlorinated Biphenyls:

[0.5 mg PCBs/m^3 of air)] * [1,000,000 mg soil/kg soil] = [119,000 mg soil/m^3 of air]
[4.2 mg PCBs/kg soil]

PAH[1]:

[0.2 mg coal tar pitch volatiles/m^3 of air)] * [1,000,000 mg soil/kg soil] = [71.8 mg soil/m^3 of air]
[2,784 mg total PAH in B-41/kg soil]

[1] Calculation utilizes the highest total combined PAH concentration detected in soil (sample B-41, 5') and the most restrictive airborne limit for those PAHs (0.2 mg/m^3 for coal tar pitch volatiles including benzene, anthracene, phenanthrene, acridine, and chrysene, pyrene) to determine the worst-case exposure and thus the lowest exposure limit for PAHs.

These calculations show that a typical soil/dust action level of 5.0 mg/m^3 for total dust, and 1.5 mg/m^3 for total and respirable dust would be protective of exposures to PCBs, PAHs, and metals except for lead. Lead exposure should not be higher than 2.43 mg/m^3 for total dust. Therefore, a total dust action level of 2.4 mg/m^3 and respirable dust action level of 1.2 mg/m^3 could be followed to be protective of all metals (including lead), PCBs, and PAHs. For simplicity of monitoring, a not-to-exceed, total dust level of 1.2 mg/m^3 will be the observed action level.

APPENDIX B
Exhibits

EXHIBIT 1

HEALTH AND SAFETY PLAN REVIEW RECORD

I have read the remediation Health and Safety Plan for the 500 Mamaroneck Avenue Site and have been briefed on the nature, level, and degree of exposure likely as a result of participation in this Project. I agree to conform to all the requirements of the Health and Safety Plan.

_____

Employee Signature

_____ _____

Name Date

_____

Project Manager Signature

_____ _____

Name Date

EXHIBIT 2

DAILY SITE SAFETY LOG

Site: 500 Mamaroneck Avenue Site

Project: Operable Units 1 & 2

Time on: _____ **Time off:** _____

Weather/Temperature: _____

_____

Wind Direction: _____

Site Safety Talk: Yes_____ No_____

Topics: _____

_____

_____

_____

Daily Safety Inspection:

Time:_____Initials:_____Time:_____Initials:_____

Comments:_____

Instrument Calibration:

Instrument	Time	Calibration	Calibration Conc.	Actual Conc.

Comments:_____

Personal Protective Equipment: Universal Equipment - hard hat, safety glasses and work boots.

Task 1:	Task 2:	Task 3:

Date:_____

Air Monitoring:

Concentration

Time/Location:	Inst:	Settings:	Inst:	Settings:

Comments (including upgrade, non-compliance, etc.):

_____

_____

_____

Site Safety Officer:_____Signature:_____Date:_____

EXHIBIT 3

EMPLOYER OCCUPATIONAL HEALTH AND SAFETY

CERTIFICATION

Project: 500 Mamaroneck Avenue Site

Contractor: _____

1. Contractor certifies that the following personnel to be employed during on-Site remediation activities have met the following requirements of the OSHA Hazardous Waste Operations Standard (29 CFR 1910.120) and other applicable OSHA standards. (Indicate date below.)

Contractor Personnel	Medical Examination	Training Certification	Respirator

2. Contractor certifies that it has received a copy of the Health and Safety Plan and will ensure that its employees are informed and will comply with its requirements.

3. Contractor further certifies that is has read and understands and will comply with all provisions of its contractual agreement with ERM .

Signed: _____

Date: _____

EXHIBIT 4

TRAINING ACKNOWLEDGMENT FORM

NAME: _____

SOCIAL SECURITY: _____

EMPLOYER: _____

I have completed the required training for work to be conducted at the 500 Mamaroneck Avenue Site, including the following topics:

a. Work Rules and Safety Requirements;
b. Personal Protection Equipment;
c. Potentially Hazardous Chemicals;
d. Emergency Equipment;
e. Reporting Injuries and Illnesses;
f. Emergency Procedures;
g. Job Assignments;
h. Personal Hygiene;
i. Medical Tests;
j. Motor Tests; and
k. Standard Operating Procedures.

I further confirm that a respirator fit test was conducted within the past year and that I have been issued a respirator of the same type.

Employee:

Signature:_____ Date:_____

I certify that this employee has received adequate safety training and understands the requirements of the Health and Safety Plan.

Site Health and Safety Officer:

Signature:_____ Date:_____

EXHIBIT 5

SITE SIGN-IN SHEET

Site: *500 Mamaroneck Avenue Site* Date:_____

Employee	Company	Signature In	Time In	Signature Out	Time Out