

New York State
Department of

Environmental Conservation

Commissioner

John P. Cahill

Division of
Environmental Remediation

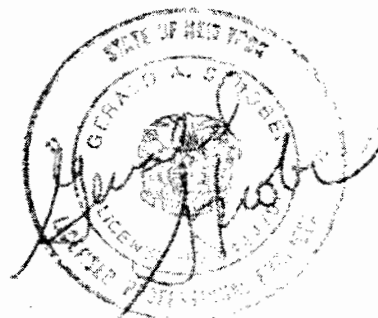
REMEDIATION OF THE SWEDEN 3; CHAPMAN SITE SWEDEN, MONROE COUNTY, NEW YORK

NYSDEC SITE NUMBER 8-28-040A

Prepared by:

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DEC

May 1998

**PROJECT SPECIFICATIONS FOR
REMEDiation OF THE
SWEDEN-3 CHAPMAN SITE
SWEDEN, MONROE COUNTY, NEW YORK**

Site Number 8-28-040A

May 1998

Prepared for:

**NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
50 Wolf Road
Albany, New York 12233-7010**



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SECTION I

Advertisement and Notice to Bidders

New York State Department of Environmental Conservation

Project Name: **Sweden-3 Chapman Site** NYS Site Number: **8-28-040A**

Sealed bids for the Sweden-3 Chapman Site ("project"), will be received by the New York State Department of Environmental Conservation, Division of Management and Budget Services, Procurement Bureau, Room 686, 50 Wolf Road, Albany, New York, 12233-5027, Attn: Rose Dolan, until the time of 1:00 p.m. and on the date of June 23, 1998. The bids will be publicly opened and read aloud at the above time and date. Telegraphic or other electronically transferred bids are not acceptable.

The project involves the implementation of remedial activities at the Sweden-3 Chapman Site in Sweden, New York. These include, but are not necessarily limited to, the following:

1) Mobilization/demobilization to the site, 2) excavation and on-site LTDD (low temperature thermal desorption) of VOC contaminated soils, 3) dewatering and groundwater treatment and disposal, 4) decontamination and disposal of debris, 5) backfilling of treated soils, 6) installation of a landfill cap, 7) topsoil, seeding, and mulching, 8) erosion and sediment control.

The estimated range for this work is: \$2,000,000 to \$5,000,000.

Drawings, specifications and proposal forms may be purchased for a non-refundable fee of \$49.00 from the Division of Management and Budget Services, Procurement Bureau, Room 686, 50 Wolf Road, Albany, New York 12233-5027; Attn: Rose Dolan. Individual checks for each set shall be made payable to the New York State Department of Environmental Conservation.

Proposals will be accepted only from bidders who purchase contract documents. All proposals must be made on the official proposal form and enclosed in the envelope furnished with the contract documents. Each proposal must be accompanied by a deposit or a bid bond in the amount of 5% of bid amount.

Prospective Bidders are cautioned concerning the use of the Post Office Box address as telegraphic and overnight delivery cannot be sent to Post Office Boxes.

All Bidders must attend a Pre-Bid Conference to discuss special requirements for the contract, to be held on June 9, 1998 at the Sweden-3 Chapman Site, Beadle Road, Town of Sweden, N.Y. starting at 11:00 am prevailing local time. **ATTENDANCE IS MANDATORY AS A CONDITION OF BIDDING.**

Minority and Women owned businesses are encouraged to submit bids in response to this solicitation. The New York State Department of Environmental Conservation is an Equal Opportunity/Affirmative Action Employer.

For the purpose of this Notice to Bidders, the Director of the Division of Environmental Remediation, Room 260B, 50 Wolf Road, Albany, New York, 12233-7010, shall be the Department's designated Representative. Any questions, however, shall be directed to Michael J. Cruden, P.E. at (518) 457-9280.

John P. Cahill
Commissioner

SECTION II

Terms and Definitions

Wherever used in the Contract Documents the following terms (or pronouns in place of terms) have the meanings indicated which are applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the date for opening of Bids which interpret or modify the Contract Documents by way of changes, clarifications, or corrections.

Administrative Agreement - A written explanation of the Contract Documents, signed by **Department**, **Engineer** and **Contractor** on or after the Effective Date of the Agreement and dealing with procedural or administrative aspects of the Contract Documents which do not change the contract price.

Agreement - The written agreement between **Department** and **Contractor** covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form furnished by **Department** on which **Contractor** must request progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid - The written offer or proposal of the Bidder, submitted pursuant to Article 5 of Section III of the Bidding Documents on form provided.

Bidder - The person, partnership, corporation, joint venture or other combination thereof, who has submitted a Bid.

Bid Security - The security designated in the Bidding Documents to be furnished by the Bidder as guarantee that he/she will enter into a Contract with **Department** for the performance of the Work, if the Work involved in the Bid is awarded to that Bidder.

Bidding Documents - The Advertisement and Notice to Bidders, Bidding Information and Requirements, the Bid Forms and Attachments, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

Bonds - Instruments of security furnished by **Contractor** and its surety in accordance with the Contract Documents. This refers to the labor and material payment Bond, performance Bond and those other instruments of security required by the Contract Documents.

Change Order - A document prepared and recommended by **Engineer**, which is reviewed by **Department** and has been signed by **Contractor** and **Department** and approved by Comptroller. It authorizes an addition, deletion or revision in the Work, or an adjustment in Contract Price or Contract Time, or any combination thereof, issued on or after the Effective Date of the Agreement.

Commissioner - Commissioner of the New York State Department of Environmental Conservation.

Comptroller - The Comptroller of the New York State Department of Audit and Control.

Contract Documents - The Agreement, Addenda (which pertain to the Contract Documents), Contractor's Bid including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award, all bid forms and attachments required by Section V, the General Conditions, the Supplementary Conditions, the Standard Specifications, the Special Specifications, Appendix A, Appendix B, Measurement for Payment, Advertisement, Terms and Definitions, Bidding Information and Requirements, Supplementary Bid Information and Requirements, and the Drawings, together with all amendments, modifications and supplements issued pursuant to paragraphs 2.4 and 2.5 of Article 2 of the General Conditions on or after the Effective Date of the Agreement.

Contract Price - The money payable by Department to Contractor under the Contract Documents.

Contract Time - The number of days permitted by the Agreement for completion of work. This number may be stated or implied by a requirement that all work be completed by a certain date.

Contractor - The person, partnership, corporation, joint venture, or other combination thereof, who has entered into the Contract with Department for the Work. The term "Contractor" means Contractor or its authorized representative.

Correction Period - The period of time within which Contractor shall promptly, without cost to Department and in accordance with Department's written instructions, either correct Defective Work or if it has been rejected by Department, remove it from the site and replace it with nondefective Work, pursuant to paragraph 12.12 of the General Conditions.

Cost and Pricing Data - Refers to all data available to and relied upon by Contractor in negotiating, pricing or performing Work covered by a Change Order or a Proposed Change Order, or involved in a claim. Sample Cost and Pricing Data include data and supporting documents pertaining to labor wages and material rates, crew mixes, labor productivity, payroll costs, price catalogs, quotations from and payments to Subcontractors, Suppliers or others, equipment production rates, equipment costs, sales and use taxes, cost of premiums for Bonds and Insurances, costs related to the determination of general and administrative overhead, site office overhead, profit, estimates and estimating guides, Contractor's computations and projections, and all of the relevant assumptions made by Contractor in pricing or figuring increases or decreases in Contract Price or Contract Time.

Cost of the Work Involved - The sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work Involved.

Day - A calendar day of 24 hours lasting from midnight one day to midnight the next day.

Defective Work - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Department at Substantial Completion in accordance with paragraphs 13.8 or 13.10).

Delivery - Shall be effected on the date of receipt by the addressee.

Department - New York State Department of Environmental Conservation.

Department Representative(s) - Employee(s) of Department engaged in Department activities relating to the work but who is not responsible for day to day administration of the Project.

Design Engineer - The individual, partnership, corporation, joint venture, or any combination thereof, who prepared and sealed the Contract Documents that were bid by **Department**.

Designated Representative - **Department** employee responsible for resolving all disputes between contractor and Project Manager, as identified in the Supplementary Bidding Information and Requirements.

Drawings, Plans - The Drawings, Plans or reproductions thereof, which show location, character, dimensions, and details of the Work to be performed and which are referred to in the Contract Documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is approved and filed by Comptroller.

Employee - Any person working on the project mentioned in the contract of which these specifications are a part, and who is under the direction or control, or receives compensation from **Contractor** or Subcontractor.

Engineer - The individual, partnership, corporation, joint venture, or any combination thereof, any entity named as **Engineer** in the Agreement who will have the rights and authority assigned to **Engineer** in the Contract Documents. The term "**Engineer**" means the **Engineer** or its authorized representative.

Equipment - All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

Field Order - A written order issued by **Engineer** to **Contractor** which orders minor changes in the Work in accordance with paragraph 8.5 of the General Conditions not involving an adjustment in the Contract Price or the Contract Time.

Law(s) - Applicable laws, rules, regulations, ordinances, codes or orders of a federal or New York State court.

Material - Any approved material acceptable to **Department** and conforming to the requirements of the specifications.

Notice of Award - **Department** written notice of bid acceptance and filing by the New York Office of the State Comptroller and stating pertinent information **Contractor** shall comply with.

Notice of Intent to Award - The written notice by **Department** to a Bidder stating that upon compliance by that Bidder with the conditions precedent enumerated therein, within the time specified, **Department** intends to process contract through the appropriate New York State contract reviews.

Notice to Proceed - The written notice issued by **Department** to **Contractor** establishing the Date for Commencement of the Contract Time and, where applicable authorizing **Contractor** to proceed with the Work at the site.

Overhead - General and administrative costs (whether at the site or in **Contractor's** principal or branch offices) and all other miscellaneous costs not assigned to a specific payment item as identified in Articles 9, 10 and 11 of the General Conditions.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

Physical Completion - The Work and all parts thereof have been completed to the satisfaction of **Department**.

Progress Schedule - Drawings, data computer reports, and narratives disclosing Contractor's approach to the Work; the associated Early Schedule, Late Schedule and Float times, as supported by the Critical Path Method (CPM) or Bar Chart Diagram; the Schedule of Values; and the Schedule of Shop Drawing submissions.

Project - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

Project Field Representative - Department employee assigned responsibility for the day to day administration of the Project.

Project Manager - Department employee identified in the Supplementary Bidding Information and Requirements, responsible for administration of work required by Contract Documents and supervision of the Project Field Representative(s).

Proposed Change Order - A document prepared on a form furnished by Department which is to be used (1) by Department when requiring that Contractor figure the potential effect on Contract Price or Contract Time of a proposed change, (the proposed change is ordered upon signing by Department), or (2) by Contractor to notify Department that in the opinion of Contractor a change is required to respond to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 3.11 or 3.12 of Article III of the General Conditions or to emergencies under paragraph 5.22 of Article V of the General Conditions, or has been ordered in a Field Order, or in Engineer's approval of a Shop Drawing or sample, or in Engineer's written interpretation or clarification of the requirements of the Contract Documents. When signed by Department, a Proposed Change Order may or may not fully adjust Contract Price or Contract Time, but is evidence that the change directed or documented by the Proposed Change Order will be incorporated in a subsequently issued Change Order following negotiations as to its effect, if any, on Contract Price or Contract Time.

Resident Engineer - The authorized representative of Engineer who is assigned to the site or any part thereof.

Resident Project Representative - Person acting as assistant to the Resident Engineer who is assigned to the site or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.

Site - The area within the vertical boundaries of the location where the Contract Documents require Work by Contractor.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual, partnership, corporation, joint venture or other combination thereof, having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

Substantial Completion - The Work, or a specified part thereof, has progressed to the point where in the opinion of Engineer as evidenced by Engineer's definitive Certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents (with the exception of the minor items identified during inspection described in paragraph 13.6 of the General Conditions), so that it can be utilized continuously for the

purposes for which it is intended. Substantial Completion of the Work, or specified part thereof, may be achieved either upon completion of Pre-operational Testing or Start-up Testing, depending upon the requirements of the Contract Documents. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

Supplier - A manufacturer, fabricator, supplier, distributor, material man or vendor.

Testing, Pre-Operational - All testing, associated trimout activities and specified manufacturer or supplier training required prior to placing the facilities in service, including but not limited to manufacturer or supplier installation checks; leak, disinfection and pressure tests; removal or erection of temporary components; tie-ins; flushing and chemical/mechanical cleaning operations; specified performance tests; and other necessary non-operating adjustments, cold-alignment checks, corrections, housekeeping and spare parts stocking required of **Contractor** to demonstrate to **Department** and **Engineer** that individual components of the Work have been properly erected and do operate in accordance with the Contract Documents, and that they can be placed in service and utilized continuously for their intended purposes.

Testing, Start-Up - Follows Pre-operational Testing. Start-up Testing commences by placing portions of the Work in service under interim conditions, continues through initial utilization of the facilities under design media, and culminates with predefined trial utilization tests during which **Contractor** is to operate the Work, or specified parts thereof, under actual and simulated operating conditions and performing as defined in the Contract Documents, for the purposes of: a) making such minor adjustments and changes as may be found necessary to comply with the requirements of the Contract Documents, and b) complying with the Start-up Test requirements outlined in the Contract Documents.

Total Float - Number of working days by which a part of the Work identified in the progress schedule may be delayed without necessarily extending the corresponding Contract Time, or Contract Times.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed under ground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, chemicals, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Work - Any and all obligations, duties, responsibilities, labor, materials, equipment, temporary facilities, and incidentals, and the furnishing thereof necessary to complete the construction assigned to, or undertaken by **Contractor** pursuant to the Contract Documents. Also, the entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

SECTION III

Bidding Information and Requirements

ARTICLE 1 - Address for Notices

It is understood and agreed between the parties that **Department's** Representatives for the implementation of this Agreement, or for approval and direction called for therein, shall be the individuals named in Article 2 of Section IV, "Supplementary Bidding Information and Requirements."

Whenever it is provided in this Agreement that notice shall be given or other communications sent to **Department**, such notices or communications shall be delivered or sent to the Project Manager at the address set forth in Article 2 of Section IV, "Supplementary Bidding Information and Requirements." However, the Bid submittal should be addressed as stated in Article 3 below.

ARTICLE 2 - Interpretation of Bidding Documents

No interpretation of the meaning of the Bidding Documents will be made orally: all questions regarding the intent or meaning of the Bidding Documents shall be submitted in writing to the Project Manager at the address set forth in Article 2 of Section IV, "Supplementary Bidding Information and Requirements". The reply to the same, when deemed necessary, will be sent by addendum to all persons who have purchased Bidding Documents. To be given consideration, all inquiries must be received in writing at the above address at least ten days prior to the date fixed for the opening of Bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda which, if issued, will be sent by certified or registered mail with return receipt requested or telegraph, to all purchasers of Bidding Documents at the respective addresses furnished for such purposes. Failure of any Bidder to receive any such Addenda shall not relieve said Bidder from any obligation under its Bid as submitted. All Addenda so issued shall become part of the Bidding Documents.

All pre-bid inquiries answered by means other than Addenda shall not be binding.

ARTICLE 3 - Bid Instructions

Department invites sealed Bids on the forms attached hereto, addressed and submitted in the envelopes provided to: Division of Management and Budget Services, Procurement Bureau, New York State Department of Environmental Conservation, Room 686, 50 Wolf Road, Albany, New York 12233-5027, Attn: Rose Dolan.

The outside of the envelopes must bear the name and address of the Bidder, the Project name and Project designation number from the cover of the specification book, and be clearly marked as "Bid."

Department may consider non-responsive any Bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or irregularities in or may reject any or all Bids. Bids that are illegible or that contain any omission, erasures, alterations, additions, conditions, or items not called for in the Bidding Documents or that contain other irregularities of any kind, may be rejected as non-responsive. The failure or omission of any Bidder to obtain or examine any form, instrument, document or Bidding Documents or any part thereof, shall in no way relieve any Bidder from any obligation in respect to its Bid. Complete sets of Bidding Documents shall be used in preparing Bids; neither **Department** nor **Engineer** assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

Department is responsible for providing Addenda only to those persons or firms listed in its plan sales ledger as having purchased Bidding Documents from **Department**. Persons or firms which obtain Bidding Documents from sources other than **Department** bear the sole responsibility for obtaining any Addenda issued for the Project.

Department and **Engineer** make copies of Bidding Documents available only for the purpose of obtaining Bids on the Work and do not authorize any other use of the Bidding Documents.

Each Bid must be submitted on the official form which is furnished by **Department**. All blank spaces in the Bid must be filled in as noted, and no change shall be made in the phraseology of the Bid or in the items mentioned therein.

The Bidder shall sign, in the space provided in the Bid form, with his or her usual signature. An officer of a corporation or a member of a partnership signing for the Bidder, shall place his or her signature and title after the word "By" under the name of the **Contractor**. The same procedure shall apply to the Bid of a joint venture by two or more Bidders; however, if the signature is by an agent or attorney-in-fact for the joint venturers, then the Bid shall be accompanied by evidence of his or her authority to act on behalf of all of the joint venturers.

The Bidder shall complete that portion of the Bid form requesting a statement of the Addenda which have been received, by Addenda number and date. If no Addenda have been received, insert the word, "NONE." Failure to complete this portion of the Bid form may result in a bid being declared non-responsive at **Department's** option.

Each Bid shall specify in words and figures, the correct gross sum, in the manner hereafter described for which the Work shall be performed according to the Bidding Documents together with a unit price expressed in words and figures for each separate items for which such a price is required. The lowest Bid shall be determined by **Department** on the basis of the total sum for which the entire Work will be performed, arrived at by a correct computation of all items specified in the Bidding Documents at the prices stated in the Bid. **Department** reserves the right to reject any Bid in which the Bid prices appear to constitute an unbalanced Bid for the work.

In the event there is a discrepancy in any Bid between the unit prices and the extended totals, the unit prices shall govern. In the event there is a discrepancy in any Bid between the prices written in figures and the unit or lump sum prices written in words, the prices written in words shall govern. **Department** may reject as non-responsive bids which do not contain a price for every numbered item contained in the Bid form, or may insert a zero for every numbered item that doesn't contain a price.

Unless **Department** gives instructions to the contrary, the Bidder shall use no more than three decimal places in the cents column under unit Bid price items. If Bidder uses more than three decimal places without such instructions, **Department** may round off the Bid item to three decimal places.

The Bidder is responsible for examining supplemental information which is available for inspection at the address for notices in Article I of this Section.

Department will not accept any Bid which has been transmitted via Facsimile, Telephone, Telegraph or which has been received after the designated bid opening time except where there is evidence that the bid arrived on time, but was mishandled by the **Department**. A late Bid will be returned unopened with notification of the reason for non-acceptance.

Bids will only be accepted from Bidders who have purchased Contract Documents from **Department**.

ARTICLE 4 - Modification or Withdrawal of Bid

Permission will not be given to modify or explain by letter, telegram, telephone or otherwise, any Bid after it has been deposited with **Department** except that a Bid may be withdrawn, modified, and resubmitted prior to the date and time for opening the Bids. After such date and time, no Bid may be withdrawn by a Bidder except as provided by law, and provided further that: 1) the Bidder files a duly signed written notice of a Bid mistake with **Department** within a reasonable time after Bids are opened, and 2) within 3 business days thereafter demonstrates to the reasonable satisfaction of **Department** that there has been a material and substantial mistake in the preparation of the Bid. Bidders agree that such a reasonable time for notification of a Bid mistake to **Department** shall not exceed two business days after the day of the Bid opening.

Prior to submittal of Bid, a Bidder may alter or correct a unit price, or a lump sum item, which has been entered on the Bid form by crossing out the entry, entering the new figure above or below the crossed-out entry, and initialing on the line of change. The crossing out of entries shall be with ink, or typed. All new entries and initials shall be legibly handwritten with ink, or typed. Any ambiguity arising from entries altered or corrected on the Bid Form may be cause for **Department's** rejection of the Bid as non-responsive.

If the Bid is made by an individual, the business address shall be given. If made by a corporation, the names and business addresses of the president, secretary and treasurer shall be given. If made by a partnership, the names and business addresses of the partners shall be given.

Department reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder.

All Bids submitted by an individual, firm or partnership, a corporation or association which submits more than one Bid for the same Work under the same or different names shall be rejected.

ARTICLE 5 - Required Bid Submittals

The following are to be submitted within the time periods indicated. At the option of **Department**, failure to make or amend a submittal will constitute proof that the Bidder has abandoned all rights and interests in the contract; that the Bid Security is forfeited to **Department** as liquidated damages; and that the Work may be awarded to another Bidder in a manner consistent with Law.

- a) The following items **must accompany Contractor's Bid to Department**:
 - Form of Bid filled out
 - Bid Bond or Certified Check
 - Non-Collusion Certificate
 - MacBride Fair Employment Principles (signed)
- b) The following items shall be submitted within 5 days of notification that the Bidder is the apparent low Bidder:
 - Off-site permitted facility to receive material along with a copy of the facilities permit
 - Plan of Operations (Work Plan) and Progress Schedule, Health and Safety Plan, Sampling Plan, and QA/QC Plan

- Statement of Surety's intent, complete and signed by and duly authorized surety company licensed to do business in the State of New York
 - A copy of the proposed site pollution liability insurance policy. If Bidder is unable to obtain Pollution Liability insurance, **Department** requires letters from three (3) sureties stating that Pollution Liability insurance is unavailable
 - A description of projects completed by Bidder documenting his experience in this type of work
 - Proof of Availability of insurance or Certificate of insurance with endorsements
 - NYS Uniform Contracting Questionnaire or affidavit of no change (if appropriate)
 - Preliminary schedule and acceptable M/WBE utilization plan
 - Any other information that demonstrates the Bidder's ability to perform the work described herein
 - Low bidders may be asked to submit additional information to demonstrate competency
- c) The following items shall be submitted by the apparent low Bidder within 14 days from the date of the Notice of Intent to Award letter from **Department**:
- Executed Agreement and Rider to Appendix B (six copies with original signatures)
 - Performance Bond with Power of Attorney & Surety Financial Statement (original and five copies)
 - Labor & Materials Bond with Power of Attorney & Surety Financial Statement (original & five copies)
 - Bid Breakdown of Items (original)
 - Certificates of Insurance (original and five copies)

ARTICLE 6 - Bid Security and Bonds

Bid Security shall be made payable to **Department** in an amount not less than five percent (5%) of the Bidder's gross sum Bid. The Bid Security shall be in the form of either a certified or bank check upon an incorporated bank or trust company, or a Bid Bond issued by a surety satisfactory to **Department**.

Department will accept only Bonds from a surety company licensed to write Bonds of such character and amount under the laws of New York State and which are listed on the U.S. Treasury Department Circular 570.

Attorneys-in-fact who sign Bonds shall file with such Bonds a certified copy of their Power of Attorney to sign Bonds and to conduct business in the State of New York.

The Bid Security of a Bidder awarded a Contract for the Work will be retained until such Bidder has executed the Agreement and furnished the required bonds and insurance, whereupon the Bid Security will be returned. If the Bidder fails to execute and deliver the Agreement, other required documents and furnish the required bonds and insurance within fourteen (14) days after the Notice of Intent to Award, **Department** may annul the Notice of Intent to Award, and the Bid Security of that Bidder will be forfeited to **Department**. The Bid Security of any Bidder whom **Department** believes to have a reasonable chance of receiving the award may be retained by **Department** until the earlier of the 45th day after the Bid opening or seven (7) days after the Effective Date of the Agreement, whereupon Bid Security furnished by such Bidders will be returned. Bid Security of other Bidders will be returned after the Bid opening.

ARTICLE 7 - Approval of "or Equal" or Substitution Equipment, Systems or Items

There shall be no approval given by **Engineer** during the bidding period or prior to Award of Contract for any "or equal" or substitution equipment, systems or items.

ARTICLE 8 - Other Contracts and Occupancy

Department may award other contracts in connection with this Work. **Contractor** shall not have exclusive occupancy of the real property within or adjacent to the limits of the Work.

In case of interference between the operations of utility owners and different contractors, **Department** will be the sole judge of the rights of each contractor and the sequence of work necessary to expedite the completion of the entire Project. In all such cases, **Department's** decision shall be accepted as final.

ARTICLE 9 - Taxes

Department is exempt from the payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials, equipment and supplies sold to **Department** pursuant to this Contract. Also exempt from such taxes are purchases by **Contractor** and its Subcontractors of materials, equipment and supplies to be sold to **Department** pursuant to this Contract, including tangible personal property to be incorporated in any structure, building or other real property forming part of the Project. These taxes are therefore not to be included in the Bid. The cost of all other taxes under the Contract shall be included in the Bid prices for the several items of the Contract.

ARTICLE 10 - Experience and Financial Statements

In accordance with New York State Executive Order No. 170, a Contract shall only be awarded to a responsible Bidder capable of performing and completing the Work in a satisfactory manner. The **New York State Uniform Contracting Questionnaire**, which is included in Section V, "Bid Forms and Attachments" must be completed and submitted to **Department** by the apparent low Bidder within five (5) days after the apparent low Bidder has been so notified. The completed questionnaire or the affidavit of no change (if appropriate) must be addressed to:

NYS Department of Environmental Conservation
Division of Management and Budget Services
Procurement Bureau, Room 686
50 Wolf Road
Albany, NY 12233-5027, Attn: Rose Dolan

The envelope should be clearly marked "NYS Uniform Contracting Questionnaire." Failure of the apparent low Bidder to timely submit the complete, properly executed questionnaire within five (5) days may result in disqualification.

Before **Department** will consent to any subcontracts over \$10,000, the proposed subcontractor must submit the complete, properly executed "NYS Uniform Contracting Questionnaire" through **Contractor**. Any delay in the progress of work caused by the failure of a subcontractor to comply with these requirements will be attributable to **Contractor** and any additional costs will be **Contractor's** responsibility.

The low Bidder shall demonstrate its responsibility to perform and complete Work by submitting a statement of its experience and the experience of any Subcontractor which the low Bidder intends to use to perform the Work.

Department may require the low Bidder to further demonstrate its responsibility to perform and complete Work by submitting an additional experience and financial statement or information seven (7) days after bid opening or within seven (7) days of **Department** request, which shall include at a minimum, information pertaining to the Bidder's financial resources. The submitted financial information shall be certified by a Certified Public Accountant, and shall be submitted in the form required by **Department**. This can also apply to **Contractor's** subcontractors.

ARTICLE 11 - Preliminary Progress Schedule

The Preliminary Progress Schedule shall consist of three copies of a narrative description and a time-scaled critical path method diagram or bar chart diagram as specified in the Contract Documents. The narrative in the Preliminary Progress Schedule shall describe the order in which Bidder proposes to perform the Work pursuant to the specified Contract Time(s) and Work sequence conditions indicated in or required by the Bidding Documents. It shall also indicate proposed starting and completion dates for Work expressed in terms of days elapsed from the Notice to Proceed associated with each division of the Specifications within each major structure or geographical area of Work. Activities shall further identify significant submittals, approvals and associated deliveries, significant testing, major **Department** responsibilities, and responsibilities of affected utilities and third parties. The narrative shall include monthly percentages of completion for the Work in relation to the rate of progress anticipated in the Preliminary Progress Schedule.

ARTICLE 12 - Bid Breakdown

The Bid breakdown shall be submitted by the apparent low Bidder within fourteen (14) days after the date of the Notice of Intent to Award letter. Discrepancies, ambiguities or conflicts in the Bid breakdown shall be resolved in accordance with the terms and conditions set forth in Article 15 of the General Conditions.

A Bidder submitting a Bid breakdown and awarded a Contract for the Work agrees and understands that those prices for separable parts of the Work disclosed on the Bid breakdown, where they are applicable and determined to be reasonable by **Department** may be used for the purposes of: a) measurement and payment, b) increase(s) or decrease(s) in the Contract Price due to adjustments in quantities to the separable parts of the Work, and c) Change Orders or Proposed Change Orders which add or deduct like Work.

ARTICLE 13 - Subsurface and Technical Information

If boring logs and other subsurface information were made available for the inspection of Bidders, please note that such data were obtained with reasonable care and were recorded in good faith by **Department**, **Engineer** or the **Design Engineer**.

The soil and rock descriptions shown are as determined by a visual inspection of the samples from the various explorations unless otherwise noted. The observed water levels and/or water conditions indicated thereon are as recorded at the time of the exploration. These levels and/or conditions may vary considerably, according to the prevailing climate, rainfall and other factors, including the passage of time.

Similarly, data concerning leachate were obtained with reasonable care and recorded in good faith. The location and concentrations of leachate may vary considerably according to the prevailing climate, rainfall and other factors, including the passage of time. Bidders may rely upon accuracy of the subsurface technical data as to where (location) and when (exact time) data was obtained; but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof.

When reports showing data obtained by investigations and tests at the site by **Department**, **Engineer** or the **Design Engineer** are included with the Bidding Documents, or made available to Bidders as set forth in the Bidding Documents, it is expressly understood and agreed that technical data, but not any non-technical data,

interpretations or opinions contained in such reports, are incorporated by reference into the Contract Documents. Bidders may rely upon the accuracy of all such technical data contained in such reports as to where (location) and when (exact time) such technical data was obtained, unless the Bidding Documents limit any other bases upon which such technical data may be relied upon. It is further expressly understood and agreed that the use of any technical data contained in such reports is subject to all of the conditions and limitations set forth in the Bidding Documents.

Subsurface and technical information is made available to Bidders in good faith so that they may be aware of the information utilized for design and estimating purposes. **Department** makes no representations or warranties, express or implied, as to the completeness of this information or data, nor is such disclosure intended as a substitute for personal investigations, interpretations, and judgment of the Bidder.

ARTICLE 14 - Underground Facilities

The locations of Underground Facilities were ascertained with reasonable care and recorded in good faith from various sources, including the records of municipal and other public service corporations, and therefore such locations may only be approximate. **Department** does not assume responsibility for the accuracy or completeness of such locations.

ARTICLE 15 - Examination of Bidding Documents and Site

It is the responsibility of each Bidder, before submitting a Bid to: a) examine the Bidding Documents thoroughly, b) visit and visually inspect the site during the Pre-Bid Conference required pursuant to Article 3 of Section IV, "Supplementary Bidding Information and Requirements," c) become familiar with local conditions that may affect cost, schedule, performance or furnishing of the Work, d) become familiar with applicable Laws that may in any manner affect cost, schedule, performance or furnishing of the Work, e) study and carefully correlate Bidder's observations with the Bidding Documents, and f) notify the Project Manager identified in Article 1 of this section promptly after discovering any conflicts, ambiguities, errors or inconsistencies in the Bidding Documents.

It is the responsibility of each Bidder to obtain any additional documents, information or data which pertain to the physical conditions (surface, subsurface and Underground Facilities) at or contiguous to the site which may affect cost, schedule, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the Bidding Documents.

The submission of a Bid constitutes an incontrovertible representation by Bidder that Bidder has taken steps reasonably necessary to ascertain the nature and location of the Work, and that Bidder has investigated and accounted for in the preparation of the Bid: a) Governmental requirements and all reasonably foreseeable general and local conditions that may affect cost, schedule, performance or furnishing of the Work. Examples of such conditions include: 1) conditions bearing upon the transportation, disposal, handling and storage of materials, 2) the availability and suitability of labor, water, electric power, telephone, sanitary services, and roads, 3) weather, river stages, tides or similar conditions at or contiguous to the site, 4) physical conditions of the site, and 5) the character of equipment and facilities needed preliminary to and during Work performance, b) character, quality and quantity of surface, subsurface and Underground Facilities at or contiguous to the site insofar as this information is reasonably ascertainable from the Drawings and Specifications included as part of the Bidding Documents, from the reports referenced in the Supplementary Bid Information and from the documents, information and data regarding physical conditions at or contiguous to the site obtained by Bidder, and c) Bidding Documents to be sufficient in scope and detail to indicate and convey understanding of all terms and conditions affecting cost, schedule, performance and furnishing of the Work.

Failure to take the actions described in this Article will not relieve that Bidder from responsibility for estimating properly the difficulty, cost of, and schedule for successfully performing the Work, or from performing the Work successfully without an increase in Contract Price or an extension in Contract Time.

Department, Engineer, or Design Engineer do not assume any responsibility for any conclusions or interpretations made by any Bidder based on the information made available by the Bidding Documents. Nor does **Department, Engineer or Design Engineer** assume any responsibility for any understanding reached or representation made concerning conditions which can affect the cost, schedule, progress, furnishing and performance of the Work prior to execution of the Contract, unless that understanding or representation is expressly stated in the Bidding Documents.

In an itemized contract, the estimate of quantities of work to be done and materials to be furnished is approximate and is given only as a basis of calculation upon which the award of the contract is to be made. **Department** does not assume any responsibility that the quantities estimated will be the actual quantities required; **Contractor** may not claim misunderstanding or deception because of such estimates of quantities or of the character of the work, location, or other condition pertaining thereto. **Department** may increase or diminish any or all of the quantities of work mentioned above or omit any of them, as deemed necessary.

ARTICLE 16 - Subcontractors, Suppliers or Others

Unless otherwise agreed in writing by **Department**, **Contractor** shall subcontract no more than the percentage (%) of the total cost of the work under its contract as may be provided by the Contract Documents in Article 7 of Section IV, "Supplementary Bidding Information and Requirements". Procedures for approval of Subcontractors, Suppliers or other persons or organizations, after execution of the Agreement, are set forth in the General Conditions and the Supplementary Conditions.

ARTICLE 17 - Award of Contract

The Contract(s) will be awarded to the lowest, responsive and responsible Bidder(s) that has prepared acceptable required submittals, in the opinion of **Department**, as stipulated in Article 5 of this Section.

To the extent permitted by applicable Law, **Department** reserves the right to reject any and all Bids, to waive any and all informalities or irregularities, to disregard all nonconforming, nonresponsive, or conditional Bids, or to re-advertise for Bids.

In order to be considered responsive, a Bid shall be completed, signed and be responsive in all respects to the Bidding Documents unless informalities are waived by **Department**.

In order to be considered responsive, a Bidder must establish to the complete satisfaction of **Department and Engineer**, as a minimum, that it has adequate and satisfactory experience and financial resources to meet the obligations under the Contract and award of the Contract would be in the best interest of the State. A Bidder's prior experience shall be considered satisfactory when among other factors, its performance of prior work was timely, of good quality, in compliance with any contract requirements including contracted costs and schedule, and in compliance with applicable Law. The Bidder must have a minimum of three (3) years satisfactory experience in construction of the work to be performed.

Department may conduct such investigations as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility in terms of satisfactory experience and financial ability of the Bidder, and of any proposed subcontractors. **Department** may reject the Bid of any Bidder which it deems not to be responsible and may reject performance of Work by any Subcontractor which it deems is not responsible.

It is the intention of **Department** that the work will be awarded within 45 calendar days after the opening of bids to the lowest responsive, responsible Bidder whose bid conforms to the requirements of the Contract Documents. Bids may not be withdrawn, altered or revoked during this 45 day period. Even after the expiration of such 45 day period, **Department** may accept a Bid and award the work to any Bidder whose bid has not been unequivocally withdrawn or revoked prior to the mailing of written Notice of the Award to the successful Bidder.

For purposes of the preceding sentence, withdrawal or revocation of a Bid shall not occur until **Department** receives an irrevocable (?) written statement to that effect.

ARTICLE 18 - Time is of the Essence

Time is of the essence for the performance of Work required by the Contract Documents.

ARTICLE 19 - Applicability of Federal, State and Local Law

Any Bid and any contract awarded pursuant to a Bid shall be subject to and governed by applicable Law.

It is the responsibility of each Bidder to be informed of and comply with Federal, State and local Laws, affecting the cost, schedule, progress, performance or furnishing of the Work. This requirement includes, but is not limited to, applicable regulations concerning minimum wages, nondiscrimination in employment, affirmative action, protection of public and employee safety and health, environmental protection, fire protection and permits, and fees and licensing.

ARTICLE 20 - M/WBE and EEO Requirements

The selected Bidder shall be required to make good-faith efforts to subcontract at least the percentage stipulated in Section IV, "Supplementary Bidding Information and Requirements", of the contract price to NYS Certified Minority Business Enterprise(s) (MBE) and Women Business Enterprise(s) (WBE), respectively.

The M/WBE and EEO provisions of Appendix B are required provisions for this contract. The Bidder is required to comply with State regulations 9NYCRR Part 543 entitled, "Requirements and Procedures Regarding Business Participation Opportunities for Minorities and Women on State Contracts."

In accordance with Executive Law Article 15-A, **Department** is required to make available the NYS Directory of Certified Minority and Women Owned Business Enterprises. Empire State Development has put the Minority and Women's Business Development Directory on the Internet. The Internet address is www.empire.state.ny.us, just follow the links to the M/WBE Directory.

The new system will be available seven (7) days a week, 7:00 a.m. to 10:00 p.m. and the information will be updated daily. Support will be available from 9:00 a.m. to 5:00 p.m., Monday through Friday, except for NYS holidays. If assistance is needed call (518) 474-1979. For additional information and assistance regarding NYS Certified M/WBE's, please contact Vincente Alfonso at DEC's Bureau of Minority and Women's Business Programs at (518) 457-0749.

Pursuant to New York State Executive Law Article 15-A and the attending rules and regulations, an approvable M/WBE and EEO Workplan shall be required within two weeks of the award of a contract. The workplan is requested to state the M/WBE and EEO goals, the areas of work to be considered for solicitation of M/WBE firms, and a listing of M/WBE firms to be used to supply identified subcontracting work/supplies. A Contractor Detailed EEO and M/WBE Workplan form is included and shall be incorporated into the contract.

Contractor shall be required to provide equal opportunities to minorities and women with regard to all jobs necessary for the performance of work or contracts required by the project. In doing so, **Contractor** agrees to make good-faith efforts to employ minorities and women for at least the percentage stipulated in Section IV, "Supplementary Bidding Information and Requirements" of the work force hours required for the completion of the project. Different occupational category work force participation goals may be used to meet these overall goals for work force participation. **Contractor** shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability, or marital status, and shall undertake or continue existing programs of affirmative action to ensure that minority group persons and women are afforded equal

opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.

As required by **Department**, **Contractor** shall request of each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding and which is involved in the performance of the contract with the Agency to furnish a written statement that such employment agency, labor union, or representative shall not discriminate because of race, creed, color, national origin, sex, age, disability, or marital status, and that such union or representative will cooperate in the implementation of **Contractor's** obligations hereunder.

Contractor shall include the provisions of Appendix B (VII) in every subcontract or purchase order in such a manner that the subcontractor shall be required to comply with such provisions with respect to its work in conjunction with the contract with **Department**.

ARTICLE 21 - Omnibus Procurement Act of 1992

- a) It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises including M/WBE as bidders, subcontractors and suppliers on its procurement contracts.
- b) Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
One Commerce Plaza
Albany, New York 12245
Phone: (518) 474-7756 FAX: (518) 486-7557

NOTE: Companies requesting lists of potential subcontractors and suppliers are encouraged to identify the SIC code, size and location of vendors.

- c) A directory of certified M/WBE is available from:

NYS Department of Economic Development
Minority and Women's Business Development Division
One Commerce Plaza
Albany, New York 12245
Phone: (518) 474-6346 FAX: (518) 473-0665
- d) Bidders located in foreign countries are hereby notified that New York State may seek to obtain and assign or otherwise transfer offset credits created by this procurement contract to third parties located in New York State. The successful contractor shall agree to cooperate with the State in efforts to get foreign countries to recognize offset credits created by the procurement contract.
- e) The Omnibus Procurement Act of 1992 requires that by signing this bid proposal, contractors certify that whenever the total bid amount is greater than \$1 million:
 - 1) The successful contractor shall document efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors on this project, and has retained the documentation of these efforts to be provided upon request to the State.

- 2) Documented efforts by a successful contractor shall consist of and be limited to showing that such contractor has:
 - i) Solicited bids, in a timely and adequate manner, from New York State business enterprises including certified M/WBE, or
 - ii) Contacted the New York State Department of Economic Development to obtain listings of New York State business enterprises, or
 - iii) Placed notices for subcontractors and suppliers in newspapers, journals and other trade publications distributed in New York State, or
 - iv) Participated in bidder outreach conferences.
 - v) If the contractor determines that New York State business enterprises are not available to participate in the contract as subcontractors or suppliers, the contractor shall provide a statement indicating the method by which such determination was made.
 - vi) If the contractor does not intend to use subcontractors in the contract, the contractor shall provide a statement verifying such intent.
- 3) The contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended.
- 4) The contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Community Services Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The contractor agrees to document these efforts and to provide said documentation to the State upon request.

ARTICLE 22 - Reciprocity and Sanctions Provisions, Omnibus Procurement Act

- a) Bidders are hereby notified that if their principal place of business is located in a state that penalizes New York State enterprises, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act Amendments of 1994 Codified as State Finance Law 174-b, require that they be denied placement on bidders mailing lists and contracts for which they would otherwise be qualified. Bidders of construction services must be denied the award of a contract if their principal place of business is located in a state that discriminates against New York State enterprises.
- b) A current list of states which penalize New York State firms is available from the office letting this contract, or from the Procurement Assistance Unit, NYS Department of Economic Development, Albany, New York 12245, (518) 474-7756.

SECTION IV

Supplementary Bidding Information and Requirements

ARTICLE 1 - Location and Description of Project

The Site Number of this project is 8-28-040A. The Project is located in Monroe County. Access to the site is from Beadle Road via Rt. 19.

This Project includes the construction of an on-site LTDD system and a landfill cap. Excavated contaminated soils will be treated using LTDD. Dewatering water will be treated using an on-site treatment system or disposed off-site. Treated soils will be backfilled on-site.

ARTICLE 2 - Department Representatives

NAME	ADDRESS
Michael J. O'Toole, Jr. _____, Designated Representative,	50 Wolf Road, Room 260 B Albany, NY, 12233-7010
George Harris, P.E. _____, Section Chief,	50 Wolf Road, Room 260B Albany, NY 12233-7010
Michael Cruden, P.E. _____, Project Manager,	50 Wolf Road, Room 260B Albany, NY 12233-7010
Robert Long (Region 8) _____, Project Field Representative,	6274 East Avon/Lima Road Avon, NY 14414

ARTICLE 3 - Pre-Bid Conference

A pre-Bid conference will be held on at June 9, 1998, at 11:00 a.m. to view the Project area. The pre bid conference is held to discuss the requirements of the Bidding Documents, the protocols for performing the work and the conditions existing at the work site, and to provide for visual inspection of the Site by Bidders. Bidders will be required to sign an attendance sheet to document their presence at the mandatory pre-bid conference. **Department will accept Bids only from those bidders who attend this conference**

ARTICLE 4 - Additional Bid Submittals

The following items shall be submitted within 5 days of notification that the bidder is the apparent low bidder:

- 1.) Thermal treatment subcontractor (if applicable);
- 2.) NYS uniform contracting questionnaire of general contractor and thermal treatment subcontractor (if applicable);
- 3.) LTDD work plan in accordance with Section 13560, 1.04A.

ARTICLE 5 - Other Available Documents

The following items are available for contractor's review in preparing the Bid:

- 1) Dunn Geoscience Engineering Company, P.C., December 1993, Report, Sweden-3 Chapman Site, Town of Sweden, Monroe County, New York.
- 2) New York State Department of Environmental Conservation, March 1994, Sweden-3 Chapman Site Record of Decision, Albany, New York.

3) Dunn Geoscience Engineering Company, P.C., September 1992, TRM Final IRM Report Sweden-3 Chapman Site, Town of Sweden, Monroe County, New York.

4) Ecology and Environment Engineering, P.C., March 1997, Final Remedial Design Report, Sweden-3 Chapman Site No. 8-28-010A.

The documents are available for inspection at the following locations:

- 1.) NYSDEC, 50 Wolf Road, Room 242, Albany, NY 12233-7010;
Contact: Vivek Nattanmai. Telephone number: 518/457-0315
- 2.) NYSDEC, 6274 East Avon-Lima Road, Avon, NY 14414;
Contact: Mr. Robert Long. Telephone number: 716/226-2466

ARTICLE 6 - M/WBE-EEO Utilization Plan

- a) The M/WBE-EEO Utilization Plan shall be sent directly to:

NYS Department of Environmental Conservation
Division of Management and Budget Services
Procurement Bureau, Room 686
Minority and Women's Business Programs Unit
50 Wolf Road
Albany, New York 12233-5027
ATTENTION: Vicente Alfonso

- b) The selected bidder shall be required to make good faith efforts to subcontract at least 15 percent and 5 percent of the contract price to NYS Certified M/WBEs, respectively.
- c) **Contractor** shall be required to provide equal opportunities to minorities and women with regard to all jobs necessary for the performance of work or contracts required by the project. In doing so, **Contractor** agrees to make good-faith efforts to employ minorities for at least 10 percent of, and women for at least 10 percent of, the work force hours required for the completion of the project.

ARTICLE 7 - Subcontracting

The maximum subcontracting allowed for this contract is **40 percent** unless a higher percentage is approved by **Department** in writing.

ARTICLE 8 - Type of Schedule

Contractor shall provide CPM type of schedule as described in Section X, Spec 00001 - Progress Schedule.

ARTICLE 9 - Wage Rates

The Department requires, for the work under this contract, that the contractor and its subcontractor pay at least the prevailing wage rate and pay or provide the prevailing supplements, including premium rates for overtime pay, as issued by the State Labor Department. The current wage rates are included within the contract documents, Section XIII.

The contractor is responsible for any additional costs related to new determinations of the wage rates. The annual determination of the prevailing rates of wages and supplements are usually published on May 31st of each year and are in effect July 1st through June 20th. New determinations will supersede the original schedule or any

prior issued annual determination. Any rate change from a previously issued determination becomes effective July 1st, regardless of whether the new determination has been received by the contractor.

SECTION V

ARTICLE 1(a) - Contract Bid Form and Acknowledgment for Construction of

Remediation of the Sweden-3, Chapman Site

Project Number _____, **NYS Site Number** 8-28-040A

To The New York State Department of Environmental Conservation

The Bidder hereby declares that either personally or through authorized representative(s), Bidder has carefully examined all Bidding Documents and has personally or through authorized representative(s) inspected the actual location of the work, together with the local sources of supply; and understands all terms and conditions of Bidding Documents. Bidder further understands that in signing this Bid, the right to plead any misunderstanding regarding the same is waived.

Pursuant to and in compliance with the Bidding Documents, the Bidder hereby offers to furnish all labor, materials, supplies, equipment and other facilities and things necessary or proper for, or incidental to the construction and completion of this Contract, as required by and in strict compliance with the applicable provisions of all Contract Documents, for the following unit and/or lump sum prices.

The undersigned shall meet the required submittal time periods listed in Article 5 - Required Bid Submittals of the Bidding Information and Requirements Section.

The undersigned hereby designates the following office as the office to which such Notice of Intent to Award and Notice of Award may be mailed, telegraphed or delivered:

Fax Number () _____ - _____

BID

New York State Department of Environmental Conservation

Project Name: Sweden 3 Chapman Site, NYS Site Number 8-28-040A

Payment Item Number	Description	Unit	Estimated Quantity	Unit or Lump Sum Price		Total Amount (\$)
				Words	Figures	
1	Mobilization and demobilization & prep.	LUMP SUM	1			
2	Site services	DAYS	180			
3	Health and Safety Services	DAYS	120			
4	Excavation and backfill- contaminated soil	CY	12,361			
5	Excavation and backfill - clean soils	CY	5,265			
6	Stripping existing clean topsoil	CY	1,843			
7	Soil treatment w/on-site LTDD	TONS	24,722			
8	Landfill cover system	SY	12,495			
9	Dewatering	GAL.	2,500,000			
10	Dewatering treatment system	Lump sum	1			

BID

New York State Department of Environmental Conservation

Project Name Sweden 3 Chapman Site, NYS Site Number 8-28-040A

Payment Item Number	Description	Unit	Estimated Quantity	Unit or Lump Sum Price		Total Amount (\$)
				Words	Figures	
11	Confirmatory sampling soil-VOCs	EA	25			
12	Decommission of monitoring wells	LF	90			
13	Monitoring well installation	LF	300			
Grand Total Bid: \$ _____ (Price in figures)						

New York State Department of Environmental Conservation

Project Number _____, NYS Site Number _____

Item No.	Item Description	Unit	Estimated Quantity	Unit or Lump Sum Price		Total Amount (\$)
				Words	Figures	
	Pollution Liability Insurance	LS	1			
	<p>This item is not to be calculated in the base Bid for the project. Contractor is referred to Article 4 of the General Conditions in the Contract Documents. The limits for Pollution Liability Insurance will be the same as defined in Article 4 of the General Conditions. After opening of bids, Department will determine if it is in Department's best interest to have Contractor obtain Pollution Liability Insurance and if so, Contractor will be paid separately at the actual documented cost to obtain this insurance. If Contractor is unable to provide Pollution Liability Insurance which meets the minimum required limits called for in Article 4 of the General Conditions, Department will determine if this is in Department's best interest to have Contractor obtain Pollution Liability Insurance with lesser limits. The Bidder is required to fill in the above price if he can obtain the Pollution Liability Insurance. This Bid amount will be the upper limit for payment of this item.</p> <p>If Pollution Liability Insurance cannot be obtained, check the box below.</p> <p><input type="checkbox"/> Pollution Liability Insurance NOT available, three (3) letters of non-availability enclosed.</p>					
	Contract Authorized Representative		Contract Name		Date	

The undersigned acknowledges the receipt of the following Addenda and agrees to be bound by all Addenda whether or not listed herein.

Addendum Number

Date of Addendum

Accompanying this proposal is bid security in the amount of \$ _____; said security is in the form of \$ _____ certified check or checks, and \$ _____ Bid Bond which shall become the property of the Department if this proposal shall be accepted by Department, and the undersigned shall fail to execute and return the contract in a timely manner or fail to comply with the requirements of the Bidding Documents.

Corporate Seal
(If no seal, write "No Seal" and sign)

Legal Name of Person, Partnership or Corporation

By _____
Print Name

Signature

Date _____

Please Complete Information Requested Below:

The P.O. address of the bidder is: _____

Federal Identification Number is: _____

If a Corporation

Name

Address

_____, President
_____, Secretary
_____, Treasurer

If a Partnership

Name

Address

_____, President
_____, Secretary
_____, Treasurer

Acknowledgement by Contractor, if an Individual

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____, 19____, before me personally came _____ to me known and known to me to be the person described in and who executed the foregoing instrument and (s)he personally acknowledged to me that (s)he executed the same.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Partnership

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____, 19____, before me personally came _____ to me known and known to me to be one of the members of the firm of _____ described in and executed the foregoing instrument, and (s)he acknowledged to me that (s)he executed the same as and for the act and deed of said firm, and with authority to bind said firm.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Corporation

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____, 19____, before me personally came _____ to me known, who, being by me duly sworn, did depose and say that (s)he resides at _____; and that (s)he is the _____ of _____ the corporation described in and which executed the foregoing instrument; and that (s)he signed their name thereto by order of the Directors of said corporation and with authority to bind said corporation.

Notary Public

ARTICLE 1(b) - Non-Collusive Bidding Certification (Required by Sec. 139-d of the State Finance Law)

Section 139-d "Statement of non-collusion in bids to the State."

- 1) Every Bid hereafter made to **Department** or any public department , agency or official thereof, where competitive bidding is required by statute, rule or regulation, for work or ~~services~~ performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the Bidder and affirmed by such Bidder as true under the penalties of perjury: Non-collusive bidding certification.
 - a) By submission of this Bid, each Bidder and each person signing on behalf of any bidder certifies, and in the case of a joint Bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:
 - i) The prices in his Bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;
 - ii) Unless otherwise required by law, the prices which have been quoted in this Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and
 - iii) No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a Bid for the purpose of restricting competition.
 - b) A Bid shall not be considered for award nor shall any award be made where (a) 1, 2 and 3 above have not been complied with; provided however, that if in any case the Bidder cannot make the foregoing certification, the Bidder shall so state and shall furnish with the Bid a signed statement which sets forth in detail the reasons therefore. Where (a) 1, 2 and 3 above have not been complied with, the Bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the State, public department or agency to which the Bid is made, or his/her designee determines that such disclosure was not made for the purpose of restricting competition.

The fact the a Bidder a) has published price lists, rates or tariffs covering items being procured, b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one (a).

- 2) Any Bid hereafter made to the State or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule or regulation, and where such Bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the Bidder and such authorization shall be deemed to include the signing and submission of the Bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.:

Corporate Seal
(If no seal, write "No Seal" and sign)

Name of Firm _____

By _____
Name of Signatory

Title _____

Signature _____

ARTICLE 1(c) - Macbride Fair Employment Principles

The Bidder, by signing this bid document, stipulates that they he/she will adhere to the MacBride Fair Employment Principles as described under Section 174-b of the State Finance Law.

In so stipulating, the Bidder states that they either:

- 1) Have no business operations in Northern Ireland, and
- 2) Will take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Fair Employment Principles relating to non-discrimination in employment and freedom of workplace opportunity, and shall permit independent monitoring of its compliance with such principles.

Contract Number _____

The Contractor, by affixing his/her signature below, hereby stipulates that they will adhere to the MacBride Fair Employment Principles, as prescribed under Section 174-b of the State Finance Law and that this stipulation shall be made part of the above referenced contract.

In so stipulating, the Contractor states that they either: 1) have no business operations in Northern Ireland or, 2) if so engaged, will conduct said operations in accordance with the MacBride Fair Employment Principles.

Signature

Date

Bid Security

If Bid Security is a Bid Bond, use Bid Bond form and provide certified power of attorney.

ARTICLE 1(e) - Bid Bond

Know all men by these presents, that we, the undersigned, _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto New York State Department of Environmental Conservation in the penal sum of _____ for the payment of which, will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 19 ____.

The condition of the above obligation is such that whereas the Principal has submitted to New York State Department of Environmental Conservation certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

Now, Therefore

- a) If said Bid shall be rejected, or in the alternate,
- b) If said Bid shall be accepted and the principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for the faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bids; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(Seal)

Principal

Surety

By _____

Acknowledgement by Surety Company

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____, 19____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ of the _____, the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and the he/she signed his name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Corporation

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____, 19____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ of the _____, the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and the he/she signed his name thereto by like order.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Partnership

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____, 19____ before me personally came _____ to me known, who, being by me duly sworn, did depose and say that he/she resides in _____, that (s)he is one of the members of the firm of _____ described in and which executed the within instrument, and he/she acknowledged to me that he/she executed the same as and for the act and deed of said firm, and with authority to bind said firm.

(Seal)

Notary Public

Acknowledgement by Contractor, if an Individual

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____, 19____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the person described in and who executed the within instrument, and he/she personally acknowledged to me that he/she executed the same.

(Seal)

Notary Public

ARTICLE 2(a) - Corporate Resolution and Certification

"This Article 2(a) is not applicable"

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ARTICLE 2(b) - Statement of Surety's Intent

To: **New York State Department of Environmental Conservation**

We have reviewed the Bid of _____ (Contractor)

of _____ (Address)

for _____ (Project)

Project Number _____

NYS Site Number _____

Bids for which will be received on _____ (insert Bid Opening Date) and wish to advise that should this Bid of Contractor be accepted and the Contract awarded to Contractor, it is our present intention to become surety on the Performance Bond and Labor and Material Payment Bond required by the Contract.

Any arrangement for the Bonds required by the Contract is a matter between Contractor and ourselves and we assume no liability to Department or third parties if for any reason we do not execute the requisite bonds.

We are duly licensed to do business in the State of New York.

Attest:

Corporate Seal

(If no seal, write "No Seal" and sign)

Surety's Authorized Signature(s)

Telephone Number for Bonding Company

Telephone Number for Bonding Broker

Attach Power of Attorney

ARTICLE 2(c) - NYS Directory of Certified Minority and Women-Owned Business

The New York State Directory of Certified Minority and Women-Owned Business Enterprises has been developed to assist public and private purchases of goods and services in locating and using bonafide minority and women-owned business as defined in accordance with Article 15-A of the Executive Law and Article 4(a) of the Economic Development Law.

M/WBE Directory on the Internet

Empire State Development has put the Minority and Women's Business Development Directory on the Internet. The Internet address is www.empire.state.ny.us, just follow the links to the M/WBE Directory.

The new system will be available seven (7) days a week, 7:00 a.m. to 10:00 p.m. and the information will be updated daily. Support will be available from 9:00 a.m. to 5:00 p.m., Monday through Friday, except for NYS holidays. If assistance is needed call (518) 474-1979.

M/WBE-EEO Utilization Plan
New York State Department of Environmental Conservation

(To be completed by each contractor/consultant and submitted to DEC for review)

Consultant/Contractor Name:		Date:	
Address:	City:	State:	Zip:
Name and Title of Authorized Representative:		Signature of Authorized Representative:	
Name and Title of M/WBE Representative:		Signature of M/WBE Representative:	
Contract Description:		Contract Number:	

Projected M/WBE and EEO Summary

	<i>Percent</i>	<i>\$ Amount</i>		<i>Percent</i>	<i>Number of Employees</i>	<i>Work Hours</i>
1. Total Dollar value of the Prime Contract/product provided	%		5. Total No. Employees and work hours	100%		
2. MBE goal applied to the contract	%		6. Total goal for minority employees	%		
3. WBE goal applied to the contract	%		7. Total goal for female employees	%		
4. M/WBE combined totals	%		8. EEO combined totals	%		

SECTION I - MBE INFORMATION

In order to achieve MBE goals, minority firms are expected to participate in the following manner:

<i>MBE Firm</i>	<i>Description of Work to be Done by MBE</i>	<i>Projected Contract Amount & Award Date</i>	<i>Scheduled Contract Start Date</i>	<i>Contract Payment Schedule</i>	<i>Contract Completion Date</i>
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
		Date:			
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>					
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>					
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
		Date:			
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
		Date:			

SECTION II - WBE INFORMATION In order to achieve WBE goals, minority firms are expected to participate in the following manner:

<i>WBE Firm</i>	<i>Description of Work to be Done by MBE</i>	<i>Projected Contract Amount & Award Date</i>	<i>Scheduled Contract Start Date</i>	<i>Contract Payment Schedule</i>	<i>Contract Completion Date</i>
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
Date:					
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
Date:					
<i>Name</i> <i>Address</i> <i>City</i> <i>ST/Zip</i> <i>Phone</i>		\$			
Date:					

SECTION III - EEO INFORMATION In order to achieve the EEO goals minorities and females are expected to be employed in the following job categories for the specified amount of work hours:

<i>Job Categories</i>	<i>Total Work Hours of Contract</i>	<i>All Employees</i>		<i>Minority Employees</i>			
		<i>Males</i>	<i>Females</i>	<i>Black</i>	<i>Asian</i>	<i>Native American</i>	<i>Hispanic</i>
Officials/Managers							
Professional							
Technicians							
Sales Workers							
Office/Clerical							
Craftsmen							
Laborers							
Service/Workers							
TOTALS							

ARTICLE 2(e) - NYS Uniform Contracting Questionnaire Instructions

The NYS Uniform Contracting Questionnaire, which is included in Section V, "Bid Forms and Attachments," must be completed and submitted to **Department** by the apparent low bidder. The complete questionnaire must be received by **Department** within three (3) business days after the apparent low bidder has been so notified. The completed questionnaire or the affidavit of no change (if appropriate) must be addressed to:

NYS Department of Environmental Conservation
Division of Management and Budget Services
Procurement Bureau, Room 686
50 Wolf Road
Albany, NY 12233-5027

The envelope should be clearly marked "**NYS Uniform Contracting Questionnaire.**" Failure of the apparent low bidder to timely submit the complete, properly executed questionnaire may result in disqualification of the low bidder.

Before **Department** will consent to any subcontracts over \$10,000, the proposed subcontractor must submit a complete, properly executed questionnaire through **Contractor**.

Any delay in the progress of work caused by the failure of a subcontractor to comply with these requirements will be attributable to **Contractor** and any additional costs will be **Contractor's** responsibility.

[illegible]

7. Does the firm own, or has the firm within the past five years owned, 5.0% or more of any other firm? Yes, list below No

FEDERAL ID NO.	% OWNED	COMPANY NAME	ADDRESS
		A.	

FEDERAL ID NO.	COMPANY NAME	ADDRESS

[illegible]

10. List the ten most recent contracts the firm has completed. If less than ten, include most recent subcontracts on projects up to that number:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	AWARD DATE	AMOUNT	DATE COMPLETE
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

11. List all current uncompleted construction contracts:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	TOTAL \$ AMOUNT OF FIRM'S CONTRACT (OR SUBCONTRACT)	\$ AMOUNT SUBLET TO OTHERS	UNCOMPLETED \$ AMOUNT OF FIRM CONTRACT (OR SUBCONTRACT)

12. Net Total Billings for Firm's Previous 3 Fiscal Years:

19 _____ \$ _____
 19 _____ \$ _____
 19 _____ \$ _____

Average Backlog for Firm's Previous 3 Fiscal Years:
(Estimated total value of uncompleted work on outstanding contracts)

19 _____ \$ _____
 19 _____ \$ _____
 19 _____ \$ _____

13. Has the firm, or any firm listed in response to questions 6, 7 or 8, defaulted or been terminated on, or had its surety called upon to complete, any contract award within the past five years? If so, give date(s), agency(ies)/owner(s), project(s), contract numbers, and describe including the result: _____

14. For all contracts within the past five years: (a) list and describe all liens or claims over \$25,000 filed against the firm and remaining undischarged or unsatisfied more than 90 days; and (b) list and describe all liquidated damages assessed.

FINANCIAL INFORMATION

15. Complete the attached financial statement or attach a copy of the firm's most recent annual financial statement.

OTHER INFORMATION

16. Within the past five years has the firm, any affiliate, any predecessor company or entity, or any person identified in question number 6 above been the subject of any of the following: (respond to each question and describe in detail the circumstances of each affirmative answer; attach additional pages if necessary)

- | | | |
|---|---------|----------|
| (a) a judgment of conviction for any business-related conduct constituting a crime under state or federal law? | no ____ | yes ____ |
| (b) a criminal investigation or indictment for any business-related conduct constituting a crime under state or federal law? | no ____ | yes ____ |
| (c) a grant of immunity for any business-related conduct constituting a crime under state or federal law? | no ____ | yes ____ |
| (d) a federal or state suspension or debarment? | no ____ | yes ____ |
| (e) a rejection of any bid for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? | no ____ | yes ____ |
| (f) a rejection of any proposed subcontract for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? | no ____ | yes ____ |
| (g) a denial or revocation of prequalification? | no ____ | yes ____ |
| (h) a voluntary exclusion from bidding/contracting agreement? | no ____ | yes ____ |
| (i) any administrative proceeding or civil action seeking specific performance or restitution in connection with any public works contract except any disputed work proceeding? | no ____ | yes ____ |
| (j) an OSHA Citation and Notification of Penalty containing a violation classified as serious? | no ____ | yes ____ |
| (k) an OSHA Citation and Notification of Penalty containing a violation classified as willful? | no ____ | yes ____ |
| (l) a prevailing wage or supplement payment violation? | no ____ | yes ____ |
| (m) a State Labor Law violation deemed willful? | no ____ | yes ____ |
| (n) any other federal or state citations, Notices, violation orders, pending administrative hearings or proceedings, or determinations of a violation of any labor law or regulation? | no ____ | yes ____ |

- (o) any criminal investigation, felony indictment or conviction concerning formation of, or any business association with, an allegedly false or fraudulent women's, minority or disadvantaged business enterprise? no ___ yes ___
- (p) any denial, decertification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status? no ___ yes ___
- (q) rejection of a low bid on a State contract for failure to meet statutory affirmative action or M/WBE requirements? no ___ yes ___
- (r) a consent order with the NYS Department of Environmental Conservation, or a federal, state or local government enforcement determination involving a violation of federal or state environmental laws? no ___ yes ___
- (s) any bankruptcy proceeding? no ___ yes ___
- (t) any suspension or revocation of any business or professional license? no ___ yes ___
- (u) any citations, Notices, violation orders, pending administrative hearings or proceedings or determinations for violations of: no ___ yes ___
- federal, state or local health laws, rules or regulations
 - unemployment insurance or workers compensation coverage or claim requirements
 - ERISA (Employee Retirement Income Security Act)
 - federal, state or local human rights laws
 - federal or state security laws?

___ None of the above

CERTIFICATION

The undersigned recognizes that this questionnaire is submitted for the express purpose of inducing the State of New York or its agencies and instrumentalities to award a contract; or approve a subcontract; acknowledges that the State or its agencies and instrumentalities may in its discretion, by means which it may choose, determine the truth and accuracy of all statements made herein; acknowledges that intentional submission of false or misleading information may constitute a felony under Penal Law §210.40 or a misdemeanor under Penal Law §210.35 or §210.45, and may also be punishable by a fine of up to \$10,000 or imprisonment of up to five years under 18 U.S.C. §1001; and states that the information submitted in this questionnaire and any attached pages is true, accurate and complete.

Sworn to before me this

_____ day of _____, _____

Notary Public

Signature of Officer

Title

As of _____
(Date)ASSETS

1. <u>Current Assets</u>		
2. Cash		\$ _____
3. Accounts receivable - less allowance for doubtful accounts		_____
Retainers included in accounts receivable	\$ _____	
Claims included in accounts receivable not yet approved or in litigation	_____	
4. Notes receivable - due within one year		_____
5. Inventory - materials		_____
6. Contract costs in excess of billings on uncompleted contracts		_____
7. Accrued income receivable		
Interest	_____	
Other (list) _____	_____	
_____	_____	
Total accrued income receivable		_____
8. Deposits		
Bid and plan _____		
Other (list) _____		

Total deposits		_____
9. Prepaid Expenses		
Income Taxes	_____	
Insurance	_____	
Other (list) _____	_____	
_____	_____	
Total prepaid expenses		_____
10. <u>Other current Assets</u>		
(list) _____	_____	
_____	_____	
Total other current assets		_____
11. Total current assets		_____
12. <u>Investments</u>		
Listed securities-present market value	_____	
Unlisted securities-present value	_____	
13. Total investments		_____
14. <u>Fixed Assets</u>		
Land	_____	
Building and improvements	_____	
Leasehold improvements	_____	
Machinery and equipment	_____	
Automotive equipment	_____	
Office furniture and fixtures	_____	
Other (list) _____	_____	
_____	_____	
Total	_____	
Less: accumulated depreciation	_____	
15. Total fixed assets - net		_____
16. <u>Other Assets</u>		
Loans receivable - officers	_____	
- employees	_____	
- shareholders	_____	
Cash surrender value of officers' life insurance	_____	
Organization expense - net of amortization	_____	
Notes receivable - due after one year	_____	
Other (list) _____	_____	
_____	_____	
_____	_____	

LIABILITIES19. Current Liabilities

20. Accounts payable

\$

21. Loans from shareholders - due within one year

22. Notes payable - due within one year

23. Mortgage payable - due within one year

24. Other payables - due within one year

(list)

\$

Total other payables - due within one year

25. Billings in excess of costs and estimated earnings

26. Accrued expenses payable - salaries and wages

- payroll taxes

- employees' benefits

- insurance

- other

Total accrued expenses payable

27. Dividends payable

28. Income taxes payable - state

- federal

- other

Total income expenses payable

Total current liabilities

29. Deferred Income Taxes Payable - state

- federal

- other

Total deferred income taxes

30. Long Term Liabilities

Loans from shareholders - due after one year

Notes payable - due after one year

Mortgage - due after one year

Other payables - due after one year

(list)

Total long term liabilities

31. Other Liabilities

(list)

Total other liabilities

32. Total Liabilities

Net Worth

33. Net Worth (if proprietorship or partnership)

34. Stockholders' Equity

Common stock issued and outstanding

Preferred stock issued and outstanding

Retained earnings

Total

Less: Treasury stock

Total stockholders' equity

35. TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY

NOTE: IF ADDITIONAL SPACE IS REQUIRED, PLEASE NOTE AND ATTACH SCHEDULE TO STATEMENT

36. Dated this _____ day of _____, 19____.

Name of Organization _____

By _____

Affidavit of No Change

STATE OF _____)
) SS:
COUNTY OF _____)

The undersigned, being duly sworn, deposes and says:

- 1) I am an officer/owner of _____ (hereinafter the "Contractor"), which is currently submitting a bid on a State Contract.
- 2) Contractor previously submitted a NYS Uniform Contracting Questionnaire within one year prior to the date hereof to _____ in connection with a bid on another State Contract.
- 3) Attached is an accurate and true copy of such previously submitted NYS Uniform Contracting Questionnaire.
- 4) I hereby certify that, with the exception of the information specified in questions 10 and 11, there has been no material change in the information pertaining to the Contractor specified on such attached Questionnaire, except as follows: _____

- 5) I hereby certify that there has been no change in the information pertaining to the uncompleted construction contracts of the Contractor specified in question 11 on the attached Questionnaire, except as follows: _____

On this _____ day of _____ 19____, before me personally came _____ to me known to be the person described herein, and who executed the foregoing instrument, and severally acknowledged that (s)he executed the same.

(Seal)

Notary Public

ARTICLE 3(a) - Instructions for Certificate of Insurance

This form must be used to certify insurance coverage and provide policy information. No other forms will be accepted.

Contractor must fill out Section I in its entirety before sending to the insurance agent.

Contractor is encouraged to send a copy of Section VIII, "General Conditions," Article 4, along with the Certificate of Insurance Form to its insurance agent in order that all required coverages and provisions are accounted for.

Insurance Agency

- 1) Complete Section 2 of the form.
- 2) Enter N/A if No Excess Umbrella (9) policy is in effect.
- 3) All insurance certificates must have a policy number entered otherwise it will result in rejection of the certificate.
- 4) Certificates must be signed by an authorized representative of the firm.
- 5) Specify policy if Other (10) is in effect, otherwise enter N/A.

Contractor

- 1) Complete Section I of the form.
- 2) At the top of the form, check "New" if you are submitting proof of coverage for a new contract. Check "Renewal" if you are submitting proof of renewals.
- 3) Submit original certificate and subsequent renewals to Division of Environmental Remediation, Room 267, New York State Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-7010, Attention: "_____, Project Manager." (See Section IV, Article 2 for name of project manager).

New York State Department of Environmental Conservation
 Division of Environmental Remediation
 Bureau of Construction Services
 50 Wolf Road, Albany, NY 12233-7010

Certificate of Insurance
 _____ New _____ Renewal

SECTION 1

Name and Address of Insured Contractor
 (for Coverages 1,2,3,4,6,7,8,9,10)

Name of Insured or Additional Insured

(for Coverage 5,6,7 & 10)

State of New York & NYS Department of Environmental Conservation

Location and Description of Work _____

SECTION 2

This is to certify that policies of insurance listed below have been issued to the contractor, named above, and are in force at this time.

Insurance	Policy #	Name of Company Affording Coverage	Expir. Date	Limits of Liability (in thousands)	
				Each Occurrence	Aggregate
1. Contractor's Liability					
2. Contractor's Protective Liability					
3. Complete Operations/Products					
4. Contractual Liability					
5. Owner's Protective Liability					
6. Automobile Liability					
7. Pollution Liability				\$5 million per claim if possible	
8. Worker's Comp. Disability Benefits				Limits as required by Law Limits as required by Law	
9. Excess Umbrella					
10. Other					

Such insurance as is herein certified: 1) applies to all operations of said insured in connection with the work required by the provisions of the document forming this contract, 2) applies whether or not the contract documents between the insured contractor and the State of New York Department of Environmental Conservation have been executed, and 3) is written in accordance with the company's regular policies and endorsements, subject to the company's applicable manuals or rules and rates in effect as modified by this certificate and the insurance article of the contract.

No policy referred to herein shall be changed, cancelled or coverage terminated for any reason including expiration of the policy or non-payment of premiums until thirty (30) days written notice has been received by the Division of Environmental Remediation, Room 267, NYS Dept. of Environmental Conservation, 50 Wolf Road, Albany, NY 12233-7010. Such notice shall be mailed via certified or registered mail.

 Date Issued

By _____

(Signature of Authorized Representative)

 Print Insurance Agency Name

Policy coverages must agree with coverages stated on the Certificate. False statements of coverage are punishable under Section 117 of the New York State Insurance Law.

ARTICLE 3(c) - Instruction for Performance Bond and Labor and Material Payment Bond

- 1) The performance bond and the labor and material payment bond are to be only submitted by the bidder who receives the Notice of Intent to Award letter from **Department**.
- 2) Use the forms that are included in the Contract Documents. **DO NOT RETYPE THE FORMS.**
- 3) Attach a **SEPARATE** certified power of attorney and surety financial statement to **EACH** bond (i.e., one set attached to performance bond and one set attached to labor and material payment bond).

ARTICLE 3(d) - Performance Bond

Date Bond Executed _____ NYSDEC-DER Site Number _____

Date Contract Executed By Principal _____

Principal (Name and Address) _____

Surety (Name and Address - Indicate State of incorporation and location of principal office) _____

Full and Just Sum of Bond (Express in words) _____

(Express in figures) _____

Know all men by these presents, That we, the **Principal** and **Surety**, above named, are held and firmly bound unto the Department of Environmental Conservation for and on behalf of the People of the State of New York, hereinafter called the Department, in full and just sum of the amount stated above, good and lawful money of the United States of America, to the payment of which said sum, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the **Principal** has entered into a certain written contract with the Department, covering the project and specification above;

Now, Therefore, the condition of this obligation is such, that if the **Principal** shall well, truly and faithfully comply with and perform all of the terms, covenants and conditions of said contract on their (his, its) part to be kept and performed, according to the true intent and meaning of said contract, and shall protect the Department and the People of the State of New York against, and pay any and all amounts, damages, costs and judgments which may or shall be recovered against the Department or the State of New York may be called upon to pay to any person or corporation by reason of any damages arising or growing out of the doing of said work, or the repair or maintenance thereof, or the manner of doing the same, or the neglect of the **Principal**, or their (its) agents or servants, or the improper performance of the work by the **Principal**, or their (its) agents or servants, or the infringement of any patent or patent rights by reason of the use of materials furnished or work done as aforesaid or otherwise, then this obligation shall be null and void, otherwise to remain in full force and virtue.

And the **Surety**, for value received, hereby stipulates and agrees, if requested to do so by the department to fully perform and complete the work mentioned and described in the contract and specifications, pursuant to the terms, conditions and covenants thereof, if for any cause, the **Principal** fails or neglects to so fully perform and complete the work; and the **Surety** further agrees to commence the work of completion within twenty days after notice thereof from the Department, and to complete the work with all due diligence.

And the **Surety**, for value received hereby stipulates and agrees that no change, extension, alteration or addition to the terms of this contract or specifications, accompanying the same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

In Testimony Whereof, the Principal and the President and Secretary of the Surety have caused this instrument to be signed and sealed on the date shown above.

Signed, sealed and delivered in the presence of _____
Name of Corporation

Corporate Seal of Principal
if a Corporation

By _____
Print Name

Signature L.S.

Date _____

Corporate Seal of Surety Company

Corporation Surety

Business Address

By (President) _____

Attest (Secretary) _____

Date _____

Acknowledgement by Contractor, if an Individual

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____ 19____, before me personally came _____ to me known and known to be the person described in, and who executed the foregoing instrument, and severally acknowledged that he executed the same.

Notary Public

Acknowledgement by Contractor, if a Corporation

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____ 19____, before me personally came _____ to me known, who being by me duly sworn did depose and say that he (she) resides in _____ that he (she) is the _____ of the _____, the corporation described in and which executed the foregoing instrument; that he (she) knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he (she) signed his (her) name thereto by like order.

Notary Public

Acknowledgement by Contractor, if a Co-Partnership

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____ 19____, before me personally came _____ to me known and known to me to be the person who executed the above instrument, who being duly sworn by me, did for himself (herself) depose and say that he (she) is a member of the firm of _____, consisting of himself (herself) and _____, and that he (she) executed the foregoing instrument in the firm name of _____, and that he (she) had authority to sign same, and he (she) did duly acknowledge to me that he executed the same as the act and deed of said firm of _____ for the uses and purposes mentioned therein.

Notary Public

Acknowledgement by Surety

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____ 19____, before me personally came _____ to me known, who being by me duly sworn, did depose and say that he (she) resides in _____, that he (she) is _____ of the _____, the corporation described in and which executed the within instrument; that he (she) knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he (she) signed his (her) name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York; and the said _____ (attestor) further said that he (she) is acquainted with _____ and knows him (her) to be the _____ of said company; that the signature of the said _____ subscribed to the within instrument is in the genuine handwriting of the said _____ and was subscribed thereto by like order of the Board of Directors, and in the presence of him (her), the said _____ (attestor).

Notary Public

Labor and Material Payment Bond

Date Bond Executed _____ NYSDEC-DER Site Number _____

Date Contract Executed By Principal _____

Principal (Name and Address) _____

Surety (Name and Address - Indicate State of incorporation and location of principal office) _____

Full and Just Sum of Bond (Express in words) _____

(Express in figures) _____

Know all men by these presents, That We, the Principal and the Surety above named, are held and firmly bound unto the Department of Environmental Conservation for and on behalf of the People of the State of New York, in full and just sum of the amount stated above, good and lawful money of the United States of America, to the payment of which said sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal has entered into a certain written contract with the Department of Environmental Conservation, covering the project and specification indicated above.

Now, Therefore, the condition of this obligation is such, that if the Principal shall promptly pay all moneys due to all persons furnishing labor and materials to him or his subcontractors in the prosecution of the work provided for in the contract, then this obligation shall be void, otherwise to remain in full force and effect;

Provided, however, that the Comptroller of the State of New York having required the Principal to furnish this bond in order to comply with the provisions of Section 137 of the State Finance Law, all rights and remedies on this bond shall inure solely to such persons and shall be determined in accordance with the provisions, conditions and limitations of said Section to the same extent as if they were copied at length herein; and

Further, provided, that the place of trial of any action on this bond shall be in the county in which the contract was to be performed, or if the contract was to be performed in more than one county, then in any such county, and not elsewhere.

In Testimony Whereof, the Principal and the President and Secretary of the Surety have caused this instrument to be signed and sealed on the date shown above.

Signed, sealed and delivered in the presence of _____

Name of Corporation

Corporate Seal of Principal
if a Corporation

By _____

Print Name

Signature

L.S.

Corporate Seal of Surety Company

Date _____

Corporation Surety

Business Address

By (President) _____

Attest (Secretary) _____

Date _____

Acknowledgement by Contractor, if an Individual

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____ 19____, before me personally came _____ to me known and known to be the person described in, and who executed the foregoing instrument, and severally acknowledged that he executed the same.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Corporation

STATE OF _____)
COUNTY OF _____) SS:

On this _____ day of _____ 19____, before me personally came _____ to me known, who being by me duly sworn did depose and say that he (she) resides in _____ that he (she) is the _____ of the _____, the corporation described in and which executed the foregoing instrument; that he (she) knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he (she) signed his (her) name thereto by like order.

(Seal)

Notary Public

Acknowledgement by Contractor, if a Co-Partnership

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____ 19____, before me personally came _____ to me known and known to me to be the person who executed the above instrument, who being duly sworn by me, did for himself (herself) depose and say that he (she) is a member of the firm of _____, consisting of himself (herself) and _____, and that he (she) executed the foregoing instrument in the firm name of _____, and that he (she) had authority to sign same, and he (she) did duly acknowledge to me that he executed the same as the act and deed of said firm of _____ for the uses and purposes mentioned therein.

(Seal)

Notary Public

Acknowledgement by Surety

STATE OF _____)
) SS:
COUNTY OF _____)

On this _____ day of _____ 19____, before me personally came _____ to me known, who being by me duly sworn, did depose and say that he (she) resides in _____, that he (she) is _____ of the _____, the corporation described in and which executed the within instrument; that he (she) knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he (she) signed his (her) name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York; and the said _____ (attestor) further said that he (she) is acquainted with _____ and knows him (her) to be the _____ of said company; that the signature of the said _____ subscribed to the within instrument is in the genuine handwriting of the said _____ and was subscribed thereto by like order of the Board of Directors, and in the presence of him (her), the said _____ (attestor).

(Seal)

Notary Public

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MANAGEMENT AND BUDGET
CONTRACTOR'S APPLICATION FOR PAYMENT
(UNIT PRICE CONTRACT)

Payee (Name and Address)	FOR INTERNAL USE ONLY	
	STATE COMPTROLLER'S PRE AUDIT CERTIFIED FOR PAYMENT IN THE SUM OF \$ _____ By: _____	Comptroller's Contract Number _____ Certificate Number _____ Originating Agency _____ Date Prepared _____
Work Period Ending 19 _____		

With Final Payment Attach Labor Affidavits for Payroll Period to Conform to New York State Labor Law Section 220.

SCHEDULE I FINANCIAL STATEMENT

CONTRACT AND CHANGE ORDER AMOUNTS		WORK COMPLETED TO DATE	
Line		Line	
1. Original Bid Price (Schedule V, Col. 1)	\$ _____	1. Contract Work Performed (Schedule V, Col. 2)	\$ _____
2. Change Order (Schedule VI, Col. 1)	\$ _____	2. Change Orders (Schedule VI, Col. 2)	\$ _____
3. Net Contract Amount	\$ _____	3. Value earned to Date	\$ _____
4. Maximum Retainage (5% of Line 3)	\$ _____	4. Less Retainage (5% up to Maximum)	\$ _____
		5. Value Earned to Date Less Retainage	\$ _____
		6. Less Prior Payments	\$ _____
		7. This Payment	\$ _____

SCHEDULE II CERTIFICATION BY CONTRACTOR

I _____ (Name) do hereby certify that I am _____ (Title) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this application.

Date

Signature

SCHEDULE III CERTIFICATION OF INSPECTOR

I certify that I have checked and verified the above application for payment; that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the contractor; that all work/or material included in this application has been inspected by me and/or by my duly authorized representative or assistants and that the work has been performed and/or materials supplied in full accordance with requirements of the referenced contract; and that payment claimed and requested by the contractor is correctly computed on the basis of work performed and/or material supplied to date.

Date

Architect/Engineer

SCHEDULE IV ENDORSED BY DEPARTMENT OF ENVIRONMENTAL CONSERVATION

EXAMINED AND APPROVED BY RESPONSIBLE DIVISION OR BUREAU

APPROVED FOR PAYMENT BY DIVISION OF FISCAL MANAGEMENT

DATE

SIGNATURE

DATE

SIGNATURE

EXPENDITURES								LIQUIDATION			
Dept	Cost Center	Var	Yr	Object	Accum		Amount	Orig. Agency	PO/Contract	Line	F/P
					Dept	Statewide					

SCHEDULE V					JOB PROGRESS		
Itemized Proposal					Work Completed to Date		
Item No.	Unit Price	Estimated Quantity	Type of Work	COLUMN 1 Contract Amount	Actual Quantity	COLUMN 2 Amount	Code
				\$		\$	
			Totals	\$		\$	

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MANAGEMENT AND BUDGET
CONTRACTOR'S APPLICATION FOR PAYMENT
(LUMP SUM CONTRACT)

Payee (Name and Address)	FOR INTERNAL USE ONLY		
	STATE COMPTROLLER'S PRE AUDIT CERTIFIED FOR PAYMENT IN THE SUM OF \$ _____ By: _____	Comptroller's Contract Number	
		Certificate Number	
		Originating Agency	
Work Period Ending 19____	Date Prepared		

With Final Payment Attach Labor Affidavits for Payroll Period to Conform to New York State Labor Law Section 220.

SCHEDULE I FINANCIAL STATEMENT

CONTRACT AND CHANGE ORDER AMOUNTS		WORK COMPLETED TO DATE	
Line		Line	
1. Original Bid Price (Schedule V, Col. 1)	\$ _____	1. Contract Work Performed (Schedule V, Col. 2)	\$ _____
2. Change Order (Schedule VI, Col. 1)	\$ _____	2. Change Orders (Schedule VI, Col. 2)	\$ _____
3. Net Contract Amount	\$ _____	3. Value earned to Date	\$ _____
4. Maximum Retainage (5% of Line 3)	\$ _____	4. Less Retainage (5% up to Maximum)	\$ _____
		5. Value Earned to Date Less Retainage	\$ _____
		6. Less Prior Payments	\$ _____
		7. This Payment	\$ _____

SCHEDULE II CERTIFICATION BY CONTRACTOR

I _____ (Name) do hereby certify that I am _____ (Title) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this application.

Date

Signature

SCHEDULE III CERTIFICATION OF INSPECTOR

I certify that I have checked and verified the above application for payment; that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the contractor; that all work/or material included in this application has been inspected by me and/or by my duly authorized representative or assistants and that the work has been performed and/or materials supplied in full accordance with requirements of the referenced contract; and that payment claimed and requested by the contractor is correctly computed on the basis of work performed and/or material supplied to date.

Date

Architect/Engineer

SCHEDULE IV ENDORSED BY DEPARTMENT OF ENVIRONMENTAL CONSERVATION

EXAMINED AND APPROVED BY RESPONSIBLE DIVISION OR BUREAU							APPROVED FOR PAYMENT BY DIVISION OF FISCAL MANAGEMENT				
DATE _____ SIGNATURE _____							DATE _____ SIGNATURE _____				
EXPENDITURES							LIQUIDATION				
Dept	Cost Center	Var	Yr	Object	Accum		Amount	Orig. Agency	PO/Contract	Line	F/P
					Dept	Statewide					

SCHEDULE V

JOB PROGRESS

SCHEDULE VI

APPROVED CHANGE ORDERS

[illegible]

Final Payment Release

For and in consideration of the receipt of final payment on the contract hereinafter identified, and in order to induce the New York State Department of Environmental Conservation (**Department**) to make such payment, the **Engineer (Contractor)** hereby releases the **Department** for any and all claims, of any nature whatsoever, arising under or in connection with the contract, except for the following claims:

(List any exempted claims)

For and in consideration of the receipt of final payment on the contract hereinafter identified, and in order to induce the **Department** to make such payment, the **Engineer (Contractor)** hereby states that it has paid all moneys due subcontractors, subconsultants, suppliers, material, men or others due payment for work or services performed in furtherance of this contract, except as follows:

(List all subcontractors, subconsultants, suppliers, etc. who have outstanding claims for payment or who have not been paid in full. A complete explanation of the facts and circumstances should be set forth on a separate sheet and attached hereto)

The **Engineer (Contractor)** hereby indemnifies and holds the **Department** and the State of New York harmless from any losses from claims, demands, payments, suits, actions, liens, recoveries and judgments of every nature and description brought or recovered against it by reason of failure to make such payments.

Contract Number _____

Firm

Print Name

Signature

Date

STATE OF _____)
) SS:
COUNTY OF _____)

On the _____ day of _____ 19, _____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____ that (s)he is _____ of _____ the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation and that (s)he executed such instrument by like order and with authority to bind such corporation.

Notary Public

ARTICLE 4(c)

Payment Affidavit

This Article 4(c) is not applicable

New York State Labor Law, Section 220-a, Subcontractor's Certification

- Signature**

Print Name _____

Title

STATE OF _____)
) SS:
COUNTY OF _____)

Notary Public

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SECTION VI

Agreement

This Agreement by and between the New York State Department of Environmental Conservation, (hereinafter referred to as **Department**) having offices at 50 Wolf Road, Albany, New York 12233 and

_____ a corporation organized and existing under the laws of the State of _____

_____ a partnership, consisting of

_____ an individual conducting business as

the location of whole principal office is _____ hereinafter called
"Contractor."

WITNESSETH

Whereas, Department is empowered by law to obtain services; the performance of these services is essential to **Department**; and **Department**, after fully examining all of its internal capabilities and thoroughly investigating all possible alternative approaches, has determined that certain tasks can best be accomplished through a contract;

Whereas, Contractor hereby represents that it is capable of providing the services which are the subject matter of the Contract;

Now Therefore, Department and Contractor, in consideration of the mutual covenants hereinafter set forth agree as follows:

ARTICLE 1 - Defined Terms

Terms used in the Agreement which are defined in the Contract Documents have the intent and meanings assigned to them in the Contract Documents.

ARTICLE 2 - Work

As indicated or specified in the Contract Documents, **Contractor** shall complete in a timely and workmanlike manner, any and all obligations, duties and responsibilities, and provide any and all labor, materials, equipment, temporary facilities, and incidentals necessary to complete the construction generally identified and shown on the plans and Contract Documents entitled:

Remediation of the Sweden-3, Chapman Site, Sweden, Monroe County, New York

ARTICLE 3 - Engineer

_____ shall assume all duties and responsibilities of and have the rights and authority assigned to **Engineer** in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - Contract Documents

The Documents which comprise the entire Contract between **Department** and **Contractor** concerning the Work consist of the following:

- 4.0 Appendices A and B
- 4.1 Rider to Appendix B
- 4.2 **Engineer's** written clarifications and interpretations
- 4.3 Change Orders
- 4.4 Administrative Agreements
- 4.5 Field Orders
- 4.6 Proposed Change Orders signed by **Department**
- 4.7 Approved Shop Drawings
- 4.8 Addenda
- 4.9 Agreement
- 4.10 Measurement for Payment
- 4.11 Bid Forms and Attachments Exclusive of Bonds and Insurance Certificates
- 4.12 Drawings, Plans
- 4.13 Supplementary Specifications
- 4.14 Supplementary Conditions
- 4.15 Standard Specifications
- 4.16 General Conditions
- 4.17 Supplementary Bidding Information and Requirements
- 4.18 Bidding Information and Requirements
- 4.19 Terms and Definitions
- 4.20 Advertisement
- 4.21 Bonds and Insurance Certificates

In the event of a conflict between the documents set forth above, they shall be entitled to priority according to the order in which they are listed.

ARTICLE 5 - Contractor's Representations

In order to induce **Department** to enter into this Agreement, **Contractor** makes the following representations:

- 5.1 **Contractor** has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and applicable Laws that in any manner may affect cost, schedule, progress, performance or furnishing of the Work.
- 5.2 **Contractor** has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in Information to Bidders, as provided in the General Conditions, and accepts the determination set forth in said Section to the extent of the technical data contained in such reports and drawings upon which **Contractor** is entitled to reply.
- 5.3 **Contractor** has obtained and carefully studied all such examinations, investigations, explorations, tests, reports and studies which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, schedule, progress, performance or furnishing of the Work as **Contractor** considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Article 3 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by **Contractor** for such purposes.

- 5.4 **Contractor** has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by **Contractor** in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Article 3 of the General Conditions.
- 5.5 **Contractor** has correlated (or assumes responsibility for correlating) the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 5.6 **Contractor** has given **Engineer** written notice of all conflicts, errors or discrepancies that he (she) has discovered in the Contract Documents and any written resolution thereof is acceptable to **Contractor**.

ARTICLE 6 - Contract Time

The number of days within which, or alternatively, the dates by which, the Work, or any specified part thereof, is to be completed (the Contract Times) are set forth as follows:

- 6.1 The Work will be Substantially Completed within one hundred and eighty (180) days from the date established in the Notice to Proceed.
- 6.2 Separable parts of the Work, if specified in an Attachment A to this Agreement, will be Substantially Completed within the number of days stated in Attachment A from the date established in the Notice to Proceed.
- 6.3 The Work will be completed and ready for final payment in accordance with the General Conditions within two hundred and forty (240) days from the date established in the Notice to Proceed or within 60 days of substantial completion, whichever is sooner.
- 6.4 **Department** and **Contractor** recognize that the Contract Time(s) specified in paragraphs 6.1, 6.2, and 6.3 above are of the essence of this Agreement, and that **Department** may suffer financial loss if the Work is not completed within the Contract Time(s) specified above, plus any extensions thereof allowed in accordance with the General Conditions, as amended or supplemented in the Supplementary Conditions.
- 6.5 Accordingly, **Contractor** agrees to forfeit and pay **Department** as liquidated damages, and not as a penalty, the amount of two hundred and fifty dollars (\$250) for each day that expires after the Contract Time specified in paragraph 6.1 above for Substantial Completion until the Work is Substantially Complete. **Contractor** further agrees to pay **Department** as liquidated damages, and not as a penalty, each of the amounts set forth in attachment a to this agreement for each day that expires after each of the contract times specified in paragraph 6.2 above for substantial completion until the each of the separable parts of the work is substantially complete. After substantial completion of the work, if **Contractor** shall neglect, refuse or fail to complete the remaining work within the contract time or any proper extension thereof granted by **Department**, **Contractor** shall pay **Department** as liquidated damages, and not as a penalty, the amount of one hundred and sixty-five dollars (\$165) for each day that expires after the Contract Time specified in paragraph 6.3 above for completion and readiness for payment. These liquidated damages are additive and represent a reasonable estimate, in lieu of any such proof, of **Department's** extra expenses for Inspection, engineering services, administrative costs, and Interim excess operating costs for each day that expires after the associated Contract Time.

- 6.6 In addition to the liquidated damage amounts set forth in paragraph 6.5 above, **Contractor** agrees to pay **Department's** additional actual damages arising out of the types of expenses itemized below for each day that expires after each of the Contract Times specified in paragraph 6.1 above for Completion of each of the designated parts of the Work until each of the designated parts of the Work achieves the specified completion. These actual damages are additive and shall equal **Department's** expenditures for costs other than those itemized in paragraph 6.5, including, but not limited to, delay damage settlements or awards related to other separate contracts, delay penalties or fines imposed by regulatory agencies, contract damage and loss of use, excess financing costs, and professional fees and related expenses incurred thereto.

ARTICLE 7 - Alterations and Omissions

Department reserves the right, at any time during the progress of the work, to alter the plans or omit any portion of the work as it may deem reasonably necessary for the public interest; making allowances for additions and deductions with compensation made in accordance with the Contract Documents.

ARTICLE 8 - Determinations as to Variances

In case of any ambiguity in the Contract Documents, the matter must be immediately submitted to the Representative of **Department** designated in the Contract Documents, who shall adjust the same, and his (her) decision in relation thereto shall be final and conclusive upon the parties.

ARTICLE 9 - Payment Procedures

Contractor shall submit Applications for Payment on standard form in accordance with the General Conditions. Applications for Payment will be processed by **Engineer** as provided in the General Conditions, as amended or supplemented in the Supplementary Conditions and in accordance with Section 139-f of the State Finance Law.

- 9.1 **Progress Payments.** **Contractor** shall submit Applications for Payments to **Engineer** for review no more frequently than monthly in accordance with paragraph 13.2 of the General Conditions from the date when the Contract Time commences to run. **Department** shall make progress payments against the Contract Price on the basis of **Contractor's** Applications for Payment as recommended by **Engineer** as provided below. All progress payments will be calculated on the basis of the progress of the Work measured by the schedule of values established pursuant to paragraph 1.4.3 of the General Conditions. Progress payments will also be made for materials pertinent to the Contract in accordance with the General Conditions.
- 9.1.1 Prior to Substantial Completion of the Work, progress payments will be made less five percent (5%) the aggregate of payments previously made and less an amount necessary to satisfy any claims, liens, or judgments against **Contractor** which have not been suitably discharged.
- 9.2 **Payment upon substantial completion.** When the work or major portions thereof, as contemplated in the Contract Documents, is substantially completed, **Contractor** shall submit to **Department**, an Application for Payment in accordance with the General Conditions for the remaining amount of the contract balance or amount due for that major portion completed. **Department** will pay the remaining Contract balance, or amount due for that major portion completed, less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens, judgments against **Contractor** which have not been suitably discharged. Payment for remaining items will be made upon their completion.

- 9.3 **Final Payment.** Upon final completion of the physical Work and acceptance of the Work in accordance with the General Conditions, **Department** shall pay the remainder of the Contract Price as recommended by **Engineer**.

ARTICLE 10 - No Estimate on Contractor's Noncompliance

It is further agreed that so long as **Contractor** has not complied with any lawful or proper direction concerning the work or material given by **Department**, **Contractor** shall not be entitled to have any estimate made for the purpose of payment, nor shall any estimate be rendered on account of work done or material furnished until **Contractor** has fully and satisfactorily complied with such direction.

ARTICLE 11 - Delays, Inefficiencies, and Interference

Contractor agrees to make no claim for any consequential damages attributable to any delays, or act in the performance of this contract which are not directly occasioned by any act or omission to act by the State or any of its representatives. In the event **Contractor** completes the work prior to the contract completion date set forth in the proposal, **Contractor** hereby agrees to make no claim for extra costs due to delays, interferences or inefficiencies in the performance of the work.

- 1) **Contractor** further agrees that it has included in its bid prices for the various items of the contract any additional costs for delays, inefficiencies, or interferences affecting the performance or scheduling of contract work caused by, or attributable to, the following instances:
 - a) The work or the presence on the Site of any third party, including but not limited to that of other contractors or personnel employed by the State, or by other public bodies, by railroad, transportation or utility companies or corporations, or by private enterprises, or any delay in progressing such work by any third party.
 - b) The existence of any facility or appurtenance owned, operated, or maintained by any third party.
 - c) The act, or failure to act, of any other public or governmental body, including, but not limited to, approvals, permits, restrictions, regulations or ordinances.
 - d) Restraining orders, injunctions, or judgments issued by a court.
 - e) Any labor boycott, strike, picketing or similar situation.
 - f) Any shortages of supplies or materials required by the contract work.
 - g) Any situation which was, or should have been within, the contemplation of the parties at the time of entering into the contract.

ARTICLE 12 - Postponement, Suspension or Termination

- 12.1 **Department** shall have the right to postpone, suspend or terminate this Contract in whole or in part for the convenience of **Department**. If, after termination for cause of **Contractor** it is determined that no cause existed for termination of **Contractor**, such termination shall be deemed to have been made for the convenience of **Department**.
- 12.2 If this Contract is terminated by **Department** for convenience or cause, **Department** shall make payment on an equitable basis for all work performed in accordance with the Contract Documents prior to termination in accordance with paragraphs 12.3 and 12.4 below.

- 12.3 If this contract is terminated for cause, no payment shall be made for anticipated profit on unperformed work or services. Additionally, **Department** may adjust any payment due to **Contractor** at the time of termination to account for any additional costs to **Department** because of **Contractor's** default.
- 12.4 If this contract is terminated for convenience, payment shall be made for any services rendered and expenses incurred prior to the termination, in addition to termination settlement costs reasonably incurred by **Contractor** which had become firm prior to the termination.
- 12.5 Upon termination of this Contract under this Agreement, **Department** may take over the work or may award or negotiate a contract with another party to complete work required by these Contract Documents.

ARTICLE 13 - Completion of Physical Work and Final Acceptance

The time within which **Department** may bring an action on the Contract against **Contractor** shall be computed from the date of completion of the physical Work. In accordance with Section 138-a of the State Finance Law, **Contractor** shall notify **Department** in writing that the physical Work has been completed. The date of completion must be no more than thirty days prior to the date of the notice. This notice must be delivered personally or by either registered or certified mail, return receipt requested to the exact address given below.

George Harris, P.E., Chief - Western Field Services Section, Bureau of
Construction Services, Room 205, New York State Department of Environmental
Conservation, 50 Wolf Road, Albany, NY 12233-7010

If **Department** disagrees with the date set forth in the notice, it will so advise **Contractor** in writing within 30 days of receipt of the notice. This notice will be delivered by either registered or certified mail, return receipt requested to **Contractor's** address as shown in this Agreement.

If **Department** accepts **Contractor's** date of completion of physical Work, **Department's** final acceptance of work shall be as of that date.

When, in the opinion of **Department**, **Contractor** has fully performed the physical Work under the Contract, **Department** shall notify **Contractor** in writing of final acceptance.

ARTICLE 14 - Final Payment

After the final acceptance of the work, **Engineer** shall prepare a final agreement of the work performed and the materials placed and shall compute the value of such work and materials under and according to the terms of the contract. This agreement shall be certified, as to its correctness, by **Engineer** and submitted for final approval to **Department**. The Representative of **Department** designated in the Contract Documents shall have the right to reject the whole or any portion of the final agreement, should the said certificate of **Engineer** be found or known to be inconsistent with the terms of the agreement or otherwise improperly given and upon failure of **Contractor** to provide requested documentation including but not limited to that regarding payment of wages, suppliers or subcontractors. All certificates upon which partial payments may have been made being merely estimates, shall be subject to correction in the final certificate or final agreement.

ARTICLE 15 - Disposition of Documents and Data

Upon final acceptance of work under this Contract or termination of this Contract pursuant to this Agreement, or upon written demand of **Department**, **Contractor** shall promptly deliver or otherwise make available to **Department** all data, drawings, reports, estimates, and such other information and materials as may have been accumulated by **Contractor** in performing this Contract.

ARTICLE 16 - Applicable Law; Jurisdiction; Service of Legal Process

Contractor agrees:

- 16.1 That this Agreement is subject to and governed by all applicable federal and New York State law.
- 16.2 To procure all necessary licenses and permits.
- 16.3 To voluntarily and irrevocably submit to the jurisdiction of a New York State Court of competent jurisdiction, to resolve any dispute or controversy arising out of this Contract.
- 16.4 That the venue of any action at law or in equity commenced against **Department** arising out of a Project in one of **Department's** regions, shall be in the county in that Region where **Department** regional headquarters is located.
- 16.5 That the service of legal process or any notices in connection with a dispute or controversy arising out of this Contract, by United States registered mail, postage prepaid, addressed to the Designated representative of **Department** at the address stated in the Contract. Documents shall constitute good and valid service of process upon **Engineer**.
- 16.6 To waive any defense based on or alleging lack of jurisdiction, improper venue, or invalid service, if there is compliance with paragraphs 16.3 and 16.4 in this Article.
- 16.7 This Contract may be presented in court as conclusive evidence of the foregoing agreement.

ARTICLE 17 - Sales and Use Tax Exemption

Contractor represents that this project has been bid in such a manner that **Department** has full advantage of available exemptions from sales and compensating use taxes. Accordingly, **Contractor** agrees to make all payment requests in a manner which affords **Department** full advantage of such exemptions. Further, **Contractor** agrees to complete and to require all subcontractors and materialmen to complete a Contractor Exempt Purchase Certificate in the name of the New York State Department of Environmental Conservation, which shall be furnished to all persons, firms or corporations from whom they purchase materials, equipment or supplies which are tax exempt by reason of the fact that they will be sold to **Department**, or will be used as an integral component in the construction, rehabilitation, or improvement of any structure of building required by the Contract Documents.

Contractor agrees to maintain and keep, and to contractually require all subcontractors and materialmen to maintain and keep, records relating to the tax exemption of material, equipment and Supplies for a period of six years. The six year period shall commence to run as of the date of final payment.

ARTICLE 18 - Effective Date

This Contract shall take effect as of the date it is approved and filed by the Comptroller.

ARTICLE 19 - Contract Price

The maximum payment which **Department** shall pay to **Contractor**, and which **Contractor** agrees to accept as full payment for its work under this Contract, is the total of:

- | | |
|--|-----------------------|
| 1) Bid | \$ _____ |
| 2) Bid Alternate (Pollution Liability Insurance) | \$ _____ |
| | |
| | Total \$ _____ |
| Plus change order(s) | |

IN WITNESS WHEREOF, representatives of the Department and the _____ have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

FOR DEPARTMENT

By: _____
Title: _____
Date: _____

By: _____
Title: _____
Date: _____

FOR CONTRACTOR

By: _____
Title: _____
Date: _____

Approved as to Form:

Approved:

By: _____
Attorney General
Date: _____

By: _____
State Comptroller (Sec. 112, State Finance Law)
Date: _____

STATE OF _____)
COUNTY OF _____) SS:

On the _____ day of _____, 19____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ of _____, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

Notary Public

STATE OF _____)
COUNTY OF _____) SS:

On the _____ day of _____, 19____, before me personally came _____, to me known and, being duly sworn, stated that (s)he is a member or employee of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed his/her name thereto on behalf of said firm.

Notary Public

STATE OF _____)
COUNTY OF _____) SS:

On the _____ day of _____, 19____, before me personally came _____, to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Notary Public

SECTION VII

Appendices A and B

APPENDIX A
STANDARD CLAUSES FOR ALL
NEW YORK STATE CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licensor, licensee, lessor, lessee or any other party):

EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. NON-ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the previous consent, in writing, of the State and any attempts to assign the contract without the State's written consent are null and void. The Contractor may, however, assign its right to receive payment without the State's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. COMPTROLLER'S APPROVAL. In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds \$10,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office.

4. WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit

of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS. In accordance with Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason or race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

7. NON-COLLUSIVE BIDDING REQUIREMENT.

In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor warrants, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further warrants that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION.

In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).

9. SET-OFF RIGHTS. The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

10. RECORDS. The Contractor shall establish and maintain complete and accurate books, records,

documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.

(a) FEDERAL EMPLOYER IDENTIFICATION NUMBER and/or FEDERAL SOCIAL SECURITY NUMBER. All invoices or New York State standard vouchers submitted for payment for the sale of goods or services or the lease of real or personal property to a New York State agency must include the payee's identification number, i.e., the seller's or lessor's identification number. The number is either the payee's Federal employer identification number or Federal social security number, or both such numbers when the payee has both such numbers. Failure to include this number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or New York State standard voucher, must give the reason or reasons why the payee does not have such number or numbers.

(b) PRIVACY NOTIFICATION. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who

have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law.

(2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in New York State's Central Accounting System by the Director of State Accounts, Office of the State Comptroller, AESOB, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN. In accordance with Section 312 of the Executive Law, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other

agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State; or (iii) banking services, insurance policies or the sale of securities. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Governor's Office of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article XI-A of the State Finance Law to the extent required by law.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of State Finance Law Section 165. (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in Section 165 of the State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES. In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the

Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

Empire State Development Corp.
Division of Small Business
One Commerce Plaza
Albany, New York 12245
Phone: (518) 473-0499
Fax: (518) 474-1512

A directory of minority and women-owned business enterprises is available from:

Empire State Development Corp.
Minority & Women's Business Devlpmt Div.
One Commerce Plaza
Albany, New York 12245
Phone: (518) 473-0582
Fax: (518) 473-0665
and
Empire State Development Corp.
633 Third Avenue
New York, NY 10017
Phone: (212) 803-2414
Fax: (212) 803-3223
Internet: www.empire.state.ny.us/esd.htm

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon

request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a state that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 amendments (Chapter 684, Laws of 1994) require that they be denied contracts which they would otherwise obtain. NOTE: New Mexico, S. Carolina, Alaska, W. Virginia, Oklahoma, Montana, Wyoming, Louisiana and Hawaii are the states currently subject to this provision.

Revised January 1996

APPENDIX B

Standard Clauses for All New York State Department of Environmental Conservation Contracts

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract. The word "Contractor" herein refers to any party to the contract, other than the New York State Department of Environmental Conservation (hereinafter "Department").

I. The Department shall have the right to postpone, suspend, abandon or terminate this contract, and such actions shall in no event be deemed a breach of contract. In the event of any termination, postponement, delay, suspension or abandonment, the Contractor shall deliver to the Department all data, reports, plans, or other documentation related to the performance of this contract, including but not limited to guarantees, warranties, as-built plans and shop drawings. In any of these events, the Department shall make settlement with the Contractor upon an equitable basis as determined by the Department which shall fix the value of the work which was performed by the Contractor prior to the postponement, suspension, abandonment or termination of this contract. This clause shall not apply to this contract if the contract contains other provisions applicable to postponement, suspension or termination of the contract.

II. The Contractor agrees that it will indemnify and save harmless the Department and the State of New York from and against all losses from claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against it by reason of any omission or act of the Contractor, its agents, employees, or subcontractors in the performance of this contract. The Department and the State of New York may retain such monies from the amount due Contractor as may be necessary to satisfy any claim for damages, costs and the like, which is asserted against the Department and/or the State of New York.

III. (a) Conflict of Interest. To the best of the Contractor's knowledge and belief, the Contractor warrants that there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the Department.

(b) An organizational conflict of interest exists when the nature of the work to be performed under this contract may, without some restriction on future activities, either result in an unfair competitive advantage to the Contractor or impair or appear to

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impair the Contractor's objectivity in performing the work for the Department.

(c) The Contractor agrees that if an actual, apparent, or potential organizational conflict of interest is discovered at any time after award, whether before or during performance, the Contractor will immediately make a full disclosure in writing to the Department. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Department, to avoid, mitigate, or minimize the actual or potential conflict.

(d) Remedies - The Department may terminate this contract in whole or in part, if it deems such termination necessary to avoid an organizational or personal conflict of interest, or an unauthorized disclosure or information. If the Contractor was aware of a potential conflict of interest prior to award, or discovered an actual or potential conflict after award and did not disclose or misrepresented relevant information to the Department, the Department may terminate the contract, or pursue such other remedies as may be permitted by the terms of Clause I of this Appendix or other applicable provisions of this contract regarding termination.

(e) In addition to the requirements of the above clauses with respect to "Organizational Conflicts of Interest," the following provision with regard to employee personnel performing under this contract shall apply until the earlier of the termination date of the affected employee(s) or the duration of the contract.

The Contractor agrees to notify the Department immediately of any actual, apparent or potential personal conflict of interest with regard to any employee, subcontractor employee, or consultant working on or having access to information regarding this contract, as soon as Contractor becomes aware of such conflict. A personal conflict of interest is defined as a relationship of an employee, subcontractor employee, or consultant with an entity that may impair or appear to impair the objectivity of the employee, subcontractor employee, or consultant in performing the contract work. The Department will notify the Contractor of the appropriate action to be taken.

(f) To the extent that the work under this contract requires access to proprietary or confidential business or financial data of other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect such data from unauthorized use and disclosure and agrees not to use it to compete with such companies.

(g) The Contractor shall certify annually that, to the best of the Contractor's knowledge and belief, all actual, apparent or potential conflicts of interest, both personal and organizational,

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have been reported to the Department. Such certification must be signed by a senior executive of the Contractor and submitted in accordance with instructions provided by the Department. Along with the annual certification, the Contractor shall also submit an update of any changes in the conflict of interest plan submitted with its proposal for this contract. The initial certification shall cover the one-year period from the date of contract award, and all subsequent certifications shall cover successive annual periods thereafter. The certification is to be submitted no later than 45 days after the close of the previous certification period covered.

(h) The Contractor recognizes that employees in performing this contract may have access to data, either provided by the Department or first generated during contract performance, of a sensitive nature which should not be released without Department approval. Therefore, the Contractor agrees to obtain confidentiality agreements from all employees working on requirements under this contract including subcontractors and consultants. Such agreements shall contain provisions which stipulate that each employee agrees that the employee will not disclose, either in whole or in part, to any entity external to the Department, Department of Health or the New York State Department of Law, any information or data provided by the Department or first generated by the Contractor under this contract, any site-specific cost information, or any enforcement strategy without first obtaining the written permission of the Department. If a contractor, through an employee or otherwise, is subpoenaed to testify or produce documents, which could result in such disclosure, the contractor must provide immediate advance notification to the Department so that the Department can authorize such disclosure or have the opportunity to take action to prevent such disclosure. Such agreements shall be effective for the life of the contract and for a period of five (5) years after completion of the contract.

(i) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder (except for subcontracts or consultant agreements for well drilling, fence erecting, plumbing, utility hookups, security guard services, or electrical services) provisions which shall conform substantially to the language of this clause, including this paragraph (i), unless otherwise authorized by the Department.

If this is a contract for work related to action at an inactive hazardous waste site, the following paragraph shall apply:

(j) Due to the scope and nature of this contract, the Contractor shall observe the following restrictions on future hazardous waste site contracting for the duration of the contract.

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(1) The Contractor will be ineligible to enter into a contract for remedial action projects for which the Contractor has developed the statement of work or the solicitation package.

(2) The Contractor, during the life of the work assignment and for a period of five (5) years after the completion of the work assignment, agrees not to enter into a contract with or to represent any party with respect to any work relating to remedial activities or work pertaining to a site where the Contractor previously performed work for the Department under this contract without the prior written approval of the Department.

(3) The Contractor agrees in advance that if any bids/proposals are submitted for any work for a third party that would require written approval of the Department prior to entering into a contract because of the restrictions of this clause, then the bids/proposals are submitted at the Contractor's own risk, and no claim shall be made against the Department to recover bid/proposal costs as a direct cost whether the request for authorization to enter into the contract is denied or approved.

IV. All requests for payment by the Contractor must be submitted on forms supplied and approved by the Department. Each payment request must contain such items of information and supporting documentation as are required by the Department, and shall be all-inclusive for the period of time covered by the payment request.

V. To the extent that federal funds are provided to the Contractor or used in paying the Contractor under this contract, the Contractor agrees that it will comply with all applicable federal laws and regulations, including but not limited to those laws and regulations under which the Federal funds were authorized. The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform substantially to the language of this clause, including this paragraph.

VI. The Contractor shall have the status of an independent contractor. Accordingly, the Contractor agrees that it will conduct itself in a manner consistent with such status, and that it will neither hold itself out as, nor claim to be, an officer or employee of the Department by reason of this contract. It further agrees that it will not make any claim, demand or application to the Department for any right or privilege applicable to an officer or employee of the Department, including but not limited to worker's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

VII. The terms contained in this clause shall have the definitions as given in, and shall be construed according to the intent of Article 15-A of the Executive Law, 9 NYCRR Part 540, et. seq., Article 52 of the Environmental Conservation Law and 6 NYCRR Part 615, et. seq., as applicable, and any goals established by this

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clause are subject to the intent of such laws and regulations.

(a) If the maximum contract price herein equals or exceeds \$25,000, and this contract is for labor, services, supplies, equipment, or materials; or

If the maximum contract price herein equals or exceeds \$100,000 and this contract is for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon;

The affirmative action provisions and equal employment opportunity provisions contained in this paragraph and paragraphs b-f of this clause shall be applicable within the limitations established by Executive Law §§312 and 313 and the applicable regulations.

(1) The Contractor is requested to make good faith efforts to subcontract at least 15% of the dollar value of this contract to Minority Owned Business Enterprises (MBEs) and at least 5% of such value to Women Owned Business Enterprises (WBEs).

(2) The Contractor is requested to make good faith efforts to employ or contractually require any subcontractor with whom it contracts to make good faith efforts to employ minority group members for at least 10% of, and women for at least 10% of, the workforce hours required to perform the work under this contract.

(3) The Contractor is requested to make good faith efforts to solicit the meaningful participation by enterprises identified in the NYS Directory of Certified Businesses provided by the Governor's Office of Minority and Women's Business Development.

(b) The Contractor agrees to include the provisions set forth in paragraph (a) above and paragraphs (a), (b), and (c) of clause 12 of Appendix A in every subcontract in such a manner that the provisions will be binding upon each subcontractor as to work under such subcontract. For the purpose of this paragraph, a "subcontract" shall mean an agreement providing for a total expenditure in excess of \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon in which a portion of the Contractor's obligation under a State contract is undertaken or assumed.

(c) The Contractor is requested to make good faith efforts to utilize the MBE/WBEs identified in the utilization plan to the extent indicated in such plan, and otherwise to implement it according to its terms. The Contractor is requested to report on such implementation periodically as provided by the contract, or annually, whichever is more frequent. The Contractor also agrees to incorporate into any contract with subcontractors, provisions

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applicable to recordkeeping, reporting, notice requirements and actions suggested by the Department to implement the utilization plan, and the intent of the Executive Law Article 15-A, the regulations promulgated thereunder, and other applicable law and regulations.

(d) The Contractor hereby agrees to comply with the intent of the applicable provisions of Executive Law Article 15-A and the regulations promulgated thereunder. Executive Law §§312 and 316 are hereby incorporated by reference.

VIII. Prior to the commencement of any work under this contract, the Contractor is required to meet all legal requirements necessary in the performance of the contract. This includes but is not limited to compliance with all applicable federal, state and local laws and regulations promulgated thereunder. It is the Contractor's responsibility to obtain any necessary permits, or other authorizations. By signing this contract, the Contractor affirmatively represents that it has complied with said laws, unless it advises the Department otherwise, in writing. The Department signs this contract in reliance upon this representation.

During the term of this contract, and any extensions thereof, the Contractor must remain in compliance with said laws. A failure to notify the Department of noncompliance of which the Contractor was or should have been aware, may be considered a material breach of this contract.

IX. The following steps, or as many as are necessary to resolve the dispute between the Department and the Contractor, are prescribed.

The Contractor specifically agrees to submit, in the first instance, any dispute relating to this contract to the designated individual, who shall render a written decision and furnish a copy thereof to the Contractor and the Department. The Contractor must request such decision in writing no more than fifteen days after it knew or should have known of the facts which are the basis of the dispute. The decision of the designated individual shall be final and conclusive unless the Contractor files a written appeal of that decision with the designated appeal individual within twenty days of receipt of that decision.

The designated appeal individual shall review the record and the decision and confirm or reverse the initial decision in writing, in accordance with the Divisional contract resolution procedures in effect at that time.

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The decision of the designated appeal individual shall be final and conclusive unless the Contractor files a written appeal of that decision with the Chair of the Contract Review Committee within twenty days of receipt of that decision.

The designated individual to hear disputes is:

H. Richard Koelling, P.E., Director
Bureau of Construction Services
NYSDEC-DER
50 Wolf Road
Albany, New York, 12233-7010
Telephone: (518) 457-9280

The designated appeal individual to review decisions made regarding disputes is:

Thomas Quinn, P.E., Assistant Division Director
Division of Environmental Remediation
NYSDEC
50 Wolf Road
Albany, New York, 12233-7010
Telephone: (518) 457-0730

The Chair of the Contract Review Committee is:

Department of Environmental Conservation
Richard K. Randles, Chair
Contract Review Committee
50 Wolf Road, Room 674
Albany, NY 12233-5010
Telephone: (518) 457-1141

The Chair of the Contract Review Committee shall convene a fact-finding proceeding in accordance with the Committee's established contract dispute resolution guidelines. The proceeding will provide the Contractor with an opportunity to be heard and to submit additional written support of its position. The Committee shall make a recommendation to the Division Director who shall render the agency determination, subject to the final approval of the Deputy Commissioner for Administration.

This decision shall be subject to review only pursuant to Article 78 of the Civil Practice Law and Rules. Pending final determination of a dispute hereunder, the Contractor shall proceed

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diligently with the performance of the Contract in accordance with the decision of the designated individual. Nothing in this Contract shall be construed as making final the decision of any administrative officer upon a question of law.

Notwithstanding the foregoing, the following shall be subject to review by the Contract Review Committee, at the option of the Contractor: Disputes arising under Article 15-A of the Executive Law (Minority and Women Owned Business participation), the Department's determination with respect to the adequacy of the Contractor's Utilization Plan, or the Contractor's showing of good faith efforts to comply therewith. A request for a hearing before the Committee should be made, in writing, within twenty days of receipt of the Department's determination.

The Committee will promptly convene a hearing in accordance with Article 15-A of the Executive Law and the regulations promulgated thereunder.

The decision of the Deputy Commissioner for Administration shall be a final agency determination, reviewable in accordance with said Article 78 of the Civil Practice Law and Rules.

X. (a) When appropriate, the Contractor shall post, in a location designated by the Department, a copy of the New York State Department of Labor schedules of prevailing wages and supplements for this project, a copy of all re-determinations of such schedules for the project, the Workers' Compensation Law Section 51 notice, all other notices required by law to be posted at the site, the Department of Labor notice that this project is a public work project on which each worker is entitled to receive the prevailing wages and supplements for their occupation, and all other notices which the Department directs the Contractor to post. The Contractor shall provide a surface for such notices which is satisfactory to the Department. The Contractor shall maintain such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. Contractor shall post such notices before commencing any work on the site and shall maintain such notices until all work on the site is complete.

(b) When appropriate, contractor shall distribute to each worker for this Contract a notice, in a form provided by the Department, that this project is a public work project on which each worker is entitled to receive the prevailing wage and supplements for the occupation at which he or she is working. Worker includes employees of Contractor and all Subcontractors and all employees of suppliers entering the site. Such notice shall be distributed to each worker before they start performing any work of this contract. At the time of distribution, Contractor shall have each worker sign a statement, in a form provided by the Department, certifying that the worker has received the notice required by this

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section, which signed statement shall be maintained with the payroll records required by the following paragraph (c).

(c) Contractor shall maintain on the site the original certified payrolls or certified transcripts thereof which Contractor and all of its Subcontractors are required to maintain pursuant to the New York Labor Law Section 220. Contractor shall maintain with the payrolls or transcripts thereof, the statements signed by each worker pursuant to paragraph (b).

XI. In accordance with State Law (Chapter 55 of the Laws of 1992), the Department has the authority to administratively offset any monies due it from the Contractor, from payments due to the Contractor under this contract.

XII. The contractor agrees that if selected as the lowest bidder, the contractor will stipulate concerning adherence to the MacBride Fair Employment Principles, as prescribed by Chapter 807, of the Laws of 1992. Section 174-B of the State Finance Law requires that before entering into certain State contracts, persons or entities stipulate that they either (1) have no business operations in Northern Ireland or (2), if so engaged, will conduct such operations in accordance with the MacBride Fair Employment Principles.

For contracts competitively bid, if the lowest responsible bidder fails to stipulate as required by Section 174-B, and another bidder, whose bid price for goods, services or construction of comparable quality is within five percent of the lowest bid, has so stipulated, the contracting entity shall refer such bids to the Office of General Services. The purpose of such referral is a determination by the Commissioner of General Services whether it is in the best interests of the State to reject the low bid and to award the contract to another qualifying bidder.

XIII. Pursuant to Section 167-B of the State Finance Law, unless otherwise exempted, any bid, proposal or other response to a solicitation for bid or proposal which proposes or calls for the use of any tropical hardwood or other tropical wood product in performance of the contract shall be deemed non-responsive.

XIV. In the event of a conflict between the terms of this Appendix B and the terms of the Contract (including any and all attachments thereto and amendments thereof, but not including Appendix A), the terms of this Appendix B shall control. In the event of a conflict between the terms of this Appendix B and Appendix A, the terms of Appendix A shall control.

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Rider to
Appendix B

Standard Clauses for All
New York State Department of
Environmental Conservation
Contracts

The parties to this contract hereby agree that clause II of this Appendix B is hereby revised to read as follows:

II The Contractor agrees that it will indemnify and save harmless the Department and the State of New York from and against all losses from claims, demands, payments, suits, actions, recoveries and judgments, of every nature and description brought or recovered against it by reason of any acts or omissions of the Contractor, its agents, employees, or subcontractors in the performance of this contract which are shown to have been the result of negligence, gross negligence or reckless, wanton or intentional misconduct.

Department of Environmental
Conservation

Dated:

By: _____
Director of Fiscal Management

(Contractor)

Dated:

By: _____

SECTION VIII

General Conditions

ARTICLE 1 - Preliminary Matters

Copies of Documents:

- 1.1 **Department** shall furnish to **Contractor** without charge up to ten copies of the Contract Documents. Additional copies of the Contract Documents will be furnished, upon request, at the cost of reproduction.

Preconstruction Conference:

- 1.2 No later than twenty days after the Effective Date of the Agreement, but before **Contractor** starts the Work, a conference will be held on a date and at a location set by **Department** to:
- 1.2.1 Review, item by item, the requirements of this Article;
 - 1.2.2 Review the qualifications of **Contractor's** resident superintendent and the qualifications of any Subcontractors and Suppliers of **Contractor**;
 - 1.2.3 Discuss **Contractor's** plans for complying with the requirements of Article 5 of the General Conditions;
 - 1.2.4 Formalize procedures for processing of Administrative Agreements, Payment Applications, Shop Drawings and other submittals, Change Orders and Proposed Change Orders, and **Contractor** requests for clarifications and interpretation of Contract Documents;
 - 1.2.5 Establish a working understanding among the parties as to the Work; and
 - 1.2.6 Discuss any conflicts, errors or discrepancies that **Contractor** has discovered by review of the Contract Documents.

Commencement of Contract Time and Start of Work at Site:

- 1.3 Before starting, **Contractor** shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. **Contractor** shall immediately report in writing to **Engineer** any conflict, error or discrepancy which **Contractor** may discover and shall obtain a written interpretation or clarification from **Engineer** before proceeding with any Work affected thereby.
- 1.4 Before a **Contractor** may commence Work on the site but no later than 10 days after Notice of Award, **Contractor** shall submit to **Engineer** for review and acceptance:
- 1.4.1 An interim progress schedule indicating **Contractor's** anticipated schedule for the Work for the first three months in detail and for the remainder of the Work in summary form. If **Contractor** doesn't intend to perform Work on the date when Contract Time commences, **Contractor** must notify **Department** as soon as possible in writing when work will commence so inspection services can be scheduled to minimize cost to the **Department**. The interim progress schedule shall include the information specified in paragraphs 1.4.2 and 1.4.3.

- 1.4.2 An interim schedule of Shop Drawing, material, soil characteristic, sample collection and analytical test result submissions covering the various stages of Work detailed in the first three months of the interim Progress Schedule; and
- 1.4.3 An interim schedule of values on the form provided by **Engineer** covering the various stages of Work detailed in the first three months of the interim Progress Schedule. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by **Contractor** at the time of submission.
- 1.5 **Contractor** shall start to perform the Work on the date specified in the Notice to Proceed in a manner consistent with the Contract Documents. No Work shall be done prior to the date specified in the Notice to Proceed unless written permission to do so is given by the **Department** to the **Contractor**.

Finalizing Interim Schedules:

- 1.6 **Contractor** shall submit a proposed progress schedule to finalize the interim schedules submitted in accordance with paragraph 1.4 and the requirements of the Progress Schedule Section of the Standard Specification no later than twenty days after starting work at the site. The progress schedule shall be acceptable to **Engineer** and **Department** as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will not relieve **Contractor** from full responsibility for the progress or scheduling of the Work. The schedule of Shop Drawing, material, soil characteristic, sample collection, and analytical test results submissions shall be acceptable to **Engineer** and **Department** as providing a workable arrangement for processing the submissions. The schedule of values shall be acceptable to **Engineer** and **Department** as to form and substance. The first Application for Payment shall not be processed unless **Contractor** has submitted acceptable schedules.

ARTICLE 2 - Contract Documents: Intent, Amending, Reuse

Intent:

- 2.1 The Contract Documents comprise the entire agreement between **Department** and **Contractor** concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.
- 2.2 The Contract Documents describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials or equipment that may be necessary to satisfactorily complete the contract must be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), even though reference may be specifically made to an earlier standard. If there is any conflict or discrepancy between standard specifications, manuals, or codes of any technical society, organization or association, or between Laws, the **Engineer** shall determine which shall apply and shall be binding on **Contractor**. **Contractor** has a duty to comply with the latest standard specification, manual, code, or Laws in effect at the time of opening of bids, without any increase in Contract Price or extension in Contract Time. Clarifications and interpretations of the Contract Documents shall be issued by **Engineer** as provided in paragraph 8.4. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of **Department**, **Contractor** or **Engineer** or any of their consultants, agents or employees from those set

forth in the Contract Documents. If there is any conflict or discrepancy between the provisions of the Contract Documents and any such referenced standard specification, manual, or code of any technical society, organization or association, the provisions of the Contract Documents will take precedence.

- 2.3 If during the performance of the Work, **Contractor** finds a conflict, error or discrepancy in the Contract Documents, **Contractor** shall so report to **Engineer** in writing at once and before proceeding with the Work affected thereby, and shall obtain a written interpretation or clarification.

Engineer will promptly investigate the matter and respond to **Contractor**. Until such interpretation or clarification is obtained from **Engineer**, any Work done by **Contractor** after the discovery of such a conflict, error or discrepancy, which is directly or indirectly affected by same, will be at **Contractor's** own risk and **Contractor** shall bear all cost arising therefrom. In resolving such conflicts, errors or discrepancies, the Contract Documents shall be given preference in the following order:

- 2.3.1 First, in accordance with the order of preference stated in the conflicting parts of the Contract Documents as provided by Article 4 of the Agreement;
- 2.3.2 In all cases, figured dimensions shall govern over scaled dimensions, but Work not dimensioned shall be as directed, and Work not particularly shown, identified, sized, or located shall be the same as similar parts that are shown or specified. Detail Drawings shall govern over general Drawings, larger scale Drawings take precedence over smaller scale Drawings, Change Order or Proposed Change Order Drawings govern over Contract Drawings, and approved Shop Drawings govern over Contract Drawings. Specifications shall govern as to products, execution and workmanship, and Drawings shall govern as to locations, dimensions, or quantities to be furnished. Further, in all cases where specifications, notes or details in two or more Specifications, or in two or more Drawings, conflict, the requirement calling for the larger quantities, or higher quality product or workmanship shall prevail and be binding on **Contractor**, unless otherwise directed by **Engineer**.

Amending and Supplementing Contract Documents:

- 2.4 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways as defined in Section 2, "Terms and Definitions."

- 2.4.1 An Administrative Agreement,
- 2.4.2 A Change Order (pursuant to Article 9), or
- 2.4.3 A Proposed Change Order signed by **Department** (pursuant to Article 9).

Contract Price and Contract Time may only be changed by a Change Order.

- 2.5 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, not involving an adjustment in Contract Price or Contract Time, in one or more of the following ways:

- 2.5.1 A Field Order (pursuant to Article 8.4),
- 2.5.2 **Engineer's** approval of a Shop Drawing or sample (pursuant to Article 5.23 thru 5.29), or
- 2.5.3 **Engineer's** written interpretation or clarification (pursuant to Article 8.3).

Reuse of Documents:

- 2.6 Neither **Contractor** nor any Subcontractor or Supplier or other person or organization shall have or acquire any title to or ownership rights in any of the Drawings, specifications or other documents (or copies of any thereof) prepared by or bearing the seal of **Engineer** or **Design Engineer** ; and they shall not reuse any of the **Design Engineer** m on extensions of the Project or any other project without the written consent of **Engineer** or, and **Department**.

ARTICLE 3 - Availability of Lands; Physical Conditions; Reference Points

Availability of Lands:

- 3.1 As indicated in the Contract Documents, **Department** shall make available the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands as are designated for the use of **Contractor**. Easements or other authority for permanent structures or permanent changes in existing facilities will be obtained and paid for by **Department**, unless otherwise provided in the Contract Documents. If **Contractor** believes that any delay in **Department's** furnishing of these lands or easements entitles **Contractor** to an extension of the Contract Time, **Contractor** may make a request therefore as provided in Article 10 of the General Conditions. If **Department** and **Contractor** are unable to agree concerning such an extension, a claim may be made as provided in Articles 9, 10 and 11 of the General Conditions.
- 3.2 Any lands and easements for access not furnished by **Department** which **Contractor** deems necessary for the Work, including but not limited to requirements for temporary construction facilities, access and egress, or for storage of materials, shall be provided by **Contractor** at no increase in Contract Price nor extension in Contract Time. **Contractor** shall obtain all necessary permits and written approvals from the appropriate jurisdictional agencies and property owner(s) for use of premises not furnished by **Department** as described above, and for the use of all off-site areas needed for the Work including but not limited to off-site borrow pits, and waste and disposal areas. If permits and approvals do not specify the required treatment, if any, of said areas during and at the completion of the Work, the Progress Schedule must describe such treatment. Copies of all permits and approvals applicable to said areas shall be filed with the **Engineer** before utilization of any said areas. **Contractor** shall have sole responsibility for any property damage or personal injuries occasioned by an act or omission of **Contractor** in respect to all lands, and easements obtained pursuant to this paragraph.
- 3.3 Engineering survey horizontal and vertical control reference points for construction which are specified in the Contract Documents or which in **Engineer's** judgment are necessary to enable **Contractor** to proceed with the Work, will be provided by **Department**. **Contractor** shall be responsible for laying out the Work using such reference points, shall protect and preserve the established reference points; and shall make no changes or relocations without the prior written approval of **Engineer**. **Contractor** shall notify **Engineer** in writing whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations; and shall be responsible for the accurate replacement or relocation of such reference points by a professionally qualified surveyor at **Contractor's** expense.

Physical Conditions and Existing Structures:

- 3.4 **Explorations and Reports:** Reference is made to the Supplementary Bidding Information and Requirements for identification of those reports of explorations and tests of conditions at the site that have been utilized by **Design Engineer** in preparation of the Contract Documents; and for identification of those drawings of physical conditions in or relating to existing surface structures (except Underground Facilities referred to in paragraphs 3.6 and 3.7) which are at or contiguous to the site that have been

utilized by **Design Engineer** in preparation of the Contract Documents. **Contractor** may rely upon the accuracy of the technical data contained in such reports, as to the location where and at the point in time when data was obtained, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for **Contractor's** purposes. Except as indicated in the Bidding Information and Requirements Section and in paragraphs 3.11 and 3.12, **Contractor** shall have full responsibility with respect to subsurface conditions which **Contractor** could reasonably expect or foresee by reason of the technical data and **Contractor's** inspection of the site, and with respect to physical conditions in or relating to such surface structures.

3.5 Intentionally left blank.

Physical Conditions - Underground Facilities Shown or Indicated:

3.6 The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to the **Design Engineer** by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

3.6.1 **Department** shall not be responsible for the accuracy or completeness of any such information or data; and,

3.6.2 **Contractor** shall have responsibility: a) for reviewing and checking all such information and data; b) for locating all Underground Facilities shown or indicated in the Contract Documents as to depth and alignment in advance of installations, backfilling or other work required by the Contract Documents; c) for coordination of the Work with the owners of such Underground Facilities during construction, d) for the safety and protection thereof, and e) for repairing any damage thereto resulting from the Work. The cost of and the time required to perform the responsibilities outlined in this paragraph will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the prescribed Contract Time(s) and **Contractor** shall not be entitled to additional payment therefor.

3.6.3 **Contractor** shall excavate and uncover all Underground Facilities to be crossed or paralleled by the proposed Work a sufficient time in advance to permit change in line and grade of the existing Underground Facility or the proposed Work if the location of the existing Underground Facility should interfere with the Work. Further, at a reasonable interval of time, up to thirty days, will be allowed to **Engineer** and **Department** in order to resolve issues relating to Underground Facilities shown or indicated which are determined to interfere with the Work. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time unless otherwise agreed to in writing by **Department**. If more than thirty days is consumed in resolving such issues, no claim will be allowed unless: 1) **Contractor** has given the notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirement of Article 9, 10 and 11 of the General Conditions and the Standard Specifications.

3.6.4 Where it is necessary for the Work to be close to or between other underground facilities or structures for short distances, **Contractor** shall shore, block, and protect the other underground facilities or structures to the satisfaction of the utility agency, state agency, municipality or private owner having ownership or jurisdiction over said underground facilities or structures.

- 3.6.5 Access to various municipal structures shall not be obstructed by **Contractor** to prevent use of hydrants, valves, manholes, fire alarms, etc. **Contractor** is to make no connections to existing water mains, or operate valves on existing mains, or otherwise interfere with the operation of the existing water distribution system, without first giving written notice to the owners of such municipal structures and securing their written approval of the proposed action.

Underground Facilities Not Shown or Indicated:

- 3.7 If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which **Contractor** could not reasonably have been expected to be aware of, **Contractor** shall promptly after learning thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 5.22), identify the owner of such Underground Facility and give written notice of such uncovering to that owner and to **Engineer** and **Department**. **Engineer** and **Department** will promptly review the situation to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and take prompt action to amend the Contract Documents to the extent necessary. During such time, **Contractor** shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 5.20.
- 3.7.1 **Contractor** shall schedule excavation and uncovering Work to begin a sufficient time in advance to allow **Engineer's** review and the possible amendment to the Contract Documents if unanticipated Underground Facilities are discovered as described in paragraph 3.7. Further, up to thirty days, will be allowed to **Engineer** and **Department** to resolve issues and problems related to a report of newly discovered Underground Facilities, not shown or indicated. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time and **Contractor** shall not be entitled to any additional payment therefor.
- 3.7.2 No claim by **Contractor** under paragraph 3.7 of the General Conditions will be allowed unless more than thirty days has elapsed and 1) **Contractor** has given the notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.

Report of Differing Site Conditions:

- 3.8 If **Contractor** believes that any subsurface or physical condition uncovered or revealed at the site renders materially inaccurate any information in the Contract Documents or technical data on which **Contractor** was entitled to rely as provided in paragraph 3.4 or 3.6, **Contractor** shall, immediately after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 5.22), notify **Department** and **Engineer** in writing about the inaccuracy or difference to allow **Department** and **Engineer** to make any necessary changes to minimize the cost of the Work.
- 3.9 **Engineer's and Department's Review:** **Engineer** and **Department** will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto, and notify **Contractor** in writing of findings and conclusions. Immediately thereafter, **Department** shall perform or cause to be performed any necessary or appropriate additional investigations and tests with respect to the newly discovered conditions and furnish copies to **Contractor**.
- 3.10 **Possible Document Change:** If **Engineer** concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is

required, a Proposed Change Order or a Change Order will be issued as provided in Article 9 to reflect and document the consequences of the inaccuracy or difference, provided **Department** has not exercised its right to suspend or terminate under Article 14 of Section 8, "General Conditions", Appendix B, or Article 12 of Section 6 "Agreement."

- 3.11 **Possible Contract Adjustment:** An increase or decrease in the cost of, or the time required to perform any part of the Work, whether or not affected by such differing conditions, and a corresponding adjustment in Contract Price or Contract Time in accordance with Articles 9, 10 and 11 of the General Conditions, or any combination thereof, may be allowable to the extent that they are attributable to any such inaccuracy or difference which **Contractor** could not reasonably have been expected to anticipate or be aware of. If **Department** and **Contractor** are unable to agree as to the adjustment in Contract Price or Contract Time, or if **Engineer** concludes that there is not a material error in the Contract Documents, or that the uncovered or revealed condition could reasonably have been anticipated by **Contractor**, and **Contractor** disagrees, a claim may be made therefor as provided in Articles 9, 10 and 11 of the General Conditions.
- 3.12 No claim by **Contractor** under paragraph 3.11 of the General Conditions will be allowed unless 1) **Contractor** has given the notice required in paragraph 3.8 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order substantiating in detail **Contractor's** proposed adjustments in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.
- 3.13 **Responsibilities and Allowances:** **Contractor** shall schedule excavation and uncovering of Work to begin a sufficient time in advance to allow **Engineer's** review as described in paragraph 3.9, and **Department's** issuance of a Change Order or a Proposed Change Order as described in paragraph 3.10 in connection with a report of differing conditions. Further, a reasonable interval of time, not less than thirty days will be allowed to **Engineer** and **Department** for those functions required to resolve any report of differing conditions. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time. If more than thirty days is used, no claim will be allowed unless (1) **Contractor** has given the notice required in paragraph 3.8 of the General Conditions, and (2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.

ARTICLE 4 - Bonds and Insurance

Performance and Other Bonds:

- 4.1 **Contractor** shall furnish performance, labor and material payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all **Contractor's** obligations under the Contract Documents. These Bonds shall remain in effect until at least one year after the date when final payment is made, unless otherwise provided by Law or by the Contract Documents. **Contractor** shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall: a) be in the form prescribed by the Contract Documents; and b) be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and As Acceptable Reinsuring Companies" as published by the U.S. Treasury Department. Also the surety shall be licensed to do business in New York State. All Bonds signed by an agent must be accompanied by a certified true copy of the agent's power of attorney. **Contractor's** failure to submit and keep in effect a Bond or form of financial security acceptable to **Department** in the manner required by this paragraph shall be cause for termination. **Contractor** shall give written notice to **Department** and reference the site number and project name, if the surety on any Bond furnished by **Contractor** is declared bankrupt, becomes insolvent, its right to do business is involuntarily terminated

by any state or federal agency, it ceases to meet the requirements of paragraph 4.1, **Contractor**, if required by **Department**, shall within fourteen days substitute another Bond or Surety, in an acceptable form of financial security. The top of all bonds shall have "NYSDEC-DER Site No.".

If the provision of any bond requires that the surety be notified of any change in the Work, it shall be **Contractor's** responsibility to so notify the surety. **Contractor** shall furnish **Department** any modified bond.

Insurance - All Types:

4.2 **Contractor** shall purchase and maintain at its own expense the specific coverages and types of insurance set forth in this Article.

4.2.1 **Contractor** shall not commence or continue to perform any work unless and until **Contractor** has in full force and effect all required insurance, and until **Contractor** has submitted true copies of all endorsements (i.e., amendments) and a copy of the Certificate of Insurance attached herein to **Department** evidencing the specific insurance coverage required. No payment for work performed shall become due and payable unless current certificates and endorsements have been received.

4.2.2 **Contractor** shall not permit any Subcontractor, Supplier or other person or organization to perform Work unless the following insurance requirements at a minimum have been complied with by such Subcontractor, Supplier or other person or organization and proof of the issuance of all policies of insurance has been delivered to **Contractor**.

4.2.2.1 Comprehensive general liability insurance providing coverage as herein required of **Contractor** including Contractors' Protective Liability Insurance, Completed Operations Insurance, Products Liability Insurance and Contractual Liability Insurance. Insurance must be project specific or contain an endorsement (i.e. amendment) in writing (including print or stamp) added to and made part of the insurance contract for the purpose of changing the original terms such that the general aggregate limit applies separately to each of **Contractor's** projects away from premises owned by or rented to **Contractor**.

4.2.2.2 Comprehensive automobile liability insurance with **Department** as an additional insured.

4.2.2.3 Worker's Compensation Insurance in accordance with the Worker's Compensation Law and Disability Benefits Law.

4.2.2.4 **Department's** (Owner's) Protective Liability Insurance issued to and providing coverage for damages imposed by law upon the people of the State of New York and **Department** and all employees of **Department** both officially and personally, with respect to all operations under the Agreement by **Contractor** or any **Contractor's** subcontractors, including omissions and supervisory acts of the State.

4.2.2.5 Pollution liability insurance with **Department** as an additional insured. Claims made policies shall have a one (1) year tail beyond the date **Department** determines physical completion.

4.2.3 Insurance shall be issued by carriers licensed to do business in New York State.

- 4.2.4 Acceptance by **Department** of the insurance provided by **Contractor** shall not relieve **Contractor** from liability or decrease the liability of **Contractor** hereunder. It is understood that **Department** does not in any way represent that the insurance or the limits of insurance specified in the Article is sufficient or adequate to protect **Contractor's** interests or liabilities, but are merely minima.
- 4.2.5 All insurance shall be maintained in full force and effect until the Contract has been fully and completely performed, as set forth in the Contract Documents. Completed operations insurance shall remain in effect until one year after the date of final acceptance of work under the contract, or one year after **Contractor** or any Subcontractor performs any work under the Contract, whichever is later. Should any coverage approach expiration during the period in which it must remain in full force and effect, it shall be renewed prior to its expiration, and a certificate again filed with **Department**. Also, any endorsements (i.e., amendments) which change insurance during the length of the contract shall also be submitted to **Department** for acceptance. All insurance policies shall require notice to **Department** 30 days prior to expiration, termination, or suspension of such policy, directed to the attention of **Department**. Expiration of any coverage shall be grounds for termination of contract for cause, at the option of **Department**.
- 4.2.6 **Contractor** shall deliver, if requested by **Department**, duplicate originals of each policy required by Contract Documents, as well as insurance policies of Subcontractors, in such number as **Department** may require, and such alternate or additional proof of coverage as **Department** demands.
- 4.2.7 Nothing contained in these insurance requirements shall be construed to limit the liability of **Contractor** or **Contractor's** insurance carriers.

4.3 Liability insurance shall be provided in amounts not less than:

<i>Combined Bodily Injury and Property Damage Single Limit</i>	<i>Automobile</i>	<i>Other</i>
Per Occurrence	\$1,000,000	\$1,000,000
Aggregate	-----	\$2,000,000

Pollution Liability insurance shall be provided in amounts not less than \$5,000,000 per claim if possible. If **Contractor** obtained liability insurance without a pollution exclusion clause, a copy of the policy must be submitted to **Department** with the executed contract. If **Contractor** cannot obtain pollution liability insurance coverage, the following documentation is required: written confirmation by **Contractor** of at least three attempts to obtain pollution liability insurance and a copy of the rejection letters for at least three insurance carriers.

4.4 Notwithstanding the foregoing, **Contractor** shall purchase and maintain at its own expense insurance as may be required by the Supplementary Conditions or Law or otherwise deemed necessary by **Department** with **Department** as an additional insured.

4.4.1 Where special or unusual hazards peculiar to this contract are foreseeable, **Contractor** shall take such steps as are necessary to insure itself against such hazards and be responsible for any damage, including water, which results from the occurrence of the hazards in connection with the performance of Work under the Contract.

- 4.4.2 **Contractor** shall purchase and maintain insurance which complies with the requirements of the Flood Disaster Protection Act.
- 4.4.3 **Contractor** shall maintain until the physical completion date builder's risk insurance on the Builder's Risk Completed Values Form with extended coverage, on the value of the work which shall be the contract amount. Whenever applicable, the Contractor's Interest Completed Value Form may be used. The extended coverage endorsement may include a loss deductible clause of \$100.00. **Department** shall be listed as an additional insured. The Builder's Risk policy shall include the following endorsement. "It is made a condition of this insurance that occupancy of the premises shall not require consent of the insurance company nor rate of adjustment."

ARTICLE 5 - Contractor's Responsibilities

Supervision and Superintendence:

- 5.1 **Contractor** shall supervise and direct the Work required by the contract competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. **Contractor** shall be responsible for the means, methods, techniques, sequences and procedures of construction; except that **Contractor** shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. **Contractor** shall be responsible to see that the finished Work conforms with the Contract Documents.
- 5.2 **Contractor** shall keep on the Site of the Work at all times during its progress, a competent and reliable resident superintendent, who shall not be replaced without written approval of **Department**. The superintendent will be **Contractor's** representative at the site and shall have authority to act on behalf of **Contractor**. All communications given to the superintendent shall be as binding as if given to **Contractor**.
- 5.2.1 **Department** may require immediate replacement of the superintendent upon written notice for cause.
- 5.2.2 The superintendent and similar authorized representatives of any Subcontractors as requested by **Department** or **Engineer** shall attend all meetings pertaining to the Work.
- 5.2.3 Whenever the superintendent is not present for performance of a particular part of the Work and **Engineer** is not able to give to **Contractor**, through the superintendent, information relative to an interpretation of the Contract Documents, or relative to disapproval or rejection of materials or the performance of such work, **Engineer** may so inform the worker in charge of such Work. Information so given shall be binding as if given to superintendent.
- 5.2.4 **Contractor** shall issue all communications to **Department** through **Engineer** except as provided by Contract Documents. All written correspondence to **Engineer** shall be copied to **Department**.

Labor, Working Hours, Materials and Equipment:

- 5.3 **Contractor** shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. **Contractor** shall, at all times, employ labor and equipment which shall be sufficient to prosecute the several classes of work to full completion in the manner and time specified. All workers must have sufficient skill, experience and Health and

Safety training required to perform properly the work assigned them. All workers engaged on special or skilled work shall have had sufficient experience in such work to perform properly and satisfactorily including operation of any equipment involved. Any person employed by **Contractor** or **Subcontractor** whom the **Engineer** or **Department** may determine incompetent or unfit to perform the work shall be at once discharged or reassigned and not again be employed on Work in connection with this Contract. The **Contractor** may request review by **Department** regarding the discharge of such employee(s). **Contractor** shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during normal working hours as defined in paragraph 5.3.1 below, and **Contractor** shall not permit overtime Work or the performance of Work during hours other than normal Working hours without: a) prior written notice to **Engineer**; b) **Department's** written consent; and c) written approval from the New York State Department of Labor as required by law.

- 5.3.1 Normal working hours shall be defined as a normal working schedule which a) does not exceed eight hours per working day, occurring between the hours set forth at the pre-construction conference, or if none are set forth, beginning no earlier than 7:00 a.m. and ending at no later than 5:00 p.m.; and b) does not exceed 40 hours per week, excluding overtime Work, Work on Saturdays, Sundays, and legal holidays (New Years, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas). Work during other than normal working hours may be scheduled by **Contractor** by first obtaining written permission from **Department** and as provided in Section 5.3. **Department** shall be entitled to recover extra costs incurred in providing inspection related to Work done during other than normal working hours in accordance with paragraph 5.3.5 below.
- 5.3.2 If **Contractor**, for convenience, voluntarily chooses to schedule Work during hours other than normal working hours at no increase in Contract Price, **Contractor** shall submit details of such proposed schedule with the interim Progress Schedule described in paragraph 1.6 of the General Conditions. Any Progress Schedule calling for Work outside of normal working hours shall be reviewed for acceptance by **Engineer** and **Department** and must be in accordance with the requirements of the New York State Labor Law and Articles 1.6 and 5.3 of the General Conditions.
- 5.3.3 If at any time subsequent to the submission and approval of the Progress Schedule pursuant to the General Conditions and the Standard Specifications, an event or delay not meeting the requirements for extensions in Contract Time set forth in Articles 9, 10 and 11 of the General Conditions occurs, and requires **Contractor** to schedule Work during hours other than normal working hours for **Contractor's** convenience and at no increase in Contract Price, **Contractor** shall submit, at least ten working days in advance of the acceleration period, a proposed revised accelerated schedule for review by **Engineer** and **Department**. If **Department** accepts the revised accelerated Progress Schedule, **Department** will so notify **Contractor** in writing.
- 5.3.4 If the accelerated Progress Schedule pursuant to paragraph 5.3.2 or 5.3.3 is accepted by **Department**, **Contractor** shall reimburse **Department** for all extra costs incurred in providing inspection during hours other than normal working hours in accordance with paragraph 5.3.5 below. Acceptance by **Department** of the accelerated Progress Schedule shall not justify an increase in Contract Price; any increase in **Contractor's** cost to perform the Work, or any part thereof, whether or not affected by **Contractor's** initiated acceleration proposal, shall remain the responsibility of **Contractor**.
- 5.3.5 **Contractor** shall reimburse **Department** for the extra costs incurred in providing inspection during hours other than normal working hours when **Department** considers that the additional

hours are due to **Contractor's** inefficiencies or delays. Reimbursement may include but may not be limited to costs for **Engineer**, Resident Project Representatives, administrative expenses and other related costs. Reimbursement for **Engineer's** charges shall be in amounts equal to **Engineer's** charges to **Department** for inspection during hours other than normal working hours under the terms of **Engineer's** agreement with **Department**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amounts, and **Department** shall be entitled to an appropriate decrease in Contract Price.

5.3.6 **Department** may direct **Contractor** to accelerate if the progress of Work indicates **Contractor** may not be able to complete the contract within the contract terms. **Contractor** shall be responsible for all increased costs due to the acceleration.

5.4 Unless otherwise specified in the Contract Documents, **Contractor** shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, storage areas, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

5.4.1 All water for testing, flushing and construction shall be furnished by **Contractor**. If water is available from **Department** and **Department** agrees to its use, **Contractor** shall connect to **Department's** water system at a point approved by **Department**. **Department** will charge **Contractor** for water used in performing the above functions in accordance with **Department's** established rate schedule. There shall be installed at each and every connection to any water supply: (a) a meter accepted by **Department** or Owner of water supply, and (b) a backflow preventer device accepted by the New York State Department of Health.

5.4.2 In the event that **Contractor** wishes to utilize water from **Department's** facilities as a substitute source of test water, **Contractor** shall submit sufficient information in accordance with paragraph 5.7.2 of the General Conditions to allow **Engineer** to evaluate the substitution. Such information shall in addition include a description of the necessary equipment and temporary facilities needed to implement the substitute and an estimate of the costs savings anticipated. In the event that the substitution is accepted by **Engineer** pursuant to the requirements of paragraph 5.7.3 of the General Conditions and allowed by **Department**, and the supply of water is inadequate in quantity or quality, **Contractor** shall be responsible for obtaining other sources of test water at no increase in Contract Price or extension in Contract Time.

5.4.3 **Contractor** shall light the parts of the Work performed during working hours in the manner required by law and as required by **Engineer** or **Department**.

5.5 Except as otherwise provided in the Contract Documents, all materials shall be of good quality, good condition and new, and all equipment shall be new or in good working order and of good quality. As required by **Engineer**, **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents.

5.5.1 **Contractor** shall provide to **Department** for **Department's** benefit through **Engineer** all manufacturers' warranties for materials, and products incorporated into the Work, or required by the Contract Documents to be furnished by **Contractor**.

- 5.5.2 **Contractor** shall obtain from manufacturers of all materials and products complete information as to any special condition, or restriction to be applied in the use of these items. Should the manner or method of installation, specified performance or test results as set forth in the Specifications be contrary to the manufacturer's recommendations for installation and use of the product, the **Contractor** shall notify **Engineer** of same for appropriate action. Lack of such notification shall constitute a certification and guarantee by **Contractor** that Specification requirements will be met by such materials and products to be incorporated.
- 5.5.3 **Contractor** shall submit data on all products to be incorporated into the Work required by the Contract Documents, including but not limited to complete maintenance instructions (including preventive maintenance and operating requirement data) and parts lists in sufficient detail to facilitate ordering replacements, in accordance with the procedures set forth in the Special Supplementary Conditions, the Standard Specifications or the Supplementary Specifications.

Adjusting Progress Schedule:

- 5.6 **Contractor** shall report on the status of and revise the Progress Schedule to **Engineer** and **Department** by delivering Progress Schedule status and update submittals to **Engineer** in accordance with the Specifications and Article 1.6 of the General Conditions. If **Contractor** does not adequately update the Schedule, **Department** may reject **Contractor's** requests for payment, provided that **Department** gives **Contractor** 10 days written notice of its intention to do so.

"Or-Equal" or Substitute Items:

- 5.7.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function, quality, performance and design criteria required. Unless the name is followed by words indicating that no "or equal" or substitution is permitted, materials or equipment of other Suppliers may be accepted by **Engineer** if sufficient information is submitted by **Contractor** to allow **Engineer** to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by **Engineer** will include the following as supplemented in the Contract Documents. Requests for review of "or equal" or substitute items of material and equipment will not be accepted by **Engineer** from anyone other than **Contractor**. If **Contractor** wishes to furnish or use an "or equal" or substitute item of material or equipment, **Contractor** shall make written application to **Engineer** for acceptance thereof, certifying that the proposed "or equal" or substitute shall perform the functions and achieve the results called for by the general design, be similar and of equal substance and quality to that specified and be suited to the same use as that specified.
- 5.7.1.1 The application shall state that the evaluation and acceptance by **Engineer** of the proposed "or equal" or substitute shall not prejudice completion of the Work, or any part thereof, within the Contract Time, or contract times (including **Contractor's** achievement of Substantial Completion on time), whether or not acceptance of the "or equal" or substitute for use in the Work would require a change in the Work, or any part thereof, or would require the **Department** or others having a contract with **Department** for Work on the Project to adapt the Contract Documents to the proposed "or equal" or substitute; and whether or not incorporation or use of the "or equal" or substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed "or equal" or substitute from that specified shall be identified in the application and available maintenance, repair and replacement services shall be indicated. The application shall also contain an itemized estimate of all increases or

decreases in the following costs: 1) the cost of, or the time required to perform any part of the Work, and the corresponding adjustments in Contract Price and Contract Time, resulting directly or indirectly from evaluation and acceptance of the proposed substitute, including, but not as a way of limitation, costs and delays associated with redesign, or claims of other contractors affected by the resulting "or equal" or substitute, and 2) increases or decreases in operating, maintenance, repair, replacement or spare part costs, all of which shall be considered by **Engineer** in evaluating the proposed "or equal" or substitute. In rendering a decision, **Department** and **Engineer** shall at a minimum, have access to any available Total Float in the approved Progress Schedule. **Engineer** may require **Contractor** to furnish at **Contractor's** expense additional data about the proposed "or equal" or substitute.

- 5.7.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, **Contractor** may furnish or utilize a substitute only if first approved by **Engineer**. **Contractor** shall submit in writing sufficient information to allow **Engineer** to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedures for review by **Engineer** established by paragraph 5.7.1, and as may be supplemented in the Contract Documents, will apply to reviews under this paragraph.
- 5.7.3 **Engineer** shall be allowed a reasonable time as determined by **Department** within which to evaluate each proposed "or equal" or substitute. **Engineer** and **Department** shall be the sole judge of acceptability, and no "or equal" or substitute shall be ordered, installed or utilized without **Engineer's** prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. **Department** may require **Contractor** to furnish at **Contractor's** expense a special performance guarantee or other financial security with respect to any substitute. **Engineer** will keep record of the time required by **Engineer** and **Engineer's** consultants in evaluating "or equals" or substitutions proposed by **Contractor** and in making changes in the Contract Documents occasioned thereby. Whether or not **Engineer** accepts an "or equal" or proposed substitute, **Department** shall be entitled to an offset against any payment due **Contractor** for the charges of **Engineer** and **Engineer's** consultants for evaluating each proposed "or equal" or substitute after the second submittal on such item. In the event that substitute materials or equipment are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall benefit **Department**, and an appropriate Change Order or Proposed Change Order shall be executed to reflect the difference in cost. If **Engineer** or **Department** determine that the deduction proposed by **Contractor** does not reflect the net difference in cost, then this shall be adequate justification to reject the proposed substitute. Additional construction and/or engineering costs identified after **Department's** acceptance of the proposal and resulting from installation of an "or equal" or substitute shall be borne by **Contractor**.

Subcontractors, Suppliers and Others:

- 5.8.1 **Contractor** shall not employ nor award Work to Subcontractors in excess of the amount specified in Article 7 of the Supplementary Bidding Information and Requirements Section. Such percentage may be increased by an Administrative Agreement if, during performance of the Work, **Contractor** requests an increase and **Department** at its sole discretion determines that the increase would be to **Department's** advantage. **Contractor** shall submit to **Department** a statement stating the character and amount of the work to be subcontracted and the party to whom it is proposed to subcontract the work. **Contractor** shall not employ any

Subcontractor, Supplier or other person or organization whether initially or as a substitute, unless first approved by **Department**.

5.8.2 Wherever Work to be performed by **Contractor** or by a Subcontractor is dependent upon Work of other Subcontractor(s) or the work of separate contractor(s), then **Contractor** shall require such Subcontractor(s) whose Work is so dependent to:

- 5.8.2.1 Provide necessary notices of delay, data or other requirement(s) for performance of dependent Work or work of separate contractor(s),
- 5.8.2.2 Supply and/or install items to be built into dependent Work or work of separate contractor(s),
- 5.8.2.3 Make provisions for dependent Work or work of separate contractor(s),
- 5.8.2.4 Examine previously placed dependent Work or work of separate contractor(s),
- 5.8.2.5 Check and verify dimensions of previously placed dependent Work or work of separate contractor(s),
- 5.8.2.6 Notify **Engineer** in writing immediately upon determining previously placed dependent Work or work of separate contractor(s), the dimensions of which are unsatisfactory or will prevent a satisfactory installation of Work,
- 5.8.2.7 Not proceed with Work until the unsatisfactory dependent conditions which prevent satisfactory installation of Work have been corrected.

Installation of Work by **Contractor** or by a Subcontractor in any given area shall constitute acceptance by **Contractor** or by such Subcontractor of all previously placed dependent Work or work of separate contractor(s) and after such acceptance **Contractor** shall not make any claims for additional costs based on alleged deficiencies in such Work.

5.8.3 Whenever other **Contractors** will perform portion(s) of the work that depend on the **Contractor's** portion of the Work; **Contractor** shall provide all of the notices and information listed in 5.8.2. to such other **Contractors** in a timely manner.

5.9 **Contractor** shall be fully responsible to **Department** and **Engineer** for **Contractor's** acts and omissions and all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a contract with any level of Subcontractor or Supplier. Nothing in the Contract Documents shall create any contractual relationship between **Department** or **Engineer** and any such Subcontractor, Supplier or other person or organization. **Department** or **Engineer** may furnish to any Subcontractor or Supplier, to the extent practicable, evidence of the payments made to **Contractor** on account of specific Work done.

5.10 The various sections, divisions and subdivisions of the Standard and Supplementary Specifications and the identifications of any Drawings shall not control **Contractor** in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade. The Standard Specifications, Supplementary Specifications, and Drawings are complementary to each other and are to be read as a whole. Anything mentioned or shown in a division of such Specifications, or Drawings or in a specific trade Drawing shall be effective as if shown in all divisions of such Specifications and in all Drawings. In addition to the requirements of paragraphs 5.23 through 5.29 of the General Conditions,

shop drawings of a specific trade shall be compared to and coordinated with those from other trades by **Contractor** before submission to **Engineer**.

- 5.11 All Work performed for **Contractor** by a Subcontractor will be pursuant to an appropriate agreement between **Contractor** and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of **Department**.

Patent Fees and Royalties:

- 5.12 **Contractor** shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, device or intellectual processes which is the subject of patent rights or copyrights held by others, both when a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and otherwise. It is the intent of the parties that whenever **Contractor** is required or desires to use any design, device, material or process covered by letters, patent, trademark or copyright, the right for such use shall be provided for by suitable legal agreements with the patentee or owner, and a copy of this agreement shall be filed with **Engineer**. However, whether or not such agreement is made or filed as noted, **Contractor** and **Contractor's** surety in all cases shall indemnify and hold harmless **Department** and **Engineer** and their employees as provided in paragraph 5.12.1 thereof and in Appendix B.

- 5.12.1 **Contractor** shall, at its expense, defend any suit instituted against **Department** and indemnify **Department** against any award of damages and costs made against **Department** by a final judgment of a court of last resort based on the claim that any of inventions, designs, processes, products, devices or intellectual processes furnished by or used in the performance or incorporated in the Work by **Contractor** or any Subcontractor or Supplier, infringes any patent or copyright of the United States; provided **Department** gives **Contractor** immediate notice in writing, permits **Contractor** to defend the suit and gives **Contractor** all available information, assistance and authority to do so. **Contractor** shall control the defense of any such suit, including appeals, and all negotiations to effect settlement. If any of such items in any such suit is held to so infringe and its use is enjoined, **Contractor** shall, at its election and expense: 1) procure for **Department** the right to continue using the same; or 2) replace or modify the same so that it becomes non-infringing; or 3) remove the same and eliminate any obligation to pay future charges or royalties pertaining thereto.

- 5.12.2 In the event that an action at law or in equity is commenced against **Department** or State arising out of a claim that its use of any invention, design, process, product, device or intellectual process as under this Agreement infringes on any patent, copyright or proprietary right, and such action is forwarded to **Contractor** for defense and indemnification pursuant to paragraph 5.12.1 and Appendix B. **Department** shall copy all pleadings and documents forwarded to **Contractor** together with the forwarding correspondence to the Office of the Attorney General of the State of New York together with a copy of the Contract Documents. If upon receipt of such request for defense, or at any time thereafter, **Contractor** is of the opinion that the allegations in such action, in whole or in part, are not covered by the indemnification set forth herein, **Contractor** shall immediately notify **Department** and the Office of the Attorney General of the State of New York in writing and shall specify to what extent **Contractor** believes it is and is not obligated to defend and indemnify under the terms and conditions of this Agreement. **Contractor** shall in such event protect the interests of the State of New York and secure a continuance to permit the State of New York to appear and defend its interests in cooperation with **Contractor** as is appropriate including any jurisdictional defenses which the State shall have.

- 5.12.3 **Contractor** shall, however, have no liability to the **Department** under this Article 5.12 if any infringement is based upon or arises out of: 1) Compliance with designs, plans, or specifications furnished by or on behalf of **Department** as to the items; 2) Alterations of the items by **Department**; 3) Failure of **Department** to use updated items provided by **Contractor** for avoiding infringement; 4) Use of items in combination with apparatus or devices not delivered by **Contractor**; 5) Use of items in a manner for which the same were neither designed nor contemplated; or 6) A patent or copyright in which **Department** or any affiliate or subsidiary of the **Department** has any direct or indirect interest by license or otherwise.
- 5.12.4 The foregoing states **Contractor's** entire liability for, or resulting from, patent or copyright infringement or claim thereof.

Permits:

- 5.13 Unless otherwise provided in the Contract Documents, **Contractor** shall obtain and pay for any permits or licenses required for performance of Work. **Contractor** shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. **Contractor** shall pay all charges for connections or disconnections required by the Work to Underground Facilities or utilities owned by third parties.

Laws and Regulations:

- 5.14.1 **Contractor** shall comply with all Laws applicable to performance of the Work. Except where otherwise expressly required by applicable Laws or Contract Documents, neither **Department** nor **Engineer** shall be responsible for monitoring **Contractor's** compliance with any Laws.
- 5.14.2 If **Contractor** observes that the Contract Documents are at variance with any applicable Laws, **Contractor** shall immediately give **Engineer** prompt written notice thereof, and any necessary changes will be authorized by one of the methods set forth in paragraph 2.4 and 2.5 of the General Conditions. If **Contractor** performs any Work knowing or having reason to know that it is contrary to such Laws, and without such notice to **Engineer**, **Contractor** shall bear all costs arising therefrom; however, it shall not be **Contractor's** primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws.

Taxes:

- 5.15 **Contractor** shall pay all sales, consumer, use and other similar taxes required to be paid by **Contractor** in accordance with the Laws of the State of New York which are applicable during the performance of the Work. Materials, supplies and equipment incorporated into the Work or sold to New York State are exempt from New York State sales tax.

Use of Premises:

- 5.16 **Contractor** shall confine the use and storage of construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by applicable Laws, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Unless otherwise provided in the Contract Documents, use of **Department's** facilities at or contiguous to the site by **Contractor** for storage of materials or equipment shall not be

permitted. **Contractor** shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the acts or omissions of **Contractor**. Should any claim be made against **Department** or **Engineer** by any such owner or occupant because of the performance of the Work, **Contractor** shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or by Law. **Contractor** shall, to the fullest extent permitted by Laws, indemnify and hold **Department** harmless in accordance with the provisions of Appendix B.

- 5.16.1 Temporary buildings (e.g., storage sheds, trailers, shops, offices) and utilities may be erected by **Contractor** only with the approval of **Engineer** and shall be built without additional expense to **Department**. Such temporary buildings and utilities shall remain the property of **Contractor** and shall be decontaminated as necessary and removed by **Contractor** at his expense upon completion of the Work; the buildings and utilities may be abandoned and remain at the site with the written consent of **Department**.
- 5.16.2 When materials are transported for performance of the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by Federal, State, or local law or regulation. When it is necessary to cross curbs, sidewalks or work which is completed or underway on site, **Contractor** shall protect them from damage, and shall repair any damage caused.
- 5.16.3 Notwithstanding the designation of site boundaries or the indication of temporary fences or barricades, the provisions of the Contract Documents governing certain phases or portions of the Work may require that certain operations be carried out beyond the site boundaries. Trenching, utility Work, site development, landscaping, other Work, if required beyond such designated limits, shall be scheduled in such a manner as to cause or occasion a minimum of inconvenience or disturbance to or interference with the normal operation of **Department**, abutting owners and the public. **Contractor** shall obtain **Department's** prior approval and all necessary approvals from others, including but not limited to public authorities and utility companies for such operations, and shall conduct such operations expeditiously and restore the affected area to its original condition immediately upon completion of such operations, unless otherwise specified in the Contract Documents.
- 5.16.4 All existing walks, roadways, paved or landscaped areas on which temporary driveways or walks are rerouted shall be restored to their original condition, immediately upon completion of the phases or portions of the Work for which such features were disturbed unless otherwise specified in the Contract Documents.
- 5.16.5 Pumping, draining and control of surface and ground water will be carried out so as to avoid endangering the Work or any adjacent facility or property, or interrupting, restricting or otherwise infringing or interfering with the use thereof, or exceeding the limits allowed by Contract Documents, or applicable Law.
- 5.17 During the progress of the Work, **Contractor** shall keep the Site free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work **Contractor** shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the Site clean and ready for **Department**. **Contractor** shall restore all pavement, sidewalks, driveways, fences, shrubs, lawns, trees and any other public or private property damaged as a result of the Work under this Contract. All such replacement shall be done in accordance with the applicable specifications and no separate or extra payment will be made unless specifically provided for in the Payment Items. In all cases, said replacement shall be at least equal to the original conditions.

- 5.18 **Contractor** shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall **Contractor** subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

As-Built Documents:

- 5.19 **Contractor** shall maintain in a safe place at the Site one as-built document which shall consist of all Drawings, Specifications, Addenda, written amendments, Change Orders, Proposed Change Orders, field test records, construction photographs, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 8.3) in good order and annotated to show all changes made during construction. **Contractor** will be required to review with **Engineer** the status of all as-built documents in connection with **Engineer's** evaluation of an Application for Payment. Pursuant to paragraph 13.2.1 of the General Conditions, failure to maintain a current file of such as-built documents up-to-date may be just cause to recommend withholding of payments for Work performed. These as-built documents together with all approved samples and a copy of all approved Shop Drawings shall be available to **Engineer** for reference at the Site. Upon completion of the Work, these as-built documents, samples and Shop Drawings shall be delivered to **Engineer** for **Department**. Failure by **Contractor** to produce acceptable as-built documents of the above listed items shall be cause for reduction of Contract Price in an amount equal to **Department's** cost of generating or producing the as-built documents.

Health, Safety and Protection:

- 5.20 **Contractor** shall be responsible for initiating, maintaining and supervising all health and safety precautions and programs in connection with the Work which include but are not limited by the Contract Documents and **Contractor's** Health and Safety Plan. **Contractor** shall take all necessary precautions for the health and safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees and other persons and organizations who may be affected thereby. **Contractor** shall comply with all applicable Laws of any public body having jurisdiction for the health and safety of persons or property in order to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such health, safety and protection. **Contractor** shall notify owners of Underground Facilities and utility owners when performance of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. In addition to any requirements imposed by Laws, **Contractor** shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site which are in any way affected by the excavations or other operations connected with performance of the Work under the Contract. All damage, injury or loss to any property referred to in this paragraph caused, directly or indirectly, in whole or in part, by **Contractor**, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or caused by anyone for whose acts any of them may be liable, shall be remedied by **Contractor**; provided that **Contractor** shall not be responsible for damage or loss attributable to defects in the Drawings or Specifications or to the acts or omissions of **Department** or **Engineer** or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of **Contractor**. **Contractor's** duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and **Engineer** has issued a written notice to **Department** and **Contractor** in accordance with paragraph 13.11 that the Work is acceptable, except as otherwise expressly provided in connection with Substantial Completion. **Department** has the right to suspend Work or terminate this contract for cause for **Contractor's** failure to comply with any health and safety plan required by the Contract Documents or Law.

- 5.21 **Contractor** shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be **Contractor's** superintendent unless otherwise designated in writing by **Contractor** to **Department**.

Emergencies:

- 5.22 In emergencies affecting or threatening to affect the safety or protection of persons or the Work or property at the site or adjacent thereto when prompt action is required and there is no reasonable opportunity for prior consultation with **Engineer** or **Department**, **Contractor**, without special instruction or authorization from **Engineer** or **Department**, is obligated to act to prevent threatened damage, injury or loss. **Contractor** shall give **Engineer** prompt telephonic notice followed by written notice thereof, including any significant changes in the Work or variations from the Contract Documents which **Contractor** believes have been caused thereby. If **Engineer** determines that a change in the Contract Documents is required because of the action taken in response to an emergency, an Administrative Agreement, Field Order, Proposed Change Order or Change Order shall be issued to document the consequences of the changes or variations. **Contractor** shall give **Engineer** and **Department** name and number of contact for emergencies during non-Work hours.

Shop Drawings and Samples:

- 5.23 After checking and verifying all field measurements and after complying with applicable procedures specified in the Contract Documents, **Contractor** shall submit to **Engineer** for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 1.4, hereof) six copies of all Shop Drawings plus additional copies as required by **Contractor**, unless otherwise specified in the Contract Documents. All such Shop Drawings shall bear a stamp or other specific written indication that **Contractor** has satisfied the requirements of the Contract Documents with respect to the review of the submissions including but not limited to subparagraph 5.25 below. All submissions shall be identified as **Engineer** may require. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable **Engineer** to review the information as required.
- 5.24 **Contractor** shall also submit to **Engineer** for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. **Contractor** shall check all samples, shall identify them clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended, and shall submit with them a written certification that **Contractor** has satisfied the requirements of the Contract Documents with respect to the review of such submissions including but not limited to subparagraph 5.25 below.
- 5.25 Before submission of each Shop Drawing or sample, **Contractor** shall certify that all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto have been reviewed or that each Shop Drawing or sample has been coordinated with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 5.26 At the time of each such submission, **Contractor** shall give **Engineer** specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation of each such variation to be made on each Shop Drawing submitted to **Engineer** for review and approval.
- 5.27 **Engineer** will review and approve or disapprove Shop Drawings and samples in 14 days. However, **Engineer's** review and approval of Shop Drawings will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not

extend to the accuracy of other matters that may be contained in the submittals, including but not limited to such matters as dimensions, quantities, performance of equipment and systems proposed by **Contractor**, **Contractor's** means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequences, and procedures of construction is indicated in or required by the Contract Documents) or to safety precautions or program incident thereto, the correctness of which shall remain the sole responsibility of **Contractor**. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

5.27.1 When reviewed by **Engineer**, each submittal of Shop Drawings and samples will be returned to **Contractor** as either "Approved", "Approved as Noted", "Resubmit with Revisions", or "Disapproved". Submittals stamped as "Approved" or "Approved as Noted" will indicate **Engineer's** approval thereof, subject to the provisions of paragraph 5.27.

5.27.2 **Contractor** shall revise and correct Shop Drawings and samples and resubmit them to **Engineer** for **Engineer's** second review and return pursuant to paragraph 5.28. **Contractor** shall direct specific attention in writing to revisions other than the corrections called for by **Engineer** on previous submittals.

5.27.3 Costs associated with **Engineer's** review and return of a Shop Drawing or sample submission other than ones submitted pursuant to paragraph 5.7 of this Section shall be borne by **Contractor** after the **Engineer's** second review. **Department's** charges to **Contractor** for additional reviews will be equal to **Engineer's** charges to **Department** under the terms of **Engineer's** agreement with **Department**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Department**, funds will be withheld from payment requests and at the completion of the Work, a Change Order or proposed Change Order will be issued incorporating the unpaid amount, and **Department** will be entitled to an appropriate decrease in Contract Price.

5.27.4 After the **Engineer's** second review, delays associated with **Contractor's** resubmittal and **Engineer's** review and return of a particular Shop Drawing or sample submission shall be the responsibility of **Contractor**. Such delays shall not justify an increase in Contract Price nor an extension in Contract Time.

5.28 **Engineer's** review and approval of Shop Drawings or samples shall not relieve **Contractor** from responsibility for any variation from the requirements of the Contract Documents unless **Contractor** has in writing called **Engineer's** attention to each such variation at the time of submission as required by paragraph 5.26 and **Engineer** has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by **Engineer** relieve **Contractor** from responsibility for errors or omissions in the Shop Drawings or from responsibility for complying with paragraph 5.25.

5.29 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to **Engineer's** review and approval of the pertinent submission will be the sole expense and responsibility of **Contractor**.

Continuing the Work:

5.30 **Contractor** shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with **Department**. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Article 14 of the General Conditions or as **Contractor** and **Department** may otherwise agree in writing.

Weather Protection:

- 5.31 **Contractor** shall be responsible for initiating, maintaining and supervising all weather protection precautions and programs in connection with the Work. Additional weather protection provisions, if applicable, are set forth in the Supplementary Conditions, Standard Specifications or Supplementary Specifications.

Cutting and Patching of Work:

- 5.32 **Contractor** shall be responsible for all cutting of masonry and other materials, and all fitting, drilling or patching which may be necessary to complete the Work or to make its several parts fit together properly, whether or not such Work is expressly specified in the Contract Documents.
- 5.33 **Contractor** shall not damage or endanger any portion of the Work or the work performed by **Department** or by any separate contractors by cutting, patching or otherwise altering any work, or by excavation. **Contractor** shall not cut or otherwise alter work performed by **Department** or any separate contractors except with the written consent of **Department** and of such separate contractor. **Contractor** shall not reasonably withhold from **Department** or any separate contractor consent to cutting or otherwise altering the Work.

Quality Control:

- 5.34 Reference is made to the Supplementary Conditions, Standard Specifications and Supplementary Specifications for the identification of **Contractor's** quality control system requirements under the Contract.

Project Meetings:

- 5.35 **Contractor**, along with appropriate Subcontractors, suppliers and manufacturers, shall attend weekly project meetings at the site or as requested by **Department** or **Engineer**, for the purpose of discussing and resolving matters concerning the various elements of the Work.

Notification of Emergency Services:

- 5.36 **Contractor** shall notify all local Police, Fire Department and Ambulance Services at least twenty-four (24) hours in advance of construction across or adjacent to existing roadways in order that such services might be aware of any disrupted access.

Conflicts Between Contract Documents and Site:

- 5.37 **Contractor** shall notify **Engineer** and **Department** immediately upon discovering any conflicts, ambiguities, error or inconsistencies in the Contract Documents, between the Contract Documents and the actual Site Conditions, or between the Contract Documents and work being done by others. Failure to promptly notify the **Engineer** and **Department** may invalidate **Contractor's** request for an increase in Contract Price and/or Time.

ARTICLE 6 - Other Work

Related Work at Site:

- 6.1 **Department** may perform other work related to the Project at the site by **Department's** own forces, have other work performed by utility owners, or enter into other contracts for such other work.
- 6.2 **Contractor** shall afford each utility owner and other contractor who is a party to a direct contract with **Department** (or **Department**, if **Department** is performing the additional work with **Department's** employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect the Work with theirs. **Contractor** shall do all the Work that may be required to make its several parts come together properly and integrate with other work. **Contractor** shall only alter the work of others with the written consent of **Engineer** and notice to the other contractors whose work will be affected, and shall not endanger any work of others by altering their work. The duties and responsibilities of **Contractor** under this paragraph are for the benefit of such utility owners and other contractors.
- 6.3 If any part of **Contractor's** Work depends for proper execution or results upon the work of any such other contractor, utility owner or **Department**, **Contractor** shall inspect and promptly report to **Engineer** in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. **Contractor's** failure so to report shall constitute an acceptance of the other work as fit and proper for integration with **Contractor's** Work except for latent or non-apparent defects and deficiencies in the other work.

ARTICLE 7 - Department's Responsibilities

- 7.1 **Department** may issue communications to **Contractor** through **Engineer**.
- 7.2 In case of termination of the employment of **Engineer**, **Department** shall appoint an engineer whose status under the Contract Documents shall be that of the former **Engineer**.
- 7.3 **Department** shall furnish the data required of **Department** under the Contract Documents promptly and shall make payments to **Contractor** promptly after they are due as provided in Article 13.
- 7.4 **Department** is represented by the Project Field Representative, the Project Manager and the Designated Representative whose duties and authority are set forth in the Contract Documents. **Department** is also represented by **Engineer**.
- 7.5 **Department** will not be responsible for **Contractor's** means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, unless the Contract Documents specifically impose such a duty on **Department**. **Department** will not be responsible for **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents.
- 7.6 **Department** will not be responsible for the acts or omissions of **Contractor** or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 8 - Engineer's Status During Construction

Project Representation:

- 8.1 The duties and responsibilities and the limitations of authority of **Engineer** during construction are set forth in the Contract Documents. **Engineer's** Resident Engineer will assist **Engineer** in inspecting the performance of the Work. The duties, and authorities of any Resident Engineer and Resident Project Representatives are set forth in the Contract Documents. Secondly **Department** is represented as set forth in article 7.4 of the General Conditions.

Visits to Site:

- 8.2 **Engineer** shall make any on-site inspections necessary to check the quality or quantity of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. **Engineer's** duty to visit the site shall in no way be construed to relieve **Contractor** of its duty to perform the Work in conformance with the Contract Documents.

Clarifications and Interpretations:

- 8.3 **Engineer** or **Department** shall issue with reasonable promptness and within 14 days maximum such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as **Engineer** or **Department** may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If **Contractor** believes that a written clarification or interpretation justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** and **Department** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10, 11 and 15 of the General Conditions.

Authorized Variations in Work:

- 8.4 **Engineer** may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on **Contractor** who shall perform the Work involved promptly. If **Contractor** believes that a Field Order justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.

Rejecting Defective Work:

- 8.5 **Engineer**, based on its inspections, reports of its Resident Engineer, other information available to it and its professional experience and training, or the direction of **Department**, may disapprove or reject Work at any time during the construction of the Work, which **Engineer** believes to be Defective Work. **Engineer** shall also have authority to require special inspection or testing of the Work as provided in paragraphs 12.4 through 12.10 of the General Conditions, whether or not the Work is fabricated, installed, or completed. When **Contractor** has been notified by **Engineer** of disapproval or rejection of Defective Work, **Contractor** shall take immediate action to correct same at no additional cost.

Shop Drawings, Change Orders and Payments:

- 8.6 **Engineer's** responsibilities regarding Shop Drawings and samples, are set forth in paragraphs 5.23 through 5.29 of the General Conditions. If **Contractor** believes that **Engineer's** approval of a Shop Drawing or sample justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.
- 8.7 **Engineer's** duties regarding Change Orders are set forth in Articles 9, 10 and 11 of the General Conditions.
- 8.8 **Engineer's** duties regarding Applications for Payment, etc., are set forth in Article 13 of the General Conditions.

Determinations for Unit Prices:

- 8.9 **Engineer** will review and make preliminary determinations on the actual quantities and classifications of acceptable Unit Price Work performed by **Contractor**. **Engineer** will review such preliminary determinations with **Contractor**, before rendering a written decision thereon by recommendation of an Application for Payment or otherwise. **Department** shall review and approve **Engineer's** determinations. **Department's** decisions thereon shall be final unless within 15 days after the date of any such decision, **Contractor** delivers to **Department** and to **Engineer** written notice of intention to dispute such a decision.

Decisions on Disputes:

- 8.10 **Engineer** shall interpret the Contract Documents and determine the acceptability of the Work thereunder subject to **Department's** right to modify or overrule **Engineer's** determination after consultation with **Engineer** and **Contractor**. Disputes or other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work, and disputes under Articles 9, 10, 11 and 15 of the General Conditions in respect to changes in the Contract Price or Contract Time will be referred to **Engineer** in writing with a request for a formal determination in accordance with this paragraph. **Engineer** shall render such determination in writing within a reasonable time. Written notice of each such claim, dispute or other matter shall be delivered by **Contractor** to **Engineer** and **Department** within fifteen days after the occurrence of the event giving rise thereto. Written data supporting such dispute or other matters shall be submitted to **Department** within forty-five days after such occurrence, unless **Department** allows an extension of time to submit additional information.

Limitations on Engineer's Responsibilities:

- 8.11 Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "unreasonable," "unsuitable," "acceptable," "proper," or "satisfactory," or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of **Engineer** as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to **Engineer** any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12 or 8.13.

- 8.12 **Engineer** will not be responsible and **Contractor** remains responsible for **Contractor's** means, methods, techniques, sequences and procedures of construction, and the safety precautions and programs incident thereto, unless Contract Documents specifically impose such a duty on **Engineer**. **Engineer** will not be responsible for **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents.
- 8.13 **Engineer** will not be responsible for the acts or omissions of **Contractor** or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 9 - Changes in the Work

- 9.1 Without invalidating the Agreement, **Department** may, at any time or from time to time and without notice to any surety, order additions, deletions or revisions in the Work or other requirements, which the performance of, or compliance with, is established in the provisions of the Contract Documents. These changes will be initiated by Proposed Change Orders, in Administrative Orders and authorized by Change Orders. Upon receipt of an Administrative Order, or Proposed Change Order, the Contractor shall proceed with the Work Involved. All such Work Involved shall be performed in accordance with the applicable conditions of the Contract Documents. If an Administrative Order or Proposed Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made in a duly executed Change Order. The value of any work covered by a Proposed Change Order or a Change Order for an increase or decrease in the Contract Price or the Contract Time, hereafter called the "Work Involved", shall be determined by one of the following methods:
- 9.2 **Department** may order minor changes in the Work which do not involve an adjustment in the Contract Price or in the Contract Time and are consistent with the overall intent and purpose of the Contract Documents. Such minor changes will be authorized by a Field Order which shall be binding on **Department** and **Contractor** who shall perform such changes promptly. If **Contractor** believes that a Field Order justifies an increase in the Contract Price or the Contract Time, **Contractor** shall make written notification within 3 days and provide documentation within 15 days in a Proposed Change Order to **Engineer**.
- 9.3 Additional work performed without authorization of a Proposed Change Order will not entitle **Contractor** to an increase in the Contract Price or an extension in the Contract Time, except in the case of emergency work as provided in paragraph 5.22 of the General Conditions and except in the case of uncovering Work as provided in paragraph 12.9 and 12.10 of the General Conditions.
- 9.4 When changes in the Work, involving adjustments to the Contract Price or Contract Time are contemplated by **Department**, pursuant to paragraph 9.1, **Contractor** may be requested to submit a cost proposal prior to being authorized to proceed with the change. If **Department** and **Contractor** are unable to agree and **Department** orders the change, or if **Department** pursuant to **Engineer's** review and decision concludes that the written direction, instruction, interpretation or clarification, approval, decision or determination does not require an increase in Contract Price or extension in Contract Time, **Contractor** will be required to carry on with the Work involved and adhere to the Progress Schedule. **Contractor** proposals substantiating the amount and extent of any proposed adjustment in Contract Price or Contract Time shall become due within three days of receipt (or issuance) of a Proposed Change Order initiated by **Department** (or **Contractor**), and shall be submitted in accordance with Articles 9, 10 and 11 of the General Conditions. Any delays in the submittal of **Contractor** proposals relative to adjustments in Contract Price or Contract Time will not justify a delay or constitute basis for an increase in Contract Price or an extension in Contract Time. Unless **Contractor** gives written notice of intent to appeal **Department's** determination or to file a claim in accordance with Article 15 of the General

Conditions, within said thirty days of the issuance of a Proposed Change Order or the rejection of a Proposed Change Order, **Department's** determination shall be final and binding upon **Contractor**.

9.5 Upon receipt of a cost proposal from **Contractor**, pursuant to paragraph 9.4 above, and if **Department** agrees with the increase or decrease in the Contract Price or Contract Time, **Department** shall authorize the change in the Work by issuing a Proposed Change Order and shall begin preparation of a Change Order covering the Work Involved.

9.5.1 A Change Order shall also be any other written order, including direction, instruction, interpretation, determination, or decision embodied in a Field Order, or in a response to a request for clarification or interpretation of the requirements of the Contract Documents, or in an approval of a Shop Drawing or sample, or in a decision relating to a report or differing or unforeseen conditions or the acceptability of Work or Administrative Order which causes any change, provided that **Contractor** gives **Engineer** and **Department** a dated written notice identifying the written order and stating circumstances and other information required in the Article and in Articles 9, 10 and 11 of the General Conditions indicating that **Contractor** considers the written order a Proposed Change Order.

9.5.2 **Contractor** quotations substantiating the amount or extent of any proposed adjustment in Contract Price or Contract Time shall cover all known amounts or extents to which **Contractor** is entitled as a result of the proposed change. Pursuant to this requirement of the Contract Documents, **Contractor** acknowledges and agrees to the following waivers when executing Change Orders or Proposed Change Orders authorized in accordance with paragraph 9.4 of the General Conditions:

9.5.2.1 **Contractor** acknowledges and agrees that the adjustments in Contract Price and Contract Time stipulated in this Change Order represent full compensation for all increases or decreases in the cost of, or the time required to perform the entire Work under the Contract, arising directly or indirectly from this Change Order, including this and all previous Change Orders. Acceptance of this waiver constitutes an agreement between **Department** and **Contractor** that the Change Order represents an all inclusive, mutually agreed upon adjustment to the Contract for all direct, indirect and consequential costs and delays, and that **Contractor** shall waive all rights to file a claim on this Proposed Change Order after it is properly executed.

9.5.2.2 Acceptance by **Contractor** is evidence of mutual accord and satisfaction for those adjustments in Contract Price and Contract Time stipulated in this Proposed Change Order, that **Contractor** shall submit detailed supporting data within fifteen days in accordance with Articles 10 and 11 of the General Conditions to allow negotiation of outstanding issues, and that the changes ordered and documented by this Proposed Change Order will be incorporated into a future Change Order subsequent to agreement on all outstanding issues.

9.6 If the provision of any bond requires that the surety be notified of any change in the Work, it shall be **Contractor's** responsibility to so notify the surety and the amount of each applicable bond shall be adjusted accordingly. **Contractor** shall furnish proof to **Department** of such adjustment.

9.7 No claim by **Contractor** for an adjustment under this Article of the General Conditions shall be allowed if asserted after the date of final payment under this Contract.

ARTICLE 10 - Change of Contract Price or Time

- 10.1 The Contract Price constitutes the total compensation, subject to authorized adjustments, payable to **Contractor** for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by **Contractor** shall be at its own expense without any change in the Contract Price or the Contract Time.
- 10.2 The Contract Price and the Contract Time may only be changed by a duly executed Change Order.
- 10.3 The value of the Work Involved shall be determined by one of the following methods:
 - 10.3.1 Where the Work Involved is covered by unit prices contained in the Contract Documents, those unit prices shall be used to determine the cost of the Work Involved.
 - 10.3.2 Where the Work Involved is not covered by unit prices contained in the Contract Documents, by application of mutually agreed upon unit prices to the quantities of the items of Work Involved.
 - 10.3.3 By mutual acceptance of a lump sum.
 - 10.3.4 On the basis of the cost of the Work Involved as provided in paragraph 10.4 of this Article plus a **Contractor's** fee for overhead and profit as provided in paragraph 10.7 of this Article.
 - 10.3.5 Where the **Department** and **Contractor** cannot agree on any of the methods described above, and **Department** directs **Contractor** to proceed with the Work Involved, on the basis of the actual cost of the Work Involved as provided in Article 10 of the General Conditions.
- 10.4 The Cost of the Work Involved shall include the following items and shall not include any of the costs disallowed under this Article 10 of the General Conditions:
 - 10.4.1 Payroll costs of employees in the direct employ of the **Contractor** in the performance of the Work involved in job classifications agreed upon by **Department** and **Contractor**. Payroll costs shall include, but shall not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers or workmen's compensation, health and retirement benefits, and sick leave applicable thereto. Such employees may include foremen at the site but shall not include employees in the job classifications itemized in paragraphs 10.6.1. The costs of performing the Work Involved during other than normal working hours, as defined in paragraph 5.3.1, shall be included in the above to the extent authorized by **Department** and as required by Law.
 - 10.4.2 Cost of all materials and equipment furnished and incorporated into the Work Involved, including costs of transportation and storage thereof, and suppliers' field services connected therewith. All cash discounts shall accrue to **Contractor** unless **Department** deposits funds with **Contractor** with which to make payments, in which case, the cash discounts shall accrue to **Department**. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to **Department**, and **Contractor** shall make provisions so that they may be obtained.
 - 10.4.3 Payments made by **Contractor** to subcontractors who perform a part of the Work Involved. If required by **Department**, **Contractor** shall obtain competitive bids from prospective subcontractors acceptable to **Contractor** and shall deliver such bids to **Department** who will

then determine which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of cost plus a fee, the subcontractor's cost shall be determined in the same manner as **Contractor's** cost of the Work Involved. All subcontracts shall be subject to the provisions of the Contract Documents, insofar as applicable.

10.4.4 Costs of special consultants, including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants, employed for services specifically related to the Work Involved to the extent authorized in writing by **Department**.

10.4.5 Costs of **Contractor** owned equipment - **Contractor** shall be reimbursed for his ownership and operating costs for self owned equipment employed on the Work Involved. The rates of reimbursement shall be as listed in most recent published edition of the Rental Rate Blue Book published by Dataquest, Inc. in effect on the date of issuance of the applicable Change Order or Proposed Change Order, or prior to performing the Work in a claim for an increase or decrease in the Contract Price and applied in the following manner.

10.4.5.1 Ownership costs - The equipment rates for ownership costs include depreciation on the original purchase, insurance, applicable taxes, interest on investment, storage, repairs, mobilization to and demobilization from the site of the Work Involved, and profit reimbursement will be made for the hours on the Work Involved. In no event shall the equipment rate billed to **Department** be at rates exceeding those described below.

10.4.5.2 Less than 8 hours of actual use or necessary for availability as approved by **Engineer**: The daily rate or the product of the hours of actual use multiplied by the hourly rate, whichever is less.

10.4.5.3 Between 8 hours and 40 hours of actual use: The weekly rate or the product of the hours of actual use used divided by 8 and multiplied by the daily rate, whichever is less.

10.4.5.4 Between 40 hours and 176 hours of actual use: The monthly rate or the product of the hours of actual use divided by 40 multiplied by the weekly rate, whichever is less.

10.4.5.5 Over 176 hours of actual use: The product of the hours of actual use divided by 176 multiplied by the monthly rate.

10.4.5.6 Operating costs including fuel, lubricants, other operating expendables, and preventive and field maintenance. Operating costs do not include the operator's wages. **Contractor** shall be reimbursed the product of the hours of actual use multiplied by the estimated operating cost per hour.

10.4.5.7 The geographic area adjustment factor and the Rate adjustment tables for federal aid projects shall be applied to the equipment ownership rates.

10.4.5.8 The rates used shall be those in effect at the time the Work Involved is to be done as listed in the then current Rental Rate Blue Book.

10.4.5.9 In the event that a rate is not established in the Rental Rate Blue Book for a particular piece of equipment, **Department** will establish rates for ownership and operating costs.

- 10.4.5.10 Equipment to be used by Contractor shall be specifically described by manufacturer and model number and be of suitable size and capacity to accomplish the Work Involved. In the event Contractor elects to use equipment of a higher rental rate than equipment suitable for the Work Involved, payment will be made at the rate applicable to the suitable equipment. Department and Engineer shall determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversized or higher rate equipment, the rate paid for the operator will likewise be related to the suitable equipment.
- 10.4.5.11 Transportation, loading and unloading, installation, dismantling and removal costs shall be included only if such construction equipment and machinery is imported to the site solely to perform the Work involved in the Change Order Proposed Change Order, or Claim. All equipment costs shall cease when the use thereof is no longer necessary to perform the Work Involved or the equipment cannot be used to perform the Work Involved due to contractor actions or inactions. Payroll costs for employees operating the equipment shall be in accordance with paragraph 10.4.1 of the General Conditions.
- 10.4.5.12 Actual equipment use time documented by Engineer shall be on the basis that the equipment was on and used at the site. In addition to the leasing rate, equipment operational costs shall not exceed the estimated hourly operation rate as set forth in the Blue Book. Daily records listing the equipment units and their respective operators, identification code, and actual usage and certified at the end of each day by Engineer shall be the record upon which actual equipment use shall be based. For multiple shift work sequences the allowable equipment rate for second or third shifts shall not exceed 50 percent of the base rate. Idle equipment at the site and necessary to perform the Work Involved but not in actual use shall be paid at the rate determined above. Idle time shall include a reasonable time allowance to and from the site, and be as documented by Engineer.

10.4.6 Costs of Contractor rented equipment.

- 10.4.6.1 In the event Contractor must rent a specific piece of equipment, payment will be the actual rental rate for the piece of equipment for the time that it is used on the Work Involved or required by Department to be present, not to exceed the rental rate in the Rental Rate Blue Book, plus the reasonable cost of moving the equipment onto and away from the site of the Work Involved.
- 10.4.6.2 Contractor shall also be reimbursed for the operating cost of the rented equipment if that cost is not included in the rental cost. The operating cost shall be determined in the same manner as specified for Contractor owned equipment above. If contractor owned equipment is available on site to complete the work, Contractor shall be reimbursed only at the rate for owned equipment and there shall not be any reimbursement for transportation of equipment to or from site.
- 10.4.6.3 In the event area practice dictates the rental of fully manned or fueled and maintained equipment, payment will be made on the basis of an invoice for the rental of the fully manned, fueled and/or maintained equipment, including all costs incidental to its use, plus costs of moving to and from the site of the Work Involved, provided the rate is substantiated by area practice.

- 10.4.6.4 Transportation, loading and unloading, installation, dismantling and removal costs shall be included only if such construction equipment and machinery is imported to the site solely to perform the Work involved in the Change Order, Proposed Change Order, or Claim. All equipment costs shall cease when the use thereof is no longer necessary to perform the Work Involved or the equipment cannot be used to perform the Work Involved due to **Contractor** actions or inactions. Payroll costs for employees operating the equipment shall be in accordance with paragraph 10.4.1 of the General Conditions.
- 10.4.7 The maximum amount of reimbursement for the ownership costs of **Contractor** owned equipment or for the rental costs of rented equipment shall be limited to the original purchase price of the equipment as listed in the Green Guide for Construction Equipment published by the Equipment Guide Book Company. In the specific event where the reimbursement is limited by the original purchase price, **Contractor** shall be reimbursed for the operating cost per hour for each hour of actual use.
- 10.4.8 Supplemental costs due solely in connection with the Work Involved to include the following:
- 10.4.8.1 The necessary transportation, travel and subsistence expenses of **Contractor's** employees who are solely employed in the Work Involved.
- 10.4.8.2 Costs, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site required, but excluding hand tools, protective clothing and other consumables which are used or consumed in connection with the Work Involved and are individually valued at less than \$100.00.
- 10.4.8.3 Sales, consumer use, or similar taxes for which **Contractor** is liable, exclusive of New York State and local sales taxes for materials, supplies and equipment incorporated into the Work.
- 10.4.8.4 Royalty payments and fees for licenses and permits.
- 10.4.8.5 Costs of utilities at the site including but not limited to electricity, telephone, fuel, heat, water, property rental and sanitary facilities.
- 10.5 The amount of credit to be allowed by **Contractor** to **Department** for any individual change in the Work which results in a net decrease in cost shall be the amount of the actual net decrease plus a deduction in **Contractor's** fee equal to one half of the fee derived from the application of paragraphs 10.7.2.1, 10.7.2.2 and 10.7.2.3 of this Article.
- 10.5.1 When more than one individual change is covered by one Proposed Change Order or Change Order, the adjustment in **Contractor's** fee shall be the sum of the individual fees computed on each individual change in accordance with paragraphs 10.7.2.1 through 10.7.2.4.
- 10.6 The cost of the Work Involved shall not include any of the following, all of which are to be considered general and overhead costs covered by the **Contractor's** fee:
- 10.6.1 Payroll costs and other compensation of **Contractor's** executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, superintendents, administrators, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by **Contractor**, at the site or not,

for general administration of the Work including any Change Orders, and who are not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 of this Article.

- 10.6.2 Expenses of **Contractor's** principal and branch offices other than **Contractor's** office at the site. Costs derived from the computation of an extended or unabsorbed home office overhead rate by application of the Eichleay, Allegheny, Burden Fluctuation, or other similar methods.
- 10.6.3 Any part of **Contractor's** capital expenses, including interest on **Contractor's** capital employed for the Work Involved and charges against **Contractor** for delinquent payments.
- 10.6.4 Cost of premiums for all bonds and insurance whether or not **Contractor** is required by the Contract Documents to purchase and maintain the same.
- 10.6.5 Costs incurred in the preparation of Proposed Change Orders or Change Orders or in preparation or filing of claims.
- 10.6.6 Expenses of **Contractor** associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings or unpaid retainage.
- 10.6.7 Small tools used or consumed in the performance of the Work Involved having an individual value of less than \$100.
- 10.6.8 Costs due to negligence of **Contractor** or any subcontractor anyone directly or indirectly employed by them for whose acts any of them may be liable, including, but not limited to correction of defective work, disposal of equipment or material wrongly supplied and repairing any damage to property.
- 10.6.9 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4 of this Article, all of which are to be considered general and overhead costs covered by the **Contractor's** fee.

Contractor's Fee:

- 10.7 The **Contractor's** fee for general and administrative overhead costs (whether at the site or in **Contractor's** principal or branch offices), small tools and profit on the Work Involved shall be determined by negotiations in accordance with this paragraph.
 - 10.7.1 **Contractor** shall negotiate with **Department** for reasonable overhead rates and fair and reasonable profit based on assumptions of risk, exposure to weather, size of the change, labor to material ratio, equipment requirements, and time of performance.
 - 10.7.2 In no case shall the **Contractor's** fee exceed the following percentages of the various percentages of the Cost of the Work Involved.
 - 10.7.2.1 For costs incurred under paragraph 10.4.1 (Payroll Costs) of this Article, the **Contractor's** fee shall not exceed fifteen percent (15%).
 - 10.7.2.2 For costs incurred under paragraph 10.4.2 (Costs of Materials and Equipment) of this Article, the **Contractor's** fee shall not exceed ten percent (10%).

- 10.7.2.3 For costs incurred under paragraph 10.4.3 (Cost of Subcontracts) of this Article, the **Contractor's** fee shall not exceed five percent (5%) and the subcontractor's fee shall not exceed ten percent (10%).
- 10.7.2.4 For costs incurred under paragraph 10.4.3 of this Article, for work performed by a subcontractor's subcontractor, the **Contractor's** and the first subcontractor's fees shall not exceed five percent (5%) each and the second subcontractor's fee shall not exceed ten percent (10%).
- 10.7.2.5 No fee shall be paid on the costs itemized under paragraphs 10.4.4 and 10.4.5 nor on subcontractors' fees derived in accordance with paragraphs 10.7.2.3 and 10.7.2.4.

10.7.3 No fee shall be paid on premium portion of wages nor on increased wages due to delays.

10.8 Changes in the Contract Price due to changes in the Contract Time.

- 10.8.1 An increase in the Contract Price due solely to delays causing extensions in the Contract Time will be allowed only if the delays to the Work, or parts thereof, arise from acts or omissions of **Department** or **Engineer** which are longer than the time period(s) provided for review(s) or decision(s) as provided for in the Contract Documents, and provided further that the delays arise from changes in the Work covered by Proposed Change Orders or Change Orders prepared pursuant to Article 9 of the General Conditions or from suspensions of Work pursuant to paragraph 14.1 of the General Conditions. However no adjustment in the Contract Price shall be made under this paragraph for the following reasons:
 - 10.8.1.1 For any extensions granted in the Contract Time to the extent that performance would have been so extended by any other cause including fault or negligence of **Contractor** or subcontractors, suppliers or other persons or organizations.
 - 10.8.1.2 For any acceleration alternative in lieu of an extension proposed by **Contractor**, to the extent that the acceleration costs exceed those in connection with the alternative extension in Contract Time.
 - 10.8.1.3 For which a Contract Price is provided or excluded under any other provision of the Contract Documents.
 - 10.8.1.4 For delays which are covered by or which could be covered by relocating the Total Float or a portion of it.
- 10.8.2 Recovery of damages for delay on account of extensions in **Contractor's** Progress Schedule or in connection with acceleration alternatives thereof will be allowed only when said delays extend the Work, or a part thereof, beyond the applicable Contract Time(s).
- 10.8.3 It is further expressly agreed and understood that **Contractor** will not be entitled to any compensation or damages on account of delays which meet the requirements of paragraph 10.12.3 of the General Conditions for time extensions but which can or could have been avoided by reallocating portions of the Total Float. Under this requirement, it is further understood and agreed that the only remedies for delays which are figured to cause an extension in the Contract Time or form the basis for a proposal for an acceleration alternative thereof solely due to the use of Total Float will consist of an increase in Contract Time only

and shall exclude **Contractor's** right to recover any delay damages or compensation from **Department**.

- 10.9 In submitting proposals or asserting claims for changes under this Article, **Contractor** acknowledges and agrees that no adjustment shall be made (1) for any escalation costs for any part of the Work which is not delayed beyond the applicable latest possible dates specified in the approved Progress Schedule, or (2) for any acceleration costs incurred without prior authorization from **Department**, or (3) for which an adjustment has been provided for, limited as to extent, or excluded under any other provision of the Contract Documents.
- 10.10 **Contractor** quotations substantiating the amount or extent of any proposed adjustment in Contract Price or Contract Time shall cover all known amounts or extents (direct, indirect and overhead) to which **Contractor** is entitled as a result of the proposed change. Pursuant to this requirement, **Contractor** acknowledges and agrees to the following waivers when executing Proposed Change Orders and Change Orders authorized in accordance with Article 9:
- 10.10.1 **Contractor** acknowledges and agrees that the adjustments in Contract Price and Contract Time stipulated in the Change Order represent full compensation for all increases or decreases in the cost of, or the time required to perform, the entire Work under the Contract arising directly or indirectly from the Change Order. Acceptance of this waiver constitutes an agreement between **Contractor** and **Department** that the Change Order represents an all inclusive, mutually agreed upon, adjustment to the Contract for all direct, indirect and consequential costs and delays, and that **Contractor** will waive all rights to file a claim on the Change Order after it is duly executed.
- 10.10.2 Acceptance by **Contractor** is evidence of mutual accord and satisfaction for those adjustments in the Contract Price and Contract Time stipulated in the Proposed Change Order, that **Contractor** will submit detailed supporting data within fifteen days in accordance with Articles 10 and 11 of the General Conditions to allow negotiation of outstanding issues, and that the changes ordered and documented by the Proposed Change Order will be incorporated into a future Change Order subsequent to agreement on all outstanding issues.
- 10.11 Additional costs incurred due to acceleration or additional work performed by **Contractor** without an agreed upon Proposed Change Order will not entitle **Contractor** to an increase in Contract Price or Contract Time, except in the case of emergency work as provided in paragraph 5.22 of the General Conditions or in the case of uncovering Work as provided in paragraph 12.9 of the General Conditions.
- 10.12 The Contract Time may be changed only by a duly executed Change order. Any proposal for an extension or shortening of the Contract Time shall be based on a Proposed Change Order in accordance with the provisions of this Article.
- 10.12.1 **Contractor** requests substantiating the extent of increase in the Contract Time shall be delivered to **Engineer** within fifteen days of the event causing the proposed need for the extension in the Contract Time unless **Department**, in writing, allows an additional period of time. **Contractor** shall prove that the delays have materialized or will materialize despite reasonable, prudent, and diligent efforts to prevent such delays and meet the criteria set forth in this Article. Any delays by **Contractor** in submittal of proposals will not justify a delay or be basis for an extension of the Contract Time.
- 10.12.2 Extensions in Contract Time due to delays to parts of the Work will not be granted until all Total Float available for those parts of the Work has been used.

- 10.12.3 An extension in the Contract Time will not be granted unless **Contractor** can demonstrate, through an analysis of the Progress Schedule approved in accordance with the applicable provisions of the Standard Specifications, that the delay in completing the applicable parts of the Work within the applicable Contract Time(s) arises from unforeseeable causes beyond the control and without the fault or negligence of **Contractor** or its Subcontractors, Suppliers or other persons or organizations, and which **Contractor** could not have guarded against, and that such causes do or will cause extension of the schedule for that part of the Work beyond the applicable Contract Time. Examples of such causes include 1) acts of God or of the public enemy, 2) fires, floods, epidemics, quarantine restrictions, 3) strikes, freight embargoes, 4) unusually severe weather, 5) delays of Subcontractors or Suppliers at any tier arising from unforeseeable causes beyond the control and without fault or negligence of both **Contractor** and the Subcontractors, Suppliers or other persons organizations.
- 10.12.4 All time limits stated in the Contract Documents are of the essence. They have been developed by taking into account:
- 10.12.4.1 The scope of the Work under the Contract Documents;
 - 10.12.4.2 Reasonable time for performance of the Work, or parts thereof, as a whole; and
 - 10.12.4.3 The perceived sensitivity of the Work, or parts thereof, as a whole, to the potential delaying effect of causes meeting the requirements of paragraph 10.12.3.
 - 10.12.4.4 Therefore, and as long as delays meeting the requirements of paragraph 10.12.3 are not to be considered by **Contractor** in the initial development of the Progress Schedule pursuant to paragraph 1.6 of the General Conditions and the Progress Schedule Section of the Standard Specifications, the initial Progress Schedule developed by **Contractor** could show Total Float with respect to the Contract Time, or contract Times. Pursuant to the Float sharing requirements of the Contract Documents (as set forth in the provisions of Progress Schedule Section of the Standard Specifications) any such Total Float materializing between **Contractor's** completion of the Work, or part thereof, as anticipated by **Contractor's** approved progress Schedule, and the corresponding Contract Time(s) will be available to **Department, Engineer, Contractor** and others to absorb delays that cannot be mitigated by any other means.
- 10.12.5 The provisions of Section 10.11 of this Article shall govern and be applicable to the following:
- 10.12.5.1 Changes in Contract Time initiated by **Department** or **Contractor** due to delays which meet the requirements of paragraph 10.12.4.
 - 10.12.5.2 **Contractor** proposals to accelerate the Progress Schedule, in lieu of the alternate extension of Contract Time, due to delays meeting the requirements of paragraph 10.12.3.
- 10.12.6 The provisions of paragraphs 10.11, 10.12.2, and 10.12.3 shall exclude recovery for damages arising out of an acceleration alternative to an extension in Contract Time on account of delays not meeting the requirements for extensions in Contract Time set forth in this Article.
- 10.12.7 The provisions of this Article 10 shall not exclude recovery for damages (including compensation for additional professional services and court costs) for delay by either party,

except as otherwise specifically disallowed in this Article and in other provisions of the Contract Documents.

- 10.13 Failure, refusal or neglect by **Contractor** to comply with the time requirements for delivery of written Proposed Change Orders or notice of a claim shall be considered to be a waiver by **Contractor** of any request or claiming for extension in Contract Time.

10.13.1 **Contractor** proposals (or claims) substantiating **Contractor's** proposed adjustment in Contract Price shall be delivered within the time period stipulated in paragraph 9.3 (9.4), unless **Department** in writing, allows an additional period of time to ascertain accurate cost data. **Contractor** shall prove that additional costs were necessarily incurred, despite **Contractor's** reasonable, prudent, and diligent efforts to prevent such costs and which meet the criteria set forth in this Article. Any delays in the submittal of **Contractor** proposals relative to adjustments in Contract Price will not justify a delay or constitute basis for an increase in Contract Price or an extension in Contract Time.

10.13.2 **Contractor** proposals (or claims) shall be submitted on forms required by Contract Documents, and shall remain firm for a period of at least 60 days from delivery of the proposal (or claim). Proposals (or claims) shall include itemized estimates of all costs and schedule adjustments that will result directly or indirectly from the changes described. Unless otherwise specified, itemized estimates shall be in accordance with the requirements of this Article of the General Conditions and in sufficient detail to reasonably permit an analysis by **Engineer** and **Department** of all quantities involved, labor and payroll costs, productivity rates, material costs, Subcontractor and Supplier costs, supplemental costs as described in paragraph 10.4.8, special consultant costs as described in paragraph 10.4.4, equipment costs, general and administrative overhead costs, field office overhead costs, and profit and shall cover all aspects of the Work involved in the change, whether such was deleted, added, changed, or impacted. Any amount claimed for Subcontractors, Suppliers or other persons or organizations shall be similarly supported. Itemized schedule adjustments shall be sufficiently detailed to permit an analysis of effects on the Progress Schedule as required in the Standard Specifications.

ARTICLE 11 - Unit Price Work and Cash Allowances

Cash Allowances:

- 11.1 **Contractor** shall include in the Contract Price all cash allowances named in the Contract Documents and all Work covered by those cash allowances shall be performed for an amount not to exceed those allowances without prior approval in writing by **Engineer**.

11.1.1 The allowances include the cost to **Contractor** (less any applicable trade discounts) of materials labor and equipment required by the allowances to be delivered at the site, and all applicable taxes; and the cost documentation requirements of Articles 9, 10, 11 apply to cash allowances.

11.1.2 Prior to final payment, an appropriate Change Order will be issued as recommended by **Engineer** to reflect actual amounts due **Contractor** on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

Unit Price Work:

- 11.2 Where the Contract Documents provide that all or part of the Work to be performed on the basis of Unit Prices, the following shall apply:
 - 11.2.1 The original Contract Price shall include the sum of the bid unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated on the Contract Bid Form.
 - 11.2.2 Unless otherwise provided by the Contract Documents, the estimated quantities of Unit Price Work are not guaranteed and are solely for the purpose of comparing Bids and determining the initial Contract Price.
 - 11.2.3 **Engineer** shall determine the actual quantities and classifications of Unit Price Work performed by **Contractor** and will review with **Contractor** preliminary determinations before recommending an Application for Payment for those items.
 - 11.2.4 **Contractor** shall have included overhead and profit in the price of each separately stated unit price item bid.
 - 11.2.5 The Unit price of an item of Unit Price Work shall be subject to re-evaluation, negotiation, and possible adjustment under the following conditions:
 - 11.2.5.1 If the total cost of a particular item of Unit Price Work change by \$30,000 or 5% or more of the total Contract Price, whichever is less, and the variation in the quantity of that particular item of Unit Price Work performed by **Contractor** differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and
 - 11.2.5.2 If **Contractor** justifies and adequately documents to the **Department's** satisfaction additional expenses have been incurred as a result thereof, or
 - 11.2.5.3 If **Department** believes that the quantity variation entitles **Department** to an adjustment in the Unit Price, either **Department** or **Contractor** may make a request for an adjustment in the Contract Price in accordance with the Contract Documents. If the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed, a claim may be made.
 - 11.2.6 The negotiated Unit Price shall be applicable only to the variation in quantities above 115% or below 85% of the quantities estimated or indicated.
 - 11.2.7 If **Department** or **Contractor** believes that the quantity variation requires an extension or shortening in Contract Time, either party shall within seven working days of knowledge of the variation in quantities, submit a written Proposed Change Order to the other party and to **Engineer**, and substantiate the request within fifteen days thereafter in accordance with the analysis and documentation provisions of the Standard and Supplementary Specifications.

ARTICLE 12 - Warranty and Guarantee; Tests and Inspections; Correction, Removal or Acceptance of Defective Work

Warranty and Guarantee:

- 12.1 **Contractor** warrants and guarantees to **Department** that all Work shall be in accordance with the Contract Documents and shall not be defective. Immediate notice of all defects shall be given to **Contractor** by **Engineer**. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.
- 12.1.1 The obligations of **Contractor** under this paragraph 12.1 shall be in addition to and not in limitation of any obligation imposed upon it by special guarantees required by the Contract Documents or by Law.
- 12.1.2 Notwithstanding anything in these Contract Documents to the contrary, when a particular item of equipment or part of the Work reaches Substantial Completion upon successful performance of Pre-operational Testing, and a) is not placed in continuous service until the commencement of the Correction Period, or b) is placed in continuous service upon reaching Substantial Completion (as a segment of a completed Project) but use will be limited until all segments of the Project reach substantial completion thereby commencing the Correction Period, and notwithstanding anything in the Contract Documents to the contrary, **Contractor** shall maintain the particular item of equipment or part of the Work in good order and in proper working condition during the period between the particular Substantial Completion date and the commencement of the Correction Period, and for such maintenance **Contractor** shall receive no adjustment in Contract Price. Also **Contractor** shall maintain the warranties and guarantees required under paragraph 12.1 of the General Conditions in full force and effect during the period between the particular item's Substantial Completion date and the commencement of the Correction Period, and for such warranties and guarantees **Contractor** shall receive no adjustment in Contract Price.
- 12.1.3 The warranties and guarantees provided by **Contractor** under paragraph 12.1 of the General Conditions shall remain in full force and effect from the date of Substantial Completion of the Work, or part thereof, until one year after the date of commencement of the Correction Period or such a longer period as may be prescribed by Law or the terms of any applicable specific warranty or guarantee required by the Contract Documents or by any specific provision of the Contract Documents.

One Year Correction Period:

- 12.2 If within the period from the date of Substantial Completion of a particular item of equipment or a designated part of the Work to one year after the commencement of the Correction Period, or such longer period as may be prescribed by Federal or New York State Law or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, the particular item of equipment or designated part of the Work is found to be defective, **Contractor** shall promptly, without an adjustment in Contract Price and in accordance with **Department's** or **Engineer's** written instructions, either correct such Defective Work, or if it has been rejected by **Department** or **Engineer**, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. **Department** or **Engineer** may direct the correction or removal and replacement of Defective or rejected Work. In addition to any other remedies which **Department** may have, **Contractor** shall pay the indirect and consequential costs of such correction or removal and replacement, including but not limited to fees and charges of engineers, architects, attorneys and other professionals,

any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, if the Defective Work is not corrected or the rejected Work is not removed and replaced within 30 days of the **Department's** or **Engineer's** written rejection or request for rejection of Work unless otherwise provided for in writing. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount, and **Department** shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, a claim may be made therefore as provided in Articles 9 and 10 and 15 of the General Conditions.

- 12.2.1 At the date of Substantial Completion of the Work, the parties have agreed on the date for commencement of the Correction Period. However, **Department** may at its sole option advance or delay the date for commencement of the Correction Period, and **Contractor's** obligations to extend warranties and guarantees in accordance with paragraphs 12.1.2 and 12.1.3 or to maintain the Work in accordance with paragraph 12.1.2 and 12.1.3 until then shall remain absolute. Applicable Change Orders or Proposed Change Orders shall be executed by the parties to adjust the Contract Price, as appropriate, on the basis of the unit prices declared in **Contractor's** Bid for extended warranty and extended maintenance requirements.
- 12.2.2 No later than 30 days before the date for commencement of the Correction Period, **Engineer** shall notify **Contractor** in writing of the date upon which the Correction Period is expected to commence, and **Contractor** shall ensure that the parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing but were not placed in continuous service, are ready in their entirety by such date for use by **Department** as contemplated in the Contract Documents. In addition to any other damages payable by **Contractor** under these Contract Documents, **Contractor** shall also be liable for any damages suffered by **Department** on account of the parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing but were not placed in continuous service at the beginning of the Correction Period because they were not ready for continuous utilization for the purposes for which they are intended.
- 12.2.3 Each month during the period between the date of Substantial Completion of parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing and the date of commencement of the Correction Period, **Contractor** shall certify to **Engineer** in writing that the said parts of the Work are being properly maintained and will be ready for use by **Department** upon commencement of the Correction Period.
- 12.2.4 During the period described in Section 12.2.3 until commencement of the Correction Period, **Contractor** shall bear all risks of injury, loss, or damage to any part of the Work arising from the elements or from any other cause. **Contractor** shall rebuild, repair, restore, and make good at no cost to **Department** all injuries, losses, or damage to any portion of the Work occasioned by any cause and shall at no expense to **Department** provide suitable drainage and erect such temporary structures and take all other actions as are necessary for the protection of the Work. Suspension of the Work or the granting of an extension in Contract Time for any cause shall not relieve **Contractor** of its responsibility for the Work as herein specified.
- 12.2.5 **Contractor's** responsibilities under this Paragraph 12.2 are in addition to, not in lieu of, all other obligations imposed by these Contract Documents.

Access to Work:

- 12.3 Representatives of **Department**, **Engineer**, and representatives of testing agencies and governmental agencies with jurisdictional interests will have access to the Work at all times for observation, inspection and testing. **Contractor** shall provide proper and safe conditions for such access. Inspections, tests or observations by **Engineer**, **Department** or third parties may be performed to provide information to **Department** on the progress of the Work, however, this provision is not intended to create any duty or obligation to **Contractor** by **Department** or **Engineer**, nor is the information provided intended to fulfill **Contractor's** obligations under the Contract.

Tests and Inspections:

- 12.4 **Contractor** shall give **Engineer** timely notice of readiness of the Work for all required inspections, tests or approvals.
- 12.5 If a Law specifically requires any Work (or part thereof) to be inspected, tested or approved, **Contractor** shall assume full responsibility therefor, pay all costs in connection therewith and furnish to **Engineer** the required certificates of inspection, testing or approval. Except as provided in Article 5, **Contractor** shall be responsible for and shall pay all costs in connection with any inspection or testing required in connection with **Department's** or **Engineer's** acceptance of materials or equipment proposed or submitted to **Department** and **Engineer** for approval prior or subsequent to **Contractor's** purchase thereof for incorporation in the work. The cost of all inspections, tests and approvals in addition to the above which are required by the contract documents shall be paid by **Contractor**.
- 12.6 All inspections, tests or approvals other than those required by Law to be performed or given by public body having jurisdiction over the Work or any part thereof, shall be performed by organizations acceptable to **Department** and **Engineer**. **Contractor** shall perform sufficient inspection and testing of the Work to support the warranty and guarantee requirements of paragraph 12.1 and 12.2 of the General Conditions. Reference is made to the Supplementary Conditions, Standard Specifications and Supplementary Specifications for provisions applicable to the procurement of an independent testing laboratory.
- 12.7 If any Work, including the work of others, that is to be inspected, tested or approved is covered without written concurrence of **Engineer**, it must, if requested by **Engineer**, be uncovered for inspection. Such uncovering shall be at **Contractor's** expense unless **Contractor** has given **Engineer** timely notice of **Contractor's** intention to cover the same and **Engineer** has not acted with reasonable promptness in response to such notice.
- 12.8 Neither inspections by **Engineer** nor inspections, tests or approvals by others shall relieve **Contractor** from **Contractor's** obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

- 12.9 If any work is covered contrary to the written request of **Engineer**, it must, if requested by **Engineer**, be uncovered for **Engineer's** inspection and replaced at **Contractor's** expense.
- 12.10 If **Engineer** considers it necessary or advisable that covered Work be inspected by **Engineer** or inspected or tested by others, **Contractor**, at **Engineer's** request, shall uncover, expose or otherwise make available for observation, inspection or testing as **Engineer** may require, that portion of the Work in question, furnishing all necessary labor, material and equipment.

- 12.10.1 If it is found that such Work is Defective, **Contractor** shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension of Contract Time or recovery of any delay damages due to the uncovering.
- 12.10.2 If, however, such Work is not found to be Defective, **Contractor** shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction pursuant to Articles 9, 10 and 11.
- 12.10.3 When covered Work is uncovered and found to be Defective, all direct, indirect and consequential costs as established in paragraph 12.10.1 shall be paid by **Contractor**. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount as an appropriate reduction in the Contract Price, and if the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9 and 10 of the General Conditions.

Department May Stop the Work:

- 12.11 If the Work is defective, or **Contractor** fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, **Department** may order **Contractor** to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of **Department** to stop the Work shall not give rise to any duty on the part of **Department** to exercise this right for the benefit of **Contractor** or any other party.
- 12.11.1 **Contractor** shall bear all direct, indirect and consequential costs of such order to **Contractor** to stop Work including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, and **Contractor** shall further bear the responsibility for maintaining schedule and shall not be entitled to any extension of contract time or recovery of any delay damages due to the order to stop Work.
- 12.11.2 In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount as an appropriate reduction in the Contract Price. If the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions.

Correction or Removal of Defective Work:

- 12.12 If required by **Engineer**, **Contractor** shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by **Engineer**, remove it from the site and replace it with non-defective Work that conforms with the Contract Documents. **Contractor** shall bear all direct, indirect and consequential costs of such correction or removal including

but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations. **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension in Contract Time or recovery of any delay damages due to the correction or removal. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount, as an appropriate reduction in the Contract Price. If the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions.

Acceptance of Defective Work:

- 12.13 If, instead of requiring correction or removal and replacement of defective Work, **Department** prefers to accept it, **Department** may do so. **Contractor** shall bear all direct, indirect and consequential costs attributable to **Department's** evaluation and determination to accept such Defective Work, such costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations. **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension in Contract Time or recovery of any delay or acceleration damages due to **Department's** evaluation and determination to accept such Defective Work. If any such acceptance occurs prior to **Engineer's** recommendation of final payment, a Change Order may be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and **Department** shall be entitled to an appropriate reduction in the Contract Price. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, or if the parties are unable to agree as to the amount thereof, **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions. If the acceptance occurs after final payment, an appropriate amount will be refunded by **Contractor** to **Department**.

Department May Correct Defective Work:

- 12.14 If **Contractor** fails within a reasonable time after written notice of **Engineer** to proceed to correct and to correct Defective Work or to remove and replace rejected Work as required by **Engineer**, or if **Contractor** fails to perform the Work in accordance with the Contract Documents, or if **Contractor** fails to comply with any other provision of the Contract Documents, **Department** may, after seven days' written notice to **Contractor**, correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, **Department** may exclude **Contractor** from all or part of the site, take possession of all or part of the work and suspend or terminate **Contractor's** services related thereto, take possession of **Contractor's** tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which **Department** has paid **Contractor** but which are stored elsewhere. **Contractor** shall allow **Department**, and **Department's** representatives, agents and employees such access to the site as may be necessary to enable **Department** to exercise the rights and remedies provided by this paragraph and the Contract Documents. All direct, indirect and consequential costs of **Department** in exercising such rights and remedies will be charged against **Contractor** in an amount approved as to reasonableness by **Engineer**, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and **Department** shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, **Contractor** may make a claim therefore as provided in Article 9, 10, 11 and 15. Such direct, indirect and consequential costs shall include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all costs of delay and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of

Contractor's Defective Work. **Contractor** shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by **Department** of **Department's** rights and remedies hereunder.

ARTICLE 13 - Payments to Contractor and Completion

Schedule of Values:

- 13.1 The schedule of values established as provided in paragraph 1.4 and 1.6 of the General Conditions shall serve as the basis for progress payments. Progress payments for Unit Price Work shall be based on the number of units completed. **Department** will furnish Application for Payment forms.

Application for Progress Payment:

- 13.2 At least fourteen days before each progress payment is scheduled to be submitted to the **Department**, **Contractor** shall submit to **Engineer** for review an Application for Payment on forms furnished by **Department** filled out and signed by **Contractor** covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by bills of sale, invoices or other documentation supporting the cost, together with documents warranting that **Department** has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (each and all of these terms are hereinafter referred to as "Liens"). Each Application for Payment shall contain a certification by **Contractor** that progress payments received from **Department** on account of the Work have been applied by **Contractor** and its Subcontractors to discharge in full all of **Contractor's** and its Subcontractors' obligations stated in the prior Application for Payment, and that **Contractor** has verified the accuracy of the progress reported to have been completed by **Contractor** or its Subcontractors in the Application for Payment. Notwithstanding any other provisions of the Contract Documents to the contrary, neither **Department** nor **Engineer** are under any duty or obligation whatsoever to any Subcontractor or Supplier to insure that payments due and owing by **Contractor** to any of them are or will be made. Such parties shall rely only on **Contractor's** surety bonds for remedy of nonpayment by **Contractor**. The amount of retainage with respect to progress payments will be as provided for by the laws of New York State.

- 13.2.1 An Application for Payment a) will not be approved if the as-built documents, including but not limited to Drawings legibly marked in accordance with Contract Documents to record actual construction, are not kept current, and b) will not be approved until the completed as-built documents, showing all variations between the Work as actually constructed and as originally shown on the Drawings and other Contract Documents, have been inspected by **Engineer**. For the purpose of this paragraph, the as-built documents will be considered current if they include all of the documents itemized in paragraph 5.19 together with any other information that supplements or changes the original Contract Documents which has been delivered or otherwise made known to **Contractor** prior to the time when Application for Payment is to be reviewed by **Engineer**.
- 13.2.2 An Application for Payment will not be approved until **Contractor** has submitted and **Engineer** has reviewed the Progress Schedule and submittals required in Contract Documents which are due prior to that Application for Payment.

Contractor's Warranty of Title:

- 13.3 **Contractor** warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether or not incorporated in the Project, shall pass to **Department** no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

- 13.4 **Engineer** shall, within five days after receipt of each Application for Payment, either recommend payment in writing and present the Application to **Department** or return the Application to **Contractor** indicating in writing **Engineer's** reasons for refusing to recommend payment. In the latter case, **Contractor** may make the necessary corrections and resubmit the application. After presentation of the application for payment with **Engineer's** recommendation, the amount recommended shall be paid in accordance with New York State Law upon approval of the **Department**.
- 13.5 **Department** may refuse to make payment of the full amount recommended by **Engineer** for one or more of the following reasons: claims have been made against **Department** on account of **Contractor's** performance, or furnishing of the Work, Liens have been filed in connection with the Work, there are other facts or circumstances entitling **Department** to a set-off against the amount recommended, or **Department** has determined that Work performed by **Contractor** does not conform to Contract Documents including, but not limited to, moneys payable by **Contractor** to **Department** pursuant to the requirements of Articles 5 and 12 of the General Conditions. In the event of such refusal to pay the full recommended amount, **Department** must give **Contractor** prompt written notice (with a copy to **Engineer**) stating the reasons for such action.

Substantial Completion:

- 13.6 When **Contractor** considers all or part of the Work ready for its intended use, **Contractor** shall notify **Department** and **Engineer** in writing that the Work, or specified part thereof, is substantially complete except for items specifically listed by **Contractor** as incomplete, and request that **Engineer** issue a certificate of Substantial Completion for the Work, or such specified part thereof. Within a reasonable time thereafter, not to exceed 30 days, **Department**, **Contractor** and **Engineer** shall make an inspection of the Work, or specified part thereof, to determine the status of completion. If **Engineer** or **Department** does not consider the Work, or specified part thereof, substantially complete, **Engineer** shall notify **Contractor** in writing giving the reasons therefor, after consultation with the **Department**. If **Engineer** considers the Work, or part thereof, substantially complete, **Engineer** shall prepare and deliver to **Department** a tentative certificate of Substantial Completion for the Work, or part thereof which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment, and **Engineer's** written recommendation as to a division of responsibilities between **Department** and **Contractor** pending final payment including but not limited to security, operation, safety, maintenance, heat, utilities, insurance and warranties. **Department** shall have seven days after receipt of the tentative certificate with attachments during which to make written objection to **Engineer** as to any provisions of the referenced submittals and to direct a revision of the tentative certificate. Unless **Department** and **Contractor** agree otherwise in writing and so inform **Engineer** or **Department** directs the revision of the certificate of Substantial Completion for the Work, or specified part thereof, **Engineer's** recommendation will be binding on **Contractor** until final payment.
- 13.7 **Department** shall have the right to exclude **Contractor** from the Work, or part thereof, after the date of Substantial Completion for the Work, but **Department** shall allow **Contractor** reasonable access to complete or correct items on the tentative list.

Partial Utilization:

- 13.8 **Department** may use any finished part of the Work which has specifically been identified in the Contract Documents, or which **Department**, **Engineer**, and **Contractor** agree constitutes a separately functioning and usable part of the Work that can be used by **Department** without significant interference with **Contractor's** performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

13.8.1 **Department** at any time may direct **Contractor** in writing to permit **Department** to use any such part of the Work which **Department** believes to be ready for its intended use and substantially complete. **Contractor** may certify to **Department** and **Engineer** that said part of the Work is substantially complete and request **Engineer** to issue certificate of Substantial Completion for that part of the Work. Within a reasonable time after such direction, **Department**, **Contractor** and **Engineer** shall make an inspection of that part of the Work to determine its status of completion. If **Engineer** does not determine that part of the Work to be substantially complete, **Engineer** will notify **Department** and **Contractor** in writing giving the reasons therefor. The provisions of paragraphs 13.6 and 13.7 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

13.8.2 **Department** may at any time direct **Contractor** in writing to permit **Department** to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to **Engineer** and within a reasonable time thereafter **Department**, **Contractor** and **Engineer** shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If **Contractor** does not object in writing to **Department** and **Engineer** that such part of the Work is not ready for separate operation by **Department**, **Engineer** shall submit to **Department** a list of items to be completed or corrected together with a written recommendation as to a division of responsibilities between **Department** and **Contractor**, including but not limited to security, operation, safety, maintenance, utilities, insurance and warranties pending final payment for such Work. **Department** shall have seven days to make written objection to **Engineer's** list and recommended division of responsibilities to direct a revision thereof. Such directed revision or otherwise objected list and recommended division of responsibilities, shall become binding upon **Department** and **Contractor** at the time when **Department** takes over such operation unless they shall have agreed otherwise in writing. During such operation and prior to Substantial Completion of such part of the Work, **Department** shall allow **Contractor** reasonable access to complete or correct items on said list and to complete other related Work.

Final Inspection:

- 13.9 Upon written notice from **Contractor** that the entire Work or an agreed portion thereof is complete, **Engineer** will make a final inspection with **Department** and **Contractor** and will notify **Contractor** in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. **Contractor** shall immediately take such measures as are necessary to remedy such deficiencies.

Final Application for Payment:

- 13.10 After **Contractor** has completed all corrections to the satisfaction of **Engineer** and **Department** and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.19) and other documents - all as

required by the Contract Documents, and after **Engineer** has indicated that the Work is acceptable (subject to the provisions of paragraph 13.12), **Contractor** may make application for final payment following the procedures for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers satisfactory to **Department** of all Liens arising out of or filed in connection with the Work. In lieu thereof and as provided for by the laws of New York State and approved by **Department**, **Contractor** may furnish receipts or releases in full and an affidavit of **Contractor** that such receipts and releases include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which **Department** or **Department's** property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, **Contractor** may furnish a Bond or other collateral satisfactory to **Department** to indemnify **Department** against any Lien.

Final Payment and Acceptance:

- 13.11 If, on the basis of **Engineer's** inspection of the work during construction and final inspection, and **Engineer's** review of the final application for payment and accompanying documentation, **Engineer** has determined that the work has been completed in substantial conformance with the contract documents and **Contractor's** other obligations under the contract documents have been fulfilled, **Engineer** will, within ten days after receipt of the final application for payment, indicate in writing **Engineer's** recommendation of payment and present the application to **Department** for payment along with a certificate that the work was completed in substantial conformance with the contract documents. Thereupon **Engineer** will give written notice to **Department** and **Contractor** that the work is acceptable subject to the provisions of paragraph 13.13. Otherwise, **Engineer** will return the application to **Contractor**, indicating in writing the reasons for refusing to recommend final payment, in which case **Contractor** shall make the necessary corrections and resubmit the Application. After presentation to **Department** of the application and accompanying documentation, in appropriate form and substance, and with **Engineer's** recommendation and certification of substantial conformance with the Contract Documents, final payment will be paid by **Department** to **Contractor** in accordance with New York State Law. If **Department** believes deficiencies exist, it will so notify **Engineer** and **Contractor** in writing.
- 13.12 If, through no fault of **Contractor**, final completion of the Work is significantly delayed and if **Engineer** so confirms, **Department** shall, upon receipt of **Contractor's** final Application for Payment and recommendation of **Engineer**, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted.

Waiver of Claims:

- 13.13 The making and acceptance of final payment will constitute:
- 13.13.1 A waiver of all claims by **Department** against **Contractor**, except claims arising from unsettled Liens, from Defective Work appearing after final inspection pursuant to paragraph 13.11 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by **Department** of any claims or rights with respect to **Contractor's** continuing obligations under the Contract Documents; and
- 13.13.2 A waiver of all claims by **Contractor** against **Department** other than those previously made in writing and still unsettled.

ARTICLE 14 - Suspension of Work and Termination

Department May Suspend Work:

- 14.1 **Department** may for its convenience, order **Contractor** in writing at any time to suspend the Work or any portion thereof for such a period of time as **Department** may determine to be appropriate. A suspension of Work order will fix the date on which the Work, or portion thereof, will be resumed. **Contractor** shall resume the Work, or portion thereof, on the date so fixed.
- 14.1.1 If the performance of the Work or portion thereof is suspended for a period of time which exceeds the Total Float available in the approved Progress Schedule for the portion or portions controlling the Work affected by a suspension of Work order pursuant to paragraph 14.1, or by an act of **Department** or **Engineer** in the administration of the Contract, or by **Department's** or **Engineer's** failure to act within the applicable latest dates substantiated in the approved Progress Schedule, **Contractor** will be allowed an increase in Contract Price or an extension in Contract Time, or both, necessarily caused by such suspension which extends the applicable latest dates in the approved Progress Schedule. However, no adjustment will be made under this paragraph of the General Conditions for any suspension to the extent (i) that performance would have been so suspended by any other cause, including the fault and negligence of **Contractor**, or (ii) for which an adjustment is provided, limited as to extent, or excluded under any other provision of the Contract Documents.
- 14.1.2 **Contractor** shall deliver to **Engineer** a written Proposed Change Order including at a minimum, justification for the request within seven days or earlier if so required elsewhere in the Contract Documents, of the act or failure to act which **Contractor** believes gives rise to an adjustment in Contract Price or Contract Time pursuant to paragraph 14.1.1. Failure by **Contractor** to comply with the time requirements for delivery of written Proposed Change Orders will be considered to be a waiver by **Contractor** of any request for adjustment or claim for an increase in Contract Price or Contract Time for the period of time during which the Proposed Change Order has not been submitted.
- 14.1.3 **Contractor's** proposal with all supporting data shall be delivered within 15 days of such notice or within twenty-two days of such occurrence, whichever is later, unless **Department** allows an additional period of time to obtain more accurate data. **Contractor** shall prove that additional costs and delays were necessarily incurred which meet the criteria set forth in Articles 9, 10 and 11 of the General Conditions, despite **Contractor's** reasonable, prudent, and diligent efforts to prevent such costs or delays.
- 14.2 In addition to the provisions of Appendix B, if **Department** stops Work in accordance with Article 12.10 of the General Conditions or suspends **Contractor's** services in accordance with article 12.11, or suspends the work or any portion thereof because of **Contractor's** failure to prosecute the work and to protect persons and property, **Contractor** shall not be entitled to an extension of Contract Time or an increase in Contract Price.

Department May Terminate:

- 14.3 **Department** may terminate for cause upon the occurrence of any one or more of the following events:
- 14.3.1 If **Contractor** commences a voluntary case under any chapter of the Bankruptcy Code, as now or hereafter in effect, or if **Contractor** takes any equivalent or similar action by filing a petition

or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

- 14.3.2 If a petition is filed against **Contractor** under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against **Contractor** under any other federal or state law in effect at the time relating to bankruptcy or insolvency;
- 14.3.3 If **Contractor** makes a general assignment for the benefit of creditors;
- 14.3.4 If a trustee, receiver, custodian or agent of **Contractor** is appointed under applicable law or under contract, whose appointment or authority to take charge of property of **Contractor** is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of **Contractor's** creditors;
- 14.3.5 If **Contractor** admits in writing an inability to pay its debts generally as they become due;
- 14.3.6 If **Contractor** fails to perform the Work in accordance with the Contract Documents, including, but not limited to, failure to supply sufficient skilled workers, or suitable materials or equipment, or failure to adhere to the progress schedule established under paragraph 1.6 as revised from time to time or failure to submit an updated schedule as required by paragraph 5.6;
- 14.3.7 If **Contractor** disregards Laws or Regulations of any public body having jurisdiction;
- 14.3.8 If **Contractor** disregards the authority of **Engineer**; or
- 14.3.9 If **Contractor** otherwise violates in any substantial way any provision of the Contract Documents;

Department may, after giving **Contractor** and its surety seven days written notice and to the extent permitted by Federal and New York State Law, terminate the services of **Contractor**, exclude **Contractor** from the site and take possession of the Work and of all **Contractor's** tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by **Contractor** without liability to **Contractor** for trespass or conversion, incorporate in the work all materials and equipment stored at the site or for which **Department** has paid **Contractor** but which are stored elsewhere, and finish the Work as **Department** may deem expedient. In such case **Contractor** shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs, such excess will be paid to **Contractor**. If such costs exceed such unpaid balance, **Contractor** shall pay the difference to **Department**. Such costs incurred by **Department** will be approved as to reasonableness by **Engineer** and incorporated in a Change Order or Proposed Change Order.

- 14.4 Where **Contractor's** services have been so terminated by **Department**, the termination shall not affect any rights or remedies of **Department** against **Contractor** then existing or which may thereafter accrue. Any retention or payment or moneys due **Contractor** by **Department** will not release **Contractor** from liability.

- 14.5 Upon seven days written notice to **Contractor** and **Engineer**, **Department** may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, **Contractor** shall be paid for all Work accepted by **Department**.

Contractor May Stop Work or Terminate:

- 14.6 If, through no act or fault of **Contractor**, **Engineer** fails to act on any Application for Payment within thirty days after it is submitted, or **Department** fails for one hundred and twenty days to pay **Contractor** any sum finally determined to be due by **Department**, then **Contractor** may, upon seven days' written notice to **Department** and **Engineer**, terminate the Agreement and recover from **Department** payment for all Work accepted by **Department**. In lieu of terminating the Agreement, if **Engineer** has failed to act on an Application for Payment or **Department** has failed to make any payment as aforesaid, **Contractor** may upon seven days' written notice to **Department** and **Engineer** stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve **Contractor** of the obligations under paragraph 5.30 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with **Department**.

ARTICLE 15 - Disputes

Giving Notice:

- 15.1 All claims, counterclaims, disputes and other matters in question between **Department** and **Contractor**, arising out of or relating to the Contract Documents or the breach thereof (hereafter referred to as claims) except for claims which have been waived by the making or acceptance of final payment as provided in paragraph 13.11, shall be resolved under this Article.
- 15.1.1 A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under this Article. Such a submission may be converted to a claim under this Article by complying with the requirements of this Article, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- 15.2 A claim by **Contractor** shall be made in writing and submitted to **Department** for evaluation with a copy to **Engineer**.
- 15.3 A written demand or written assertion by **Contractor** seeking the payment of money exceeding \$10,000 is not a claim under this Article until certified as required below. For claims exceeding \$10,000 **Contractor** shall submit with the claim a certification that:
- 15.3.1 The claim is made in good faith,
- 15.3.2 Supporting Cost and Pricing Data are current, accurate, and complete to the best of the **Contractor's** knowledge and belief, and
- 15.3.3 The amount of the claim accurately reflects the adjustments in Contract Price or Contract Time which **Department** has agreed to or for which **Contractor** believes **Department** is liable.
- 15.4 The **Contractor's** certification shall be executed by **Contractor's** Authorized Representative specified in the Contract Documents.

- 15.5 For claims of \$10,000 or less, **Department** shall render a decision if requested in writing by **Contractor**. For **Contractor** certified claims over \$10,000, **Department** shall decide the claim or notify **Contractor** of the date by which the decision will be made.
- 15.6 **Department's** decision shall be final unless **Contractor** initiates legal action within 120 days of **Department's** final decision.
- 15.7 **Contractor** shall proceed diligently with performance of Work under this Contract, and comply with any decision of **Engineer** or **Department** pending final resolution of any request for relief, claim, appeal, or action arising under the Contract.
- 15.8 **Contractor** agrees that all claims shall be subject to resolution pursuant to **Department** procedures as described in the Disputes article of the Agreement.

ARTICLE 16 - Miscellaneous

Notice and Service:

- 16.1 All notices, demands, requests, instructions, approvals and claims shall be in writing.
- 16.1.1 Any notice to or demand upon **Contractor** shall be deemed sufficient if delivered to **Contractor's** representative at the site or if delivered to the individual proprietor if **Contractor** is an individual, to a partner if **Contractor** is a partnership or to an officer of the corporation if **Contractor** is a corporation, at the office of **Contractor** specified in the Contract Documents, or if deposited in the United States mail in a sealed, postage prepaid envelope, addressed to the principal office of **Contractor** listed in the Agreement, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to the office of **Contractor** specified in the Contract Documents or faxed to the number provided in the Contract Documents and followed by written notice.
- 16.1.2 All notices or other papers required to be delivered by **Contractor** to **Department**, or to any of its representatives shall, unless otherwise specified in writing to **Contractor**, be delivered to **Department** at the office specified in the Contract Documents. Any other notice or demand upon **Department** shall be deemed sufficient if delivered to such office, or if deposited in the United States mail in a sealed, postage prepaid envelope, or if delivered, with the charges prepaid to any telegraph company for transmission, in each case addressed to such office or to such other representative of **Department** or to such other address as **Department** may subsequently specify in writing to **Contractor** for such purpose, or faxed to the number provided in the Contract Documents and followed by written notice.
- 16.1.3 Any written notice or other communication to **Contractor's** Surety or Sureties shall be delivered or mailed to the home office of the Surety or Sureties, or to the agent or agents who executed the Bonds on behalf of the Surety or Sureties.
- 16.1.4 Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery, or, in the case of mailing or of telegrams, at the time of actual receipt thereof.

Computation of Time:

- 16.2 When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last calendar day of such period. If the last calendar day of any such period falls

on a Saturday or Sunday or on a day made a legal holiday by the State of New York, such day will be omitted from the computation. This does not apply to contract completion time as set forth in Article 6 of the Agreement.

General:

- 16.3 Should **Department** or **Contractor** suffer injury or damage to person or property because of an act or omission to act of the other party, its employees or agents or others for whose acts the other party is legally liable, a Claim may be made therefore, in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.
- 16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available to the parties hereunder, including but not limited to the warranties, guarantees and obligations imposed upon **Contractor** by Contract Documents and all of the rights and remedies available to **Department** thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by New York State Laws, by special warranty or guarantee or by other provisions of the Contract Documents. The provisions of this paragraph shall be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy. All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of the Agreement.
- 16.5 The obligation of **Contractor** to maintain the Work, or any part thereof, until the completion of the Correction Period shall survive final payment and termination or completion of the Agreement.

No Waiver of Legal Rights:

- 16.6.1 Inspection by **Engineer** or by any of its duly authorized representatives, any measurement or report by **Engineer**, any order by **Department** for the payment of money, any payment for or acceptance or possession of any Work or any extension in Contract Time or any possession taken by **Department** shall not operate as a waiver of any provision of the Contract Documents, or any power therein preserved to **Department**, or of any right to damages therein provided. Any Waiver of any breach of this Contract shall not be held to be a waiver of any other or subsequent breach.
- 16.6.2 **Department** reserves the right to correct any error that may be discovered in any estimate that may have been paid, and to adjust the same to meet the requirements of the Contract Documents. **Department** further reserves the right, should proof of Defective Work on the part of **Contractor** be discovered after the final payment has been made, to claim, and recover by process of law, such sums as may be sufficient to correct the error, or make good the defects in the Work.
- 16.6.3 Any waiver of any provision of the Contract Documents shall be specific, shall apply only to the particular item or matter concerned and shall not apply to other similar or dissimilar items or matters.

Affidavit and Release of Lien:

- 16.7.1 When the Work has been completed, **Contractor** shall execute a final release of Lien and an Affidavit declaring that all bills have been paid in full, and that the requirements of the New York State Labor Law have been complied with.
- 16.7.2 These documents will be furnished to **Department** on the forms included with the Contract Documents.
- 16.7.3 **Contractor** shall be responsible for obtaining and submitting these forms to **Department** for all subcontractors involved in the Work.

Recovery Rights Subsequent to Final Payment:

- 16.8 **Department** reserves the right, should an error be discovered in an Application for Payment or should proof of Defective Work or materials used by or on the part of **Contractor** be discovered after the final payment has been made, to claim and recover from **Contractor** or his Surety, or both, by process of law, such sums as may be sufficient to correct the error or make good the defects in the Work and materials.

General Guarantee:

- 16.9 Neither the final acceptance, nor final payment by **Department**, nor any provision of the Contract Documents, nor partial or entire use of the Work by **Department**, shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve **Contractor** of liability in respect to any express warranties or responsibility for faulty materials or workmanship. **Contractor** guarantees the remedy of all Defective Work and payment for all damage to other Work, persons or property resulting therefrom which shall occur within one year from the date of final acceptance unless a longer period is required by Contract Documents, by Law, or by standard practice. **Department** will give notice of observed Defective Work with reasonable promptness. **Contractor** shall ensure that its Surety shall be bound with and for **Contractor** in the faithful observance of this General Guarantee.

Audit; Access to Records:

- 16.10.1 In addition to the rights of access set forth in Appendix A, if **Contractor** has submitted Cost and Pricing Data in connection with the pricing of any Change Order, Proposed Change Order or Claim related to this Contract, **Department** and **Engineer** or any of their duly authorized representatives shall have the right to examine and audit all books, ledgers, records, and documents pertinent to all Cost and Pricing data available and relied upon by **Contractor** including but not limited to that used by **Contractor** in the determination of its Bid for the Work, in order to evaluate the accuracy, completeness, and currency of the Cost or Pricing data.
- 16.10.2 **Contractor** shall make available at **Contractor's** office at all reasonable times the materials described in paragraph 16.10.1 above, for examination, audit, or reproduction, until 6 years after final payment under this Contract.
 - 16.10.2.1 If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for 6 years after any resulting final termination settlement.

- 16.10.2.2 Records pertaining to appeals under Article 15 of Section 8, "General Conditions," to litigation or the settlement of claims arising under or relating to the performance of this Contract shall be made available until disposition of such appeals, litigation, or claims.
- 16.10.3 A provision stating that all the requirements of this Article of Section 8, "General Conditions" are applicable to Subcontracts under this Contract exceeding \$50,000 in value shall be inserted by **Contractor** in all such subcontracts.

Price Reduction for Defective Cost or Pricing Data:

- 16.11.1 This provision shall become operative only for any Change Order, or Proposed Change Order or claim settlement under this Contract involving aggregate increases and/or decreases in costs, plus applicable profits, of more than \$10,000; except that this provision shall not apply to any amendment to the Contract for which the price of the Work involved in the amendment is:
 - 16.11.1.1 Based on adequate price competition;
 - 16.11.1.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public, or
 - 16.11.1.3 Set by New York State law.
- 16.11.2 If any price, including profit, negotiated in connection with any Change Order, Proposed Change Order or claim settlement under this provision, was increased because: 1) **Contractor** or a Subcontractor, Supplier, other person or organization furnished Cost and Pricing Data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data; 2) a designated or prospective Subcontractor, Supplier, other person or organization furnished **Contractor** Cost and Pricing Data that were not complete, accurate, and current as certified in the **Contractor's** Certificate of Current Cost and Pricing Data; or 3) any of these parties furnished data of any description that were not accurate, the price shall be changed accordingly and the Contract shall be adjusted to reflect the change. This right to a change in Contract Price is limited to that resulting from defects in data relating to amendments to the Contract for which this provision becomes operative under paragraph 16.11.1 above.
- 16.11.3 Any decrease in Contract Price under paragraph 16.11.2 above due to defective data from a designated or prospective Subcontractor, Supplier, other person or organization that was not subsequently awarded the Subcontract or purchase order shall be limited to the amount, plus applicable overhead and profit markup, by which 1) the actual Subcontract or purchase order or 2) the actual cost to **Contractor**, if there was no Subcontract or purchase order, was less than the prospective Subcontract or purchase order, cost estimate submitted by **Contractor**; provided, that the actual Subcontract or purchase order price was not itself affected by defective cost or Pricing data.
- 16.11.4 Before awarding any Subcontract or purchase order which exceeds or can be reasonably expected to exceed \$150,000 when entered into, or pricing any Change Order or Proposed Change Order or claim settlement involving a pricing adjustment expected to exceed \$10,000, **Contractor** shall require the Subcontractor, Supplier, other person or organization to submit Cost or Pricing data (actually or by specific identification in writing), unless the price is:
 - 16.11.4.1 Based on adequate price competition;

16.11.4.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

16.11.4.3 Set by New York State law.

16.11.5 **Contractor** shall require such Subcontractor, Supplier, other person or organization to certify in the form prescribed in the Contract Documents, that to best of its knowledge and belief, the data submitted under paragraph 16.11.4 is accurate, complete, and current as of the date of agreement on the negotiated price of the Subcontract, purchase order, Change Order, Proposed Change Order, or claim settlement affecting the Subcontract.

16.11.6 **Contractor** shall make the provisions of this Article applicable to all Subcontracts or purchase orders that exceed or can be reasonably expected to exceed \$150,000.

No Waiver:

16.12.1 The rights and remedies set forth in the Contract Documents are not exclusive and are in addition to any other rights and remedies provided by law or equity. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by New York State law.

16.12.2 No act or omission by **Department** or **Contractor** shall constitute a waiver of any right or duty afforded any of them under the Contract Documents, nor shall any such act or omission constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

Comparable or Equivalent Terms:

16.13.1 **Contractor** warrants, represents and guarantees that all of the prices, terms, warranties and benefits granted to **Department** under the Contract are comparable to or better than the equivalent terms, prices, warranties and benefits offered to any other existing customer for similar Work.

16.13.2 In addition to the other remedies available, **Department** may demand repayment for any excess payment, plus interest thereon, for failure of **Contractor** to comply with paragraph 16.13.1.

Unlawful Provisions Deemed Stricken:

16.14.1 If the Contract Documents contain any unlawful provisions, such unlawful provisions shall be of no effect. Any provision determined to be unlawful by a court of competent jurisdiction, shall be deemed stricken from the Contract Documents without affecting the validity of the remaining provisions of the Contract Documents.

All legal Provisions Included:

16.15.1 All provisions of Law required to be included in the Contract Documents shall be and are inserted herein. If through mistake, neglect, oversight or otherwise, any such provision has not been included or included in improper form, upon the application of either party, the Contract Documents shall be amended in writing at no increase in Contract Price nor extension in Contract Time, so as to comply with the Law.

No Estoppel:

- 16.16 **Department** or any officer, employee, servant or agent thereof, shall not be estopped, bound or precluded by any determination, return, decision, approval, order, letter, payment or certificate made or given by **Engineer** or any other officer, employee, servant or agent of **Department**, at any time, either before or after final completion and acceptance of the Work and payment therefor:
- 16.16.1 From showing the true and correct amount, classification, quality, and character of the Work completed and materials furnished by **Contractor** or any other person under the Contract, or from showing at any time that any determination, return, decision, approval, order, letter, payment, or certificate is untrue and incorrect, or improperly made in any particular, or that the Work or the materials or any part thereof, do not in fact conform to the Contract Documents; or,
- 16.16.2 From demanding the recovery of any overpayments made to **Contractor**, or such damages as **Department** may sustain by reason of failure to perform each and every term, provision or condition of the Contract in accordance with its terms.

Prohibited Interests:

- 16.17 No official of **Department** who is authorized in such capacity on behalf of **Department** to negotiate, make, accept or approve or to take part in the negotiating, making or approving any architectural, engineering, inspection, construction or material supply contract or any Subcontractor in connection with the Work or the Project of which the Work is a part, shall be knowingly permitted by **Contractor** to become directly or indirectly interested personally in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer or project representative of or for **Department** who is authorized in such capacity and in behalf of **Department** to exercise any executive, supervisory or other similar function in connection with the Work or the Project of which the Work is a part shall be knowingly permitted by **Contractor** to become directly interested personally in this Contract or in any part thereof.

SECTION IX
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions modify the General Conditions in Section VIII:

1. Articles 1.4.3 and 1.6

The Department will not require the Contractor to submit a schedule of values.

2. Article 4.3

Automobile Aggregate should be \$2,000,000

3. Article 4.4

Delete Article 4.4.2

4. Article 5.35

Article should be amended to require "biweekly" project meetings rather than "weekly" project meetings.

5. The following supplements Article 5.16 of the General Conditions:

A. The **CONTRACTOR** shall limit access to the indicated wetland area to only those activities necessary to perform that portion of the work that is intended for the wetland area. For all other work the wetland area is off limits and not a part of the work area of the project.

SECTION X

STANDARD SPECIFICATIONS

SECTION X

Standard Specifications

SPEC 00001

Progress Schedule

1) *Terms and Definitions*

The terms listed below (or pronouns in place of them) have the following intent and meanings which are applicable to both the singular and plural thereof.

- a) **Activity** - A part of the Work identified in the Progress Schedule, assigned a description, duration, certain codes, and other related Shop Drawing data, and Cost and Pricing data, and evaluated to start and finish in accordance with Early and Late Schedules.
- b) **Activity, Critical** - An Activity is considered to be Critical when it is evaluated to have the minimum value of Total Float Time available in the Progress Schedule.
- c) **Activity, Value** - That portion of the contract Price which represents a fair value for the part of the Work identified by that Activity.
- d) **As-Built Schedule** - Term used to denote record schedule drawings and data substantiating how the Work was actually as to timing, sequencing and rate of progress.
- e) **Bar Chart Diagram** - A graphical representation of how the Work is to be performed as shown by timing each activity between a single choice of anticipated start and finish dates.
- f) **Critical Path** - The sequence of Critical Activities from the Date for Commencement of the Contract Time, or Contract Times, to Substantial Completion of the Work, or part thereof.
- g) **Critical Path Method Diagram** - A graphical representation of how the Work is to be performed as represented by the sequencing and timing of the Activities. A CPM Diagram shall either follow an "arrow" (I-J) format, wherein the start of an Activity is dependent upon the finish of preceding Activities, or a "precedence" format, wherein either the start or finish of an Activity is dependent upon either the start or finish of preceding Activities.
- h) **Dummy restraints** - Activities not identifying a part of the Work, and used to preserve proper logic sequencing, avoid duplicate Activity numbering, to enforce Work Sequences indicated in or required by the Contract Documents, or to achieve other preferential sequencing chosen by Contractor.
- i) **Duration (Activity)** - Estimated or required time of performance for the part of the Work represented by that Activity.
- j) **Free Float** - Working days by which an Activity may be delayed from its Early Schedule, without delaying any other Activities from their Early Schedules.
- k) **Contract Float** - Working days between the date(s) for Substantial Completion shown for the Work, or part thereof, in Contractor's anticipated Early Schedule, and the corresponding Contract Time or Contract Times.

- l) **Total Float** - Working days between the Early Schedule and the Late Schedule for an Activity by which that Activity may be delayed without necessarily extending the Contract time, or Contract Times.
- m) **Early Schedule (Late Schedule)** - The proposed Early Dates (Late Dates) of performance for the parts of the Work represented by the Activities. The Early dates are predicated on proceeding with the Work, or part thereof, exactly on the date when the Contract Time, or applicable Contract Time, commences to run; and the Late dates are based on achieving Substantial Completion of the Work, or part thereof, exactly on the Contract Time, or applicable Contract Times.
- n) **Percent Complete** - That portion of an Activity which when multiplied by the Activity Value will yield a fair proportion of the Contract Price for that part of the Work completed.
- o) **Preferential Logic** - Contractor's approach to sequencing of the Work over and above those sequences indicated in or required by the Contract Documents. Examples include equipment restraints, crew movements, form reuse, special logic (lead/lag) restraints, etc. factored into the Progress Schedule instead of disclosing the associated Float Times.

2) **Requirements Included**

- a) Pursuant to the requirements of the Contract Documents, **Contractor** shall prepare and submit, finalize, and periodically adjust the Progress Schedule as required herein.
- b) This Section of the Specifications requires **Contractor** to plan, manage, schedule and execute the Work in accordance with a Progress Schedule meeting the requirements of the Contract Documents; that **Contractor's** Progress Schedule stay current with **Contractor's** approach to performing Work remaining; that the Progress Schedule, when approved, be jointly used by **Owner, Engineer and Contractor** to substantiate or mitigate the impact of delays and Change Orders; and that **Contractor** prepare record schedule drawings and data showing how the Work is being performed as to sequencing, timing, and rate of progress.

3) **Bar Chart Description**

- a) A Bar Chart Diagram does not show express logic ties, nor does it compute Early or Late Dates as defined above. Although a Bar Chart Diagram may show Contract Float time, it does not disclose Activity Total Float values.
- b) Total Float and Contract Float are not for the exclusive benefit of **Owner, Engineer, Contractor**, or others, but is time available to all parties as needed for the Contract as a whole. Such Float times shall be shared between **Owner, Engineer, Contractor** and others to absorb delays which could not be mitigated by any other reasonable means.
- c) Activity representative quantities, Activity Value, Activity Percent Complete data, Activity Value of Work performed, and the applicable Value of significant subcomponents. The sum of all Activity Values shall equal the corresponding Contract Price for the Work. The sum of all Activity Values for Work performed divided by the Contract Price shall equal the Percent Complete for the Work.

4) **Critical Path Method (CPM) Description**

- a) The Progress Schedule shall be based on the Critical Path Method (CPM) of planning and scheduling, and prepared, finalized, and revised in accordance with the principles, definitions and terms described hereafter and those standards of the industry for CPM scheduling which are not in conflict with this Specification.

- b) CPM Diagrams shall show in detail the priority, sequencing and interdependence of Activities, and the sequence in which the Work is to be accomplished to: a) to comply with the Contract Time(s), named allowances, and those sequences of Work indicated in or required by the Contract Documents; b) to anticipate foreseeable events that may in any manner affect cost, progress, schedule, performance, and furnishing of the Work; and c) to reflect the means, methods, techniques, sequences, and procedures of construction anticipated by Contractor, subject to the limitations on Float sequestering set forth by this Specification.
- c) Total Float and contract Float are not for the exclusive benefit of Owner, Engineer, Contractor, OR OTHERS, but is time available to all parties as needed for the Contract as a whole. Such Float Times shall be shared between Owner, Engineer, Contractor and others to absorb delays which could not be mitigated by any other reasonable means. Use of Float Time shown in the approved progress Schedule for interim milestones or Contract Times will be available to Owner, if required to effect proper interfacing between work performed.
- d) Use of float suppression techniques such as preferential sequencing, special lead/lag logic restraints, extended Activity times, imposed Activity dates, scheduling items of Work required for Final Completion as though they were prerequisites to Substantial Completion, and others, and 2) use of Float time disclosed or implied by the use of alternate Float suppression techniques will be allowed, provided: a) that Contractor not engage in Float manipulations which have the net effect of "sequestering" Float, that is to reduce unilaterally otherwise available Float Time by more than 50 percent; and b) that Contractor agrees that in order to mitigate the impact of delays to the Work, or parts thereof, adjustment or removal of such Float suppression techniques will be a prerequisite to consideration of any requests for compensation for delay or acceleration or for extensions in Contract Time.
- e) The finalized Schedule of Values will be acceptable to Engineer as to form and substance, and will serve as the basis for progress payments.
- f) The finalized Schedule of Shop Drawing submissions will be acceptable to Engineer as providing a workable arrangement for processing the submissions.

5) ***Progress Schedule Submittals for CPM Schedules***

- a) All CPM Diagrams, Schedule of Values, Schedule of Shop Drawing submissions, associated computer reports, and narratives submitted by Contractor shall be consistent with the requirements of this Specification.
- b) The "Preliminary" submittal set shall consist of:
 - 1) A CPM Diagram and associated Schedule of Values and a supporting narrative.
 - 2) A User Manual for the scheduling software to be used by Contractor for the purposes of computation of the Progress Schedule.
- c) The "Interim" submittals shall consist of the interim CPM Diagram and associated Schedule of Values and Schedule of Shop Drawings submissions and a supporting narrative.
- d) The "Detailed" submittal set shall consist of:
 - 1) The Detailed CPM Diagram, and the reports associated with the Schedule of Values, and Schedule of Shop Drawing submissions, and a supporting narrative.

- 2) The five associated Activity reports described in paragraph 18.A sorted by each of the first four sequencing criteria described in paragraph 18.D.
 - e) "Status" submittal sets shall consist of "mark-up" versions of the current Detailed CPM Diagram, Schedule of Values, and Schedule of Shop Drawings, together with a supporting narrative.
 - f) "Update" submittal sets shall consist of revised Detailed CPM Diagrams, Schedule of Values and Schedule of Shop Drawings, the six associated computer reports, a detailed Contractor's Cost report, and a supporting narrative.
 - g) The "Contract Completion" submittal set shall consist of the Detailed Contract Completion Schedule, and associated computer reports.
 - h) The "As-Built" submittal set shall consist of the As-Built CPM Diagram, and a "Schedule Reconciliation" report.
- 6) ***Quality Assurance of Progress Schedule***
- a) Engineer will review and if acceptable, approve the Progress Schedule.
 - b) In preparing a version of the Progress Schedule, pursuant to paragraph 1.8 of the General and Supplementary Conditions, it is the responsibility of Contractor 1) to inspect the preaward "Preliminary Progress Schedule" submitted in compliance with Article 11 of Section III of the Contract Documents, 2) to verify site conditions that may in any manner affect cost, scheduling, progress, performance and furnishing of the Work, 3) to work with each major Subcontractor, Supplier, or other relevant person or organization to obtain information on Activities, sequencing, and Activity Durations for incorporation into the Progress Schedule, and (4) to request and obtain written interpretations from Engineer as needed.
 - c) The Detailed Progress Schedule shall break down the Work into Activities in sufficient detail to identify clearly all individual parts of the Work and those factors which may in any manner affect the cost, schedule, progress, performance, and furnishing of the Work. At a minimum, the break down of the Work in the detailed Progress Schedule submittal for CPM schedules only, shall delineate the following:
 - 1) Those Activities designating the date for commencement of the Contract Time, or Contract Times; those Activities leading to Substantial Completion of the Work, or parts thereof; and those Activities identifying parts of the Work to be performed or furnished leading from Substantial Completion to Final Completion.
 - 2) All special Work sequences, schedule milestones, intermediate Contract Times, and named allowances set forth in the Contract Documents.
 - 3) Items pertaining to securing prerequisite permits and approvals from those agencies with jurisdiction over Work to be performed under the Contract.
 - 4) All items of Work involved in the preparation, submittal, review and approval of Shop Drawings and samples required by the Specifications.
 - 5) Appropriate times required for the fabrication, delivery, receipt and inspection, and storage of items of materials and equipment.
 - 6) Work associated with installation, erection and other field construction activities.

- 7) Items of Work required to work around existing physical conditions and Underground Facilities which are at or contiguous to the site including the time for permanent or temporary relocation of such existing physical conditions and/or underground facilities.
 - 8) Items of interface which relate to the responsibilities of **Owner**, **Engineer** or other contractors performing work under separate contracts with **Owner**.
 - 9) Work required to implement cut-offs or closures, power shutdowns or temporary or permanent take-down or interruptions to existing facilities or affecting the operations of **Owner**, utilities or similarly involved third-parties. Specific dates when such cut-offs, etc. are to take place shall be shown as milestone dates on the appropriate Activities.
 - 10) All items of Work related to shop and field testing, associated trimout activities and specified manufacturer or supplier training required prior to placing the facilities in service, including but not limited to manufacturer or supplier installation checks; leak, disinfection and pressure tests; removal or erection of temporary components; tie-ins; flushing and chemical/mechanical cleaning operations; specified performance tests; and other necessary non-operating tasks adjustments, cold-alignment checks, corrections, housekeeping and spare parts stocking required of **Contractor** to conform to the Pre-operational testing requirements of the Contract Documents.
 - 11) All items of Work associated with the performance of the Start-Up Testing requirements of the Contract Documents, including, but not limited to, trial operation tests and operator training, performance tests under simulated and design operating conditions, emission testing, final acceptance or guarantee tests.
 - 12) Work related to the tentative list of items to be completed or corrected before and subsequent to Pre-operational, Startup Testing and Final Testing.
- d) The following limitations shall also apply to the selection and scoping of Activities for CPM schedules only:
- 1) Activity Durations shall be in working days and represent **Contractor's** best estimate of the time required for completion based on the Work included and the resources planned for that Activity. The computation of the Activity dates shall be based on a calendar recognizing the applicable holidays and the limitations on Work during hours other than the normal working hours set forth in the General Conditions and the Supplementary Conditions.
 - 2) Unless otherwise provided in the Special Progress Schedule Requirements, all Activities, except those identifying Work related to Shop Drawings and deliveries, shall span twenty working days or less, and their Values shall not exceed \$45,000. Duration requirements for Activities identifying Work related to **Engineer's** review of Shop Drawing or sample submissions are prescribed in the Special progress Schedule Requirements.
 - 3) Installation Activities shall not combine Work located in separate structures, buildings or facilities, nor Work corresponding to different Divisions of the Specifications. Submittal and associated delivery Activities shall identify each submittal required by the Sections of the specifications. Activities identifying Work in connection with Pre-Operational or Start-up Testing shall not combine Work pertaining to the different Division within the specifications.
 - 4) Reference is made to Article 1.11 of this specification for the identification of allowances and their incorporation into the Progress Schedule.

- 5) Items that qualify as (a) on-site stored materials, fixtures and equipment and (b) undelivered equipment, shall be separately identified on the Progress Schedule.

7) *References for CPM Schedules*

- a) The text "Precedence and Arrow Networking Techniques for Construction", by R.B. Harris (Wiley, 1978), provides principles, definitions and terms common to CPM arrow and precedence diagrams, and schedule computations therefrom.
- b) The provisions of this Section are binding on **Contractor** in the event of a conflict between the Standard Specifications and this Specification.

8) *Review of Progress Schedule Submittals*

- a) **Engineer's and Owner's** review of **Contractor's** Progress Schedule submittals will be only for conformance with the Contract Time(s), those sequences of Work indicated in or required by the Contract Documents, the Float sharing concepts established in the Contract Documents, and for compliance with the requirements of this Specification and the information given in the Contract Documents. **Engineer's and Owner's** review, comments and exceptions taken, if any, shall not extend to, nor constitute directions nor approval of, the means, methods, techniques, sequences, or procedures of construction or safety precautions, the correctness of which shall be the sole responsibility of **Contractor**.
- b) **Engineer's and Owner's** review of progress schedule submittals will be predicated on a **Contractor's** stamp of approval signed off by **Contractor**. **Contractor's** stamp of approval on Progress Schedule submittals shall constitute a representation to **Owner** that **Contractor** has either determined or verified all data on the Progress Schedule submittal, or assumes full responsibility for doing so, and that **Contractor** and his Subcontractors, Suppliers or other persons or organizations have reviewed and coordinated the sequences shown in the Progress Schedule with the requirements of the Work under the Contract Documents.
- c) **Engineer's and Owner's** review will not be intended to be for the purpose of determining the accuracy of other matters that may be contained in the submittals. When the review of a Progress Schedule results in a number of comments or exceptions taken, **Engineer and Owner** does not warrant that these comments are inclusive of all variations, as it shall remain the responsibility of **Contractor** to meet the requirements of the contract documents and to identify expressly any proposed variations.
- d) **Engineer's and Owner's** review of progress schedule submittals shall not relieve **contractor** from responsibility for any variations from the requirements of the Contract Documents unless **Contractor** has in writing, by means of a specific notice, called **Engineer's** attention to each variation, and **Engineer** has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Progress Schedule submittal.
- e) **Engineer's** approval of Progress Schedule submittals will not relieve **Contractor** from responsibility for errors and omissions in the submittals or from responsibility for having complied with the provisions of paragraph 1.07.D above. Approval of a Progress Schedule with undisclosed variations or errors such as omitted Work or erroneous sequences will not relieve **Contractor** from completing the omitted or impacted Work within the applicable Contract Time(s).
- f) Progress Schedules that include Activities with negative Float Times, or Activities scheduled beyond the applicable Contract Time(s), will not be approved until a specific Change Order or Proposed Change Order authorizing appropriate changes to the impacted Contract Time(s) is agreed upon between **Owner** and **Contractor**.

- g) When reviewed by **Engineer** and **Owner**, each progress schedule submittal will be returned stamped as either "approved," "approved as noted," "resubmit with revisions," or "disapproved." Submittals stamped as "approved" or "approved as noted" will indicate approval thereof, subject to the limitations set forth, and will be considered to represent the approved progress schedule as of the date in the approval stamp until an updated progress schedule is submitted by **Contractor** and approved by **Owner** and **Engineer**.
- h) If **Contractor** believes that **Engineer's** approval of a progress schedule justifies an increase or decrease in contract price or an extension or shortening in contract time, **Contractor** shall be required to deliver a proposed change order thereof to **Engineer** in accordance with the provisions of article 9 of the general conditions. If **Owner** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.
- i) Costs associated with **Engineer's** and **Owner's** review and return of a progress schedule submission after the **Engineer's** second time review shall be borne by **Contractor**. **Owner's** charges to **Contractor** for additional reviews will be equal to **Engineer's** charges to **Owner** under the terms of **Engineer's** agreement with **Owner**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Owner**, a change order or proposed change order will be issued incorporating the unpaid amount, and **Owner** will be entitled to an appropriate decrease in Contract Price.
- j) No partial submittals will be reviewed. Submittals not complete will be returned to **Contractor** for resubmittal.

9) ***Delays and Recovery***

- a) Reference is made to the General Conditions and the Supplementary Conditions for Contract requirements related to delays, conditions warranting extensions in Contract Time(s), and conditions applicable to reimbursement for delay costs.
- b) Whenever **Contractor** fails to complete an activity within its late date on the approved progress schedule, **Contractor** shall, within five days or with the next application for payment, whichever comes earlier, submit a written statement to **Engineer** describing the cause for the slippage in the Activity and the actions being considered by **Contractor** to recover the time lost and to prevent or mitigate any derived slippage beyond the applicable Contract Time(s).
- c) A written schedule recovery statement shall include, but not be limited to, such actions as overlapping of dependent Activities, sequencing changes to accommodate increased Activity concurrency, assignment of additional labor or equipment, shift or overtime Work, expediting of submittals or deliveries, or any combination of the foregoing.
- d) If **Contractor** refuses, fails or neglects to submit a required written schedule recovery statement, **Owner** may, at its option, withhold additional retainage pursuant to the Contract Documents and/or initiate default termination proceedings in accordance with Contract Documents or request **Engineer** to identify and to order alternate recovery actions on the basis of the information in the current Progress Schedule. If **Contractor** believes that a written order to recover schedule from **Engineer** justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written request thereof in accordance with the provisions of Article 9 of the General Conditions. If **Owner** and **Contractor** are unable to agree as to responsibility for the slippage in the schedule or the amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.

10) *Early-Completion Progress Schedules*

- a) Progress Schedules anticipating achievement of Substantial Completion ahead of the corresponding Contract Time(s), and disclosing appropriate Contract Float Time(s) for the Work, or parts thereof, shall be considered equivalent or equal to Progress Schedules anticipating Substantial Completion exactly on the Contract Time(s). In accordance with requirements of the Contract Documents, the contract Float Time in these equivalent or equal Progress Schedules will be available to **Owner, Engineer, Contractor** and others to absorb delays to the Work as a whole which cannot be mitigated by any other means.
- b) Progress Schedules anticipating achievement of Substantial Completion ahead of the corresponding Contract Time(s), but with zero Contract Float as opposed to positive Contract Float, will be returned as either "Approved as Noted", "Resubmit with Revisions", or "Disapproved". Submittals stamped as "Approved as Noted" will indicate **Engineer's** approval thereof, subject to the limitations set forth, including **Engineer's** computation of the appropriate Contract Float implied by the anticipated early completion.
- c) If upon approval (or approval as noted) by **Engineer** of a Progress Schedule with disclosed or implied Contract Float Time, **Contractor** disputes the availability of Contract Float and proposes that compensation for delay shall be measured from the anticipated early completion date(s) as opposed to the corresponding Contract Time(s), **Contractor** agrees and understands that said proposal will represent a request to **Owner** that the approved Progress Schedule be evaluated as a substitute Progress Schedule for the purposes of changing the Contract Time(s) to those supported by the **Contractor's** early-completion Progress Schedule. Evaluation of that substitution will be in accordance with the requirements of paragraphs 5.7.1, 5.7.2 and 5.7.3 of the General conditions, and will require additional supporting data that explains and substantiates the basis of the anticipated Early Schedules. Such supporting data shall consist of: 1) notice of any scheduled Work during hours other than normal work hours, 2) information related to rates of production including pertinent quantities, crew sizes, man-day requirements, major items of equipment, etc., for Critical and other significant Activities, 3) express or implied contingency allowances figured in for Activities for such factors as weather, delays, activities of **Owner AND Engineer** to respond to reports of differing site conditions, and other relevant factors. Acceptance of that substitution will be evidenced by a Change Order shortening the Contract Time, or Contract Times accordingly, but maintaining the Contract Price and the provisions for liquidated and actual damages set forth in the Agreement.

11) *Cash Allowance - Scheduling Subcontractor*

- a) It is understood that **Contractor** has included in the Contract Price the allowance stipulated in the Bid Form so named in the Contract Documents and shall cause the Work so covered to be done by the Scheduling Subcontractor and for such sums within the allowance as maybe acceptable to **Owner** and **Engineer**.
- b) It is also understood that **Contractor** has included in the Contract Price sufficient funds to cover all costs in excess of the allowance in connection with Work to be done by the Scheduling Subcontractor.
- c) **Contractor's** costs for administering the performance of Work by the Scheduling Subcontractor, for participating in the preparation of the required progress Schedule submittals, for overhead, profit and other expenses contemplated for the allowance have been included in the Contract Price for the Work and not in the allowance for the Scheduling Subcontractor. No demand for additional payment on account of any costs thereof will be valid.

12) *Time Allowance Requirements for Document Review and Other Activities*

- a) **Contractor** shall make allowances for time required for a) document review and approval of submittals of Shop Drawings and samples specified in this Specification, b) the requirements for anticipated repeat submissions for particular items of materials or equipment, and c) the requirements for anticipated or required time intervals for the performance of specific parts of the Work by **Contractor**.
- b) **Contractor** shall make allowances for time required by a) those other activities indicated in or required by the contract Documents which are the responsibility of **Owner** or **Engineer**, b) the potential time requirements of **Owner** and **Engineer** to investigate instances of potential differing site conditions, and c) those other named time allowances required by the Contract Documents.
- c) It is understood that **Contractor** has included in the Contract Price the effect of accommodating all of these time allowances and requirements in the planning, scheduling and execution of the Work; that **Contractor's** Progress Schedule will incorporate Activities and sequences contemplated by the time allowances based on the information indicated in or required by the Contract Documents; and that **Contractor** shall cause the Work or requirements covered by such time allowances to be done within the limits of the Contract Time(s).

13) *Measurement and Payments*

- a) All costs in connection with these requirements, including the Work to be performed by the Scheduling Subcontractor, shall be borne by **Contractor**. Payments made to **Contractor** under the allowance for the Scheduling Subcontractor provided for in paragraph 11.A shall be disbursed in their entirety to the Scheduling Subcontractor.
- b) Payments for Work performed under this Section of the Specifications will be made pursuant to Article 9 of the Agreement. Payment for Work performed shall be in accordance with the schedule of payments in the Special Progress Schedule Requirements.

14) *Compliance*

- a) If **Contractor** refuses, fails or neglects to provide the required Progress Schedules or related schedule, Pricing and cost data, Shop Drawing data, or schedule recovery data, he will be deemed not to have provided sufficient information to **Engineer** upon which progress can be evaluated, and **Engineer** may refuse to recommend the whole or part of any outstanding payment if, in the **Engineer's** opinion, it would be incorrect to make such representations to **Owner**. Further, and pursuant to the Article 14 of the General Conditions, **Owner** may refuse to make payment of those amounts recommended by **Engineer** because of **Contractor's** failure or refusal to provide the required Progress Schedule and related submittal data.

15) *Acceptable CPM Diagrams*

- a) Interim and Detailed CPM Diagrams shall be based on an arrow or precedence diagram format, and sequenced by the separate structures, facilities, buildings or site areas.
- b) CPM Diagrams shall be allotted on a time-scaled calendar and expressly identify: 1) the Contract Times, 2) the approach taken to comply with the Work Sequence conditions, 3) the Critical Path(s), and 4) all Activities. Activities shall be shown on their Early Schedule, and their total Float Times noted beside them.

- c) CPM Diagrams shall include title blocks identifying the name and location of the Project, Contract designation, names of **Owner, Engineer, Contractor** and Scheduling Subcontractor, Progress Schedule issue number and date, and sheet title. Diagram sheets shall be dimensioned as the full-size Contract Drawings, be neat and legible and submitted on a medium suitable for reproduction. Connections between Activities on different sheets shall be shown on the different sheets of the CPM Diagrams to allow a complete schedule document.

16) *Acceptable Activity Schedule Data for CPM Diagrams*

- a) Activity schedule information shall, at a minimum, include the following data:
 - 1) Activity identified, i.e., I-J numbers in arrow format, or alphanumeric numbers in precedence format, such that not more than one Activity, dummy, or restraint may have the same identifier.
 - 2) Activity Description for each Activity, dummy or preferential restraint shall fully convey the scope of the Work included.
 - 3) Special Activity codes designating: a) location of the Work, e.g., site areas, elevations, etc., b) Work breakdown, e.g., process, trade, performing organization, c) responsibility, e.g., **Contractor, Owner**, Subcontractors, etc., d) as-awarded from amended (added or deleted by a Change Order or Proposed Change Order) items of Work.
 - 4) Activity labor requirements, based on a proportionate share of the (direct) labor manhours and quantities in the associated items from the Contract Price Breakdown developed pursuant to the requirements of the Supplementary Conditions.
 - 5) The use of start or finish restraint dates must be annotated as to the basis for the chosen restraints.

17) *Acceptable Activity Value and Shop Drawing Data*

- a) Activity data pertaining to the Schedule of Values shall at a minimum include the following for each Activity:
 - 1) Activity code and description as on the CPM Diagram.
 - 2) Activity representative quantities, Activity Value, Activity Percent Complete data, Activity Value of Work performed, and the applicable Value of significant subcomponents. The sum of all Activity Values shall equal the corresponding Contract Price for the Work. The sum of all Activity Values for Work performed divided by the Contract Price shall equal the Percent Complete for the Work.
 - 3) Activity Values shall breakdown Value for anticipated stored materials from Value for Work installed, as applicable.
 - 4) Cost of equipment or materials to be incorporated in the Work shall be assigned to the appropriate fabrication and delivery Activities.
- b) Activity data pertaining to the Schedule of Shop Drawing submissions shall at a minimum include the following for each Activity:
 - 1) Activity code and description as on the CPM Diagram.

- 2) A list of specific submissions, Specification Section, Contract Drawing sheet numbers, and applicable submission dates.
- c) The Schedule of Values and the Schedule of Shop Drawing submissions shall be provided on forms acceptable to Engineer.

18) *Acceptable Scheduling Software*

- a) Contractor's evaluation of the CPM Diagrams shall be based on scheduling software meeting the data management, computational, and reporting requirements of this Specification. Activity reports provided by the scheduling software selected shall, at a minimum, display the following data for each Activity, dummy, or restraint:
 - 1) Activity identifier, activity description, activity duration, activity man-days, computed or restrained Early Start date, computed Early Finish date, computed Late Start date, computed or restrained Late Finish date, Total Float and Free Float, Activity Value, Percent Complete, Activity Value for Work performed, and associated Activity list items (e.g., Shop Drawing submissions).
 - 2) Dates shall be in calendar form. Contract Times representing Substantial Completion requirements shall be set as restrained Late Finish Dates where applicable; Contract Times representing Commencement of Work conditions shall be shown as restrained Early Start Dates as applicable. Contract Float times shall be computed and shown pursuant to the definition in Attachment A.
- b) If the CPM Diagram is based on the precedence format, an additional computer report tabulating the sequences on the Diagram shall be provided showing: a) each Activity together with a listing of all of its preceding and succeeding Activities, and b) the relationship type, lead/lag types, and lead/lag times between each Activity and each of its preceding and succeeding Activities.
- c) The scheduling software shall have the capability of sorting out computer reports by the special Activity codes designated in 17(a) above.
- d) The scheduling software shall have the capability of sequencing computer reports by:
 - 1) Activity identifier, in order of ascending I-J number.
 - 2) Activity identifier, in order of descending J-I number.
 - 3) Total Float, in order of ascending Total Float values, and by ascending Early Start Dates, or by ascending I-J numbers, or by descending J-I numbers, within the same Total Float values.
 - 4) Early Start dates in chronological order of Early Start dates, and by ascending I-J numbers within the same Early Start Dates.
 - 5) Late Finish dates, in chronological order of Late Finish Dates and by descending J-I numbers within the same Late Finish Dates.
 - 6) Change Order or Proposed Change Order No.
- e) In addition to the ability to process the required Activity data, the scheduling software shall offer the following features: a) the capability of accepting and processing schedules with actual start and actual finish dates for the Activities; b) processing of CPM schedules with negative Total Float

values; c) printing or plotting of rate of progress data, such as labor utilization and payment curves; d) the ability of drawing CPM Diagrams using plottergraphics.

19) *Acceptable Progress Schedule Narratives*

- a) A narrative shall include sufficient information to substantiate the basis of the data used to develop that Progress Schedule submittal, and detail:
 - 1) The status of the Progress Schedule in terms of number of days ahead or behind the Contract Time, or Contract Times.
 - 2) The progress status (i.e., progress achieved vs. that forecasted) for a) Activities designating accomplishment of Substantial Completion, b) Critical and other significant Activities, c) Work related to achieving milestones set forth by the Work Sequences indicated in or required by the Contract Documents, d) long-lead delivery items of material or equipment.
 - 3) The assumptions made in incorporating Work related to pending or authorized Change Orders and Proposed change Orders.
 - 4) Actual or potential delays, including causes, the steps taken or anticipated to mitigate their impact, and the anticipated effect on the Progress Schedule as a whole.
 - 5) Schedule recovery statement describing actions under consideration by Contractor to recover from a negative float or overrun in Late Finish Date condition.
 - 6) Any significant changes in Progress Schedule sequences, and their basis thereof. Significant sequencing changes shall be those affecting Critical Activities, or causing a substantial reduction or increase in the Total Float Times available.
 - 7) Owner and Engineer Activities which become due over the next two months on account of Contractor's requirements for performing Work which follows such Owner and Engineer Activities.
 - 8) Rate of progress or "momentum" curves showing: a) the anticipated levels of labor utilization, e.g., man-days per week, and b) the anticipated level of payments for Work to be performed, all in accordance with the Activity timeframes supported by the Early and Late Dates in the Progress Schedule.
 - 9) Other information relevant to or of concern in the planning, scheduling and execution of Work over the next two months.
 - 10) Contractor's responses to Engineer's comments raised in the review of the previous Progress Schedule submittal.
 - 11) Actions taken to address schedule noncompliance issues which have negated Engineer's approval of a previous Progress Schedule submittal.

20) *Acceptable Contractor's Cost Data*

- a) Cost data for inclusion in the Contractor's Cost reports required with each Progress Schedule Update submittal shall detail Contract financial and budget data available to and customarily relied upon by Contractor to monitor financial and cost performance.

- b) Acceptable financial and cost data for each cost account used by **Contractor** to apportion the contract Price to separable parts of the Work shall include:
 - 1) Account number and description.
 - 2) Account estimate data, identifying labor, material and equipment, and Subcontract costs for that account is included in the **Contractor's** Bid estimate, together with the sum increase or decrease in associated authorized Change Orders or Proposed Change Orders, and those sums anticipated by proposed Change Orders in negotiation or claims pending resolution.
 - 3) Current labor, material and equipment, and Subcontract cost data for the account; percent complete for the Work designated by that account; and **Contractor's** current forecast of the cost to complete Work designated by the account.

SPEC 00002

Concrete

1) *General*

1.1 *Scope of Work*

- a) The Contractor shall furnish all labor, materials, equipment, and incidentals needed for the cast-in-place and/or precast concrete required by the Contract Documents and as herein specified.

1.2 *Submittals*

- a) Cast-in-place concrete.
 - 1) Name and location of batch plant.
 - 2) Design mix.
 - 3) Shop drawings indicating placement of all reinforcing inserts, location of joints, sealing of joints, etc.
 - 4) Submittal on grating and frame.
- b) Precast concrete
 - 1) Name and location of precaster.
 - 2) Submittals of precast units.
 - 3) Certifications of design for loading.
 - 4) Submittal on manhole frame and cover.

1.3 *Quality Assurance*

- a) Codes and Standards
 - 1) Comply with the provisions of the following codes and standards, except as otherwise shown or specified:

- a) ACI 301 - "Specifications for Structural Concrete for Buildings."
 - b) ACI 318 - "Building Code Requirements for Reinforced Concrete."
 - c) CRSI - "Manual of Standard Practice."
 - d) ACI 305 - "Recommended Practice for Hot Weather Concreting."
- 2) Where provisions of the above codes and standards are in conflict with the building code in force for the project, the more stringent code shall apply.

2) **Products**

2.1 **Cast-In-Place Concrete**

- a) Portland Cement - ASTM C 150, Type III.
- b) Aggregates - ASTM C 33
 - 1) Fine aggregates - clean, sharp, natural sand free of dune sand, bank run sand, manufactured sand, loam, clay, etc.
 - 2) Coarse aggregate - clean processed natural limestone free of all foreign matter.
- c) Water - clean, fresh, free of all oils, acids organics, etc.
- d) Admixtures.
 - 1) Air-Entraining - ASTM C 260.
 - 2) Water-Reducing - ASTM C 494.
 - 3) Floor sealer - Sonoglaze is manufactured by Sonneborn Building Products or similar product by Master Builders.
- e) Concrete Qualifiers.
 - 1) Concrete mix shall be DOT Class E.
 - 2) Strength - 4,000 psi at twenty-eight (28) days with maximum water-cement ratio of 0.45.
 - 3) Air content - 6 percent.
 - 4) Slump limits - 3-4 inch.
- f) Reinforcing
 - 1) Bars - ASTM A615, Grade 40.
 - 2) Welded Wire Fabric - ASTM A185.
- g) Frame and Grating - (Reteculine)

- 1) The frames, gratings, and appurtenances shall be fabricated from steel conforming to ASTM A36.
 - 2) All parts shall be galvanized according to the requirements of the NYSDOT 719-01 type I.
 - 3) Grating shall be provided with lock down bolt anchors.
- h) Waterstops
- 1) Waterstops to be 6" PVC dumbbell style, made of virgin raw materials.
 - 2) Waterstops shall be #747 as manufactured by Greenstreak, #8046 as manufactured by Vulcan Metal Products, Inc., or equal.

2.2 Precast Concrete Units

- a) Precast concrete units shall be of sizes shown and built in accordance with ASTM standards C913-89. Units to be designated to withstand H-20 loading.
- b) Manhole cover and frame shall conform to NYSDOT Standard 715-05, Class No. 30. Units shall be supplied with lock down device.

3) Execution

3.1 Concrete Placement

- a) General - Place concrete in compliance with the practices and recommendations of ACI-304, and herein specified.
- b) Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is complete. In the event that the slab is placed in two sections, the sections shall have continuous waterstops.
- c) Consolidate concrete during placing operations using mechanical vibrating equipment, so that concrete is thoroughly worked around reinforcing and other embedded items and into corners.
- d) Bring slab surfaces to the correct level with a straight edge strike off. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows.

3.2 Cold Weather Placing

- a) Protect all concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures.
- b) When air temperature has fallen to or is expected to fall below 40° F, uniformly heat all water and aggregate before mixing, to obtain a mixture temperature of not less than 50° F and not more than 80° F at point of placement.
- c) Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators.

3.3 Monolithic Slab Finish

- a) Begin float finishing when surface water has disappeared or when concrete has stiffened sufficiently to permit the operation of a power-driven float. Check surface plane to a tolerance not to exceed 1/4 inch in 10 feet, with uniform slopes to drains.
- b) Begin the final troweling when the surface produces a ringing sound as the trowel is moved over the surface.

3.4 Concrete Curing and Protection

- a) Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- b) Weather permitting, keep placed concrete continuously moist for not less than 72 hours.

3.5 Concrete Floor Sealer

- a) Concrete slab shall be fully cured, cleaned, and etched.
- b) Apply sealer as recommended by manufacturer or as specified in the contract documents.

SECTION XI

Supplementary Specifications

(This Section will be Project Specific)

**INDEX
DIVISION 1**

Section	Title
01010	SUMMARY OF WORK
01041	PROJECT COORDINATION
01050	SURVEYS
01092	ABBREVIATIONS
01100	SPECIAL PROJECT PROCEDURES
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SECTION 01010 SUMMARY OF WORK

PART 1. GENERAL

1.01 SUMMARY

- A. This section provides a site description and history, general summary of work, and sequence of work.

1.02 SITE DESCRIPTION AND HISTORY

- A. The Sweden-3; Chapman site is located on Beadle Road in a rural area of the Town of Sweden, Monroe County, New York. The site is surrounded by farmland, private residences, and a wooded wetland area. Drainage from the site flows south to north to the state-registered wetland. The site is a 2-acre inactive construction and demolition debris (C&D) landfill that also was used for the disposal of drummed hazardous and industrial waste. In 1985 the Department conducted a preliminary investigation at the site. Results of the preliminary investigation identified the presence of hazardous waste and spent industrial solvents. Since that time, the Department has conducted an Interim Remedial Measure (IRM) to remove drums from the site, a Remedial Investigation/Feasibility Study (RI/FS) to determine the extent of contamination and define a remedial alternative, and a demonstration project evaluating bioremediation technologies.

More detailed information regarding site descriptions and history may be found in the IRM Report, RI/FS, and Demonstration Project Reports (see Section IV).

1.03 GENERAL SUMMARY OF WORK

- A. This project generally consists of the following major elements:
 - 1. Excavation and on-site thermal treatment of soils using Low Temperature Thermal Desorption (LTTD).
 - 2. Excavation dewatering, treatment and discharge, or off-site disposal.
 - 3. Installation of groundwater collection pipes and sump.
 - 4. Backfilling excavations.
 - 5. Installation of a landfill cover.
 - 6. Site grading and restoration.
- B. The scope of work to be performed under this contract includes all of the work in these Contract Documents. No part of these Contract Documents is intended to be broken out as a separate contract.

1.04 WORK SEQUENCE

- A. The work sequence that the **CONTRACTOR** proposes in the Project Schedule and Work Plan shall accommodate the following requirements.

1.04 WORK SEQUENCE

- A. The work sequence that the **CONTRACTOR** proposes in the Project Schedule and Work Plan shall accommodate the following requirements.
 - 1. Excavation dewatering collection and treatment system must be operational prior to work within the boundary of the existing landfill.
 - 2. Backfilling in the contaminant source area can only proceed when clear separation from excavation of the contaminated source material can be established and maintained.
 - 3. Treated groundwater (dewatering water) cannot be discharged to wetland until 11/1/98.

1.05 MEASUREMENT AND PAYMENT

- A. See Section XII for requirements of measurement and payment and a description of the content of payment items.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

**SECTION 01041
PROJECT COORDINATION**

PART 1 GENERAL**1.01 SUMMARY**

- A. This section includes:
 - 1. Requirements for **CONTRACTOR** coordination, subcontractor approvals, and project schedule status and updating.

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Article 5.23-5.29, "Shop Drawings and Samples."
 - 1. Subcontractor List
 - a. Submit for review and approval. This list shall be updated and submitted each time a new subcontractor is proposed for employment on the project (see Section VIII, Article 5.8.1).
 - 2. Uniform Contracting Questionnaire
 - a. Submit in accordance with instructions in Section V, Article 2(e). Submit properly executed New York State Uniform Contracting Questionnaire for subcontracts valued at greater than \$10,000.
 - 3. Project Schedule Status Reports
 - a. Submit project schedule status reports biweekly 48 hours prior to project meetings.
 - 4. Project Schedule Updates
 - a. Submit proposed updates for approval prior to updating the Project Schedule.

PART 2 PRODUCTS**2.01 SUBCONTRACTOR LIST**

- A. A complete list of proposed subcontractors (including disposal facilities) identifying name, address, telephone number, contact person, type of work to be subcontracted, subcontract value, and Minority Business Enterprise/Woman-owned Business Enterprise (MBE/WBE) status.

2.02 PROJECT SCHEDULE STATUS REPORTS AND UPDATES

- A. Project Schedule status reports shall be based on the current approved Project Schedule and shall show the previous two weeks and succeeding two weeks as of the corresponding project meeting date. The schedule shall be status for actual progress.
- B. Project schedule updates shall be in accordance with section X, Spec 00001.

PART 3 EXECUTION**3.01 SCHEDULE**

- A. The **CONTRACTOR** shall be solely responsible for the coordination of schedules for all of his subcontractors. The **ENGINEER** will review all schedules, and the **CONTRACTOR** shall coordinate with the **ENGINEER** to make any appropriate changes to the schedules.
- B. Cooperate with the **ENGINEER's** review of the project schedule and promptly furnish the **ENGINEER** with such data as may be requested and incorporate required revisions.
- C. Coordinate the letting of subcontracts, material purchases, delivery of materials, and sequence of operations to conform to the schedule and furnish proof of same as requested by the **ENGINEER**.
- D. See Section X, Specification 00001 for further requirements.

3.02 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. The **CONTRACTOR** shall coordinate a list of required submittal packages with the **ENGINEER** prior to any submittals being made, beyond those described in Section III, Article 5 as Required Bid Submittals.
- B. The **CONTRACTOR** shall coordinate with the **ENGINEER** the transmittal form and content prior to any submittals.

3.03 T&M WORK

- A. If T&M work is initiated, the **CONTRACTOR** shall submit labor classes, materials and equipment, along with associated rates for time and material work to the **ENGINEER** for review and approval.
- B. The **ENGINEER** and **CONTRACTOR** shall agree on the format of a time and material worksheet prior to initiating any T&M work.
- C. **ENGINEER's** and **CONTRACTOR's** field representatives will sign a T&M summary worksheet on a daily basis. Signatures from field representatives do not represent that the work shown is an extra or that rates are acceptable; rather, it is merely to document that the materials, labor and equipment shown were in fact used for the work in question.
- D. Agreements for additional costs (if any) will be formalized in a change order, in accordance with the terms of the Contract Documents.

- E. Daily T&M worksheets without the signature of the engineer's representative will not be the basis for a claim for additional compensation. The contractor is solely responsible for the costs arising from contracts own inefficiencies.

END OF SECTION

SECTION 01050 SURVEYS

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Requirements for surveys, and supplemental record drawings.
- B. Related sections
 - 1. Section 01720 - Project Record Documents

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Article 5.23 -5.29, "Shop Drawings and Samples."
 - 1. Supplemental Record Drawings
 - a. Initial topographic map.
 - i. Submit prior to the start of work.
 - b. Interim topographic map
 - i. Submit elevation (excavation depths) after excavation and prior to backfill. (Daily)
 - ii. Submit summary interim topographic map upon conclusion of source removal.
 - c. Final topographic map
 - i. Submit after placement of top soil and prior to final inspection.
- B. Submit the following with each supplemental record drawing submittal.
 - 1. Records
 - a. AutoCad LT Windows 95 version electronic files on 3.5-inch diskettes.
 - b. Field Data.
 - c. Coordinate List.

1.03 QUALITY ASSURANCE

- A. All work in this section shall be performed by a surveyor licensed in the State of New York.

PART 2 PRODUCTS

2.01 SUPPLEMENTAL RECORD DRAWINGS

- A. Reproducible base map at a scale of 1 inch = 40 feet with 1-foot elevation contours upon which the **CONTRACTOR** shall plot the required survey information for each required submittal.

- B. Mapping shall conform to the National Map Accuracy Specifications and shall bear the seal of a licensed land surveyor registered in the state of New York.
- C. Map shall contain a title block with the name and address of the **CONTRACTOR** and the signature of the registered surveyor.
- D. Drawings shall include:
 - 1. Labeled contour lines.
 - 2. Approximate property line locations.
 - 3. Horizontal grid systems.
 - 4. Cross sections and details modified to show "as-built" conditions.
 - 5. Pipe invert elevations.
 - 6. Details and cross sections not on original drawings.
 - 7. Field changes of elevations, dimensions, and details.
- E. Indicate on drawings locations of physical features on site, including utilities, roads, buildings, roadways, culverts, manholes, gas vents, pumping stations, ponds, storage tanks, utility poles, fences, gates, drainage ditches, monitoring wells, piezometers, and bench marks.
- F. Indicate on drawings excavation limits and sampling points.

2.02 FIELD DATA

- A. Field survey book (hard bound).
 - 1. Include all field notes, notations, and descriptions used and compiled during the field survey.
 - 2. Photocopies or carbon copies are not acceptable.

2.03 COORDINATE LIST

- A. Final coordinate list of all survey points with specific coordinates and elevations.

PART 3 EXECUTION

3.01 HORIZONTAL AND VERTICAL CONTROL

- A. Horizontal and vertical control points shall be referenced to site-control monuments to an accuracy of one part in 10,000.
- B. Provide control points at each location of work using closed traverse and leveling loops.
- C. Provide vertical and horizontal checks for each layer of cap system installed.

- D. Provide grade and offset stakes to control the location and depth of excavation and backfill.
- E. Survey the location and elevation of all excavation and backfill limits to document the areas remediated.
- F. The **CONTRACTOR** shall provide survey control as required to properly complete and document the work.
- G. Lack of adequate survey control or improperly maintained "as-builts" will be the basis for rejection of the **CONTRACTOR's** application for payment until corrected.

3.02 SURVEY CHECKS

- A. Upon request provide the **ENGINEER** with survey level, tripod, rod, and measuring tape to perform survey checks of the work.
- B. Provide a qualified individual familiar with surveying to assist **ENGINEER** in performing survey checks.

3.03 COORDINATE LIST

- A. Compute the coordinates of each surveyed point on the New York State Plane Coordinate System using the 1983 North American Datum.
- B. The elevations shall be on the National Geodetic Vertical Datum (NGVD).

3.04 SURVEY NOTES

- A. Record all fieldwork in a clear, legible, and complete manner.
- B. The Field Survey Book (s) shall contain a complete description of the nature and location of the new and existing points. The record shall also include a sketch of the point locations, and the monument witness points.
- C. Maintain survey notes on-site for review and use by **ENGINEER**.

3.05 UTILITIES

- A. Locate all utilities in the work area.
- B. Verify the elevations of existing piping, utilities, and any type of underground obstruction not indicated or specified to be removed but indicated or discovered during work.
- C. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be made.

- D. Record locations and elevations of all utilities.

END OF SECTION

SECTION 01092 ABBREVIATIONS

PART 1 GENERAL

1.01 LIST OF ABBREVIATIONS

The following is a list of abbreviations and acronyms that may be found in these job specifications. Abbreviations and acronyms not included here are defined elsewhere in the specifications or are industry standard abbreviations.

AASHTO	-	American Association of State Highway and Transportation Officials
AC	-	Acre
ACGIH	-	American Conference of Governmental Industrial Hygienists
AMP	-	Air Monitoring Plan
AMS	-	Agricultural Marketing Service
ANSI	-	American National Standards Institute
API	-	American Petroleum Institute
APR	-	Air-purifying respirator
ASP	-	Analytical Services Protocol
ASTM	-	American Society for Testing and Materials
bgs	-	Below ground surface
bps	-	Bits per second
C&D	-	Construction and Demolition Debris
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
cc	-	Cubic centimeters
CEM	-	Continuous Emissions Monitoring
cf	-	Cubic feet
CFR	-	Code of Federal Regulations
CIH	-	Certified Industrial Hygienist
CLP	-	Contract Laboratory Program
cm/s	-	Centimeters per second
CPM	-	Critical Path Method
CPR	-	Cardiopulmonary resuscitation
CSP	-	Certified Safety Professional
cy	-	Cubic yard
DCE	-	Dichloroethene
DDW	-	Decontamination-derived wastes
DER	-	Division of Environmental Remediation (NYSDEC)
DRE	-	Destruction Removal Efficiency
DY	-	Day
e.g.	-	Example given
E	-	East
E & E	-	Ecology and Environment Engineering, P.C.
EA	-	Each
ELAP	-	Environmental Laboratory Approval Program
EPA	-	(United States) Environmental Protection Agency

ft	-	Feet
F	-	Fahrenheit
FID	-	Flame ionization detector
FPB	-	Feed Preparation Building
FS	-	Feasibility Study
gal	-	Gallon
GCL	-	Gas collection layer
g/cm ³	-	Grams per cubic centimeter
gpm	-	Gallons per minute
HASP	-	Health and Safety Plan
HDPE	-	High-density polyethylene
hrs	-	Hours
HSC	-	Health and Safety Coordinator
HSO	-	Health and Safety Officer
HST	-	Health and Safety Technician
HTW	-	Hazardous and toxic waste
ID	-	Identification
I.D.	-	Inside diameter
IDLH	-	Immediately dangerous to life or health
IRM	-	Interim Remedial Measure
kg	-	Kilogram
lb	-	Pound
lb/ft ³	-	Pound-foot per cubic foot
LS	-	Lump Sum
LTTD	-	Low-temperature Thermal Desorption
max	-	Maximum
mg	-	Milligrams
mg/kg	-	Milligrams per kilogram
min.	-	Minimum
ml	-	Milliliter
mm	-	Millimeter
MC	-	Medical Consultant
MSDS	-	Material Safety Data Sheet
MSHA	-	Mine Safety and Health Administration
MSL	-	Mean sea level
MS/MSD	-	Matrix Spike/Matrix Spike Duplicate
M/WBE	-	Minority or Women Business Enterprises
N	-	North
NAD	-	North American Datum
NFPA	-	National Fire Protection Association
NGVD	-	National Geodetic Vertical Datum
NIOSH	-	National Institute of Occupational Safety and Health
NTP	-	Notice to proceed
NTU	-	Nephelometric Turbidity Units
NWWA	-	National Water Well Association
NYCRR	-	New York Codes, Rules, and Regulations
NYSDEC	-	New York State Department of Environmental Conservation
NYSDOH	-	New York State Department of Health

NYSDOL	-	New York State Department of Labor
NYSDOT	-	New York State Department of Transportation
O&M	-	Operation and Maintenance
O.D.	-	Outside diameter
OSHA	-	Occupational Safety and Health Administration
oz/sy	-	Ounces per square yard
PCB	-	Polychlorinated biphenyl
PID	-	Photoionization detector
ppb	-	Parts per billion
PPE	-	Personal protective equipment
POHC	-	Principal organic hazardous constituents
ppm	-	Parts per million
psi	-	Pounds per square inch
PVC	-	Polyvinyl chloride
QAPjP	-	Quality assurance project plan
QA/QC	-	Quality assurance/quality control
QCP	-	Quality control plan
RAM	-	Random access memory
RCRA	-	Resource Conservation and Recovery Act
RI	-	Remedial Investigation
ROD	-	Record of Decision
S	-	South
SAP	-	Sampling and Analysis Plan
SCBA	-	Self-contained breathing apparatus
sf	-	Square feet
SO	-	Safety Officer
SSPC	-	Steel Structure Painting Council
SMECP	-	Storm Water Management and Erosion Control Plan
SVOC	-	Semivolatile organic compounds
sy	-	Square yards
TLV	-	Threshold limit value
TSCA	-	Toxic Substances Control Act
TSDF	-	Treatment, storage, and disposal facility
µg/kg	-	Micrograms per kilogram
µg/l	-	Micrograms per liter
µg/m ³	-	Micrograms per cubic meter
UL	-	Underwriters laboratories
USCG	-	United States Coast Guard
USGS	-	United States Geological Survey
VFPE	-	Very flexible polyethylene
VOC	-	Volatile organic compound
VTSR	-	Verified Time of Sample Receipt
W	-	West
WK	-	Work plan

PART 2 PRODUCTS

Not used.

SWEDEN 3; CHAPMAN SITE

OF9000

PART 3 EXECUTION

Not used.

END OF SECTION

**SECTION 01100
SPECIAL PROJECT PROCEDURES**

PART 1 GENERAL**1.01 SUMMARY**

- A. This section identifies the special project procedures associated with excavation, backfilling, and dewatering of source removal areas.
- B. Related sections
 - 1. Section 02140, "Dewatering."
 - 2. Section 02221, "Excavation."
 - 3. Section 02222, "Backfill."

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Article 5.23-5.29, "Shop Drawings and Samples."
 - 1. Weekly wetland discharge monitoring report, which shall include:
 - a. Water elevation at discharge points,
 - b. Description of discharge areas,
 - c. Ponding and/or degradation and remedy, and
 - d. Results of neighboring property inspection.
 - 2. Detailed dust and vapor emissions prevention/control plan.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION**3.01 EXCAVATION AND BACKFILLING**

- A. Excavation, backfilling, and dewatering of the source removal areas shall be completed within 60 calendar days from the start of the source removal.
- B. Excavation of the source removal areas will be considered begun upon commencement of contaminated soil excavation.
- C. Excavation of clean cover soils does not signify the start of source removal.
- D. Backfilling in the source removal areas shall follow excavation to minimize infiltration of groundwater, potential slope failure, and vapor emissions.
- E. Maintain separation between clean backfill and contaminated materials in the excavation.
- F. Work in the northwest source removal area shall start in the northeast end of the proposed excavation area and proceed southwest (i.e., downgradient to upgradient).

- G. The collection sump shall be installed with collection pipes and may be used to aid in dewatering of the excavation.
- H. The collection sump shall be installed at the northeast end of the northwest source area when excavation permits installation.
- I. Coarse aggregate, filter fabric, and collection pipe shall be placed as excavation and backfilling progresses and may be used to facilitate dewatering.
- J. Collection sump and collection pipes shall be cleaned of all sediment and debris upon conclusion of dewatering activities.
- K. Fugitive dust and VOC emissions are likely and will be of significant concern at the site. Provide a detailed plan for the department's approval to prevent/control the fugitive dust and vapor emissions during construction.

3.02 DISCHARGES TO WETLAND

- A. The **DEPARTMENT** prefers the continuous discharge of treated groundwater into the wetland to occur from November 1, 1998 through March 1, 1999. The **CONTRACTOR** should obtain prior approval from the **DEPARTMENT** for continuous discharges earlier than November 1998.
- B. Discharges to the wetland during construction will be monitored by the **CONTRACTOR**. Impacts to the wetland as a result of the site activities shall be documented and provided to the **ENGINEER**.
- C. Prevent ponding due to site discharges in the wetland. Discharge points shall be moved as necessary to prevent ponding of water and any damage to wetland.
- D. Monitor adjacent properties to ensure no flooding or damage is occurring as a result of discharge of treated water into the wetland and other site activities.

END OF SECTION

**SECTION 01150
WORK PLAN**

1. GENERAL

This section includes the requirements for the **CONTRACTOR's** Work Plan.

1.1 REFERENCES

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
(NYSDEC)**

DEC-SCM	1986 Stream Corridor Management: A Basic Reference Manual
SPDES GP-93-06	SPDES General Permit for Stormwater Discharge from Construction Activities
NYSDEC	April 1992 Reducing the Impacts of Stormwater Runoff from New Development

SOIL AND WATER CONSERVATION SOCIETY - EMPIRE STATE CHAPTER

SWCS	1991 (or latest version) New York Guidelines for Urban Erosion and Sediment Control
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CODES, RULES, AND REGULATIONS OF THE STATE OF NEW YORK

6 NYCRR Part 700	Definitions, Samples and Tests
6 NYCRR Part 360	Solid Waste Management Facilities

LAWS OF THE STATE OF NEW YORK

ECL Article 15	Water Resources
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1.2 SUBMITTALS

- A. Submit the Work Plan in accordance with the timing stated in Section III, Article 5. Submit in accordance with Section VIII, Articles 5.23 to 5.29.

2. PRODUCTS

2.1 WORK PLAN

The Work Plan shall include:

- A. Procedures for adequate and safe excavation of soils and materials including a contingency plan detailing procedures and methods to be employed to prevent, contain, and recover spills during the work.
- B. Description of equipment to be used on site with appropriate safety devices needed to undertake the remediation of the site.
- C. Identification of the permitted treatment, storage, and disposal facilities (TSDF) proposed to receive liquid or solid wastes to be transported off-site. (See Section 02940, Off-Site Transportation and Disposal.)
- D. Identification of permits required to conduct the work.
- E. Worksite layout showing, as a minimum, LTDD system, feed preparation building, groundwater treatment system, equipment and material staging areas, trailers, decontamination station, and staging procedures.
- F. Detailed construction drawing(s) of the proposed decontamination station.
- G. Provisions for control and prevention of surface runoff from the staging areas.
- H. Procedures and provisions for consolidation.
- I. Procedures for excavating, handling, storing, and placing soils.
- J. Procedures for handling liquid wastes and groundwater.
- K. Provisions for control of fugitive air emissions and dust control.
- L. Other requirements necessary to provide security, staging, sampling, testing, removal, and disposal of wastes.
- M. Procedures and provisions for site winterization.
- N. Thermal treatment system plan (see Section 13560 - Thermal Treatment System).
- O. Dewatering plan (see Section 02140 - Dewatering).

2.1.1 Stormwater Management and Erosion Control Plan (SMECP)

Include a SMECP with the Work Plan.

- A. Stormwater Management and Erosion Control
 - 1. General

CONTRACTOR is responsible for utilizing a system of vegetation and structural measures which can be used to control the increased volume and rate of surface runoff caused by man made changes to the land so as to maintain existing patterns of flood magnitude and frequency. Stormwater management on this project is to include measures to mitigate pollutants carried by surface runoff.

Stormwater management objectives for this project include:

- a. Prevent increased runoff from new land development to reduce potential flooding and flood damage;
- b. Minimize the erosion potential from the construction project;
- c. Enhance the quality of stormwater runoff to prevent water quality degradation in receiving waterbodies; and
- d. Reduce stream bank erosion to maintain stream channels for their biological functions as well as for drainage.

Mitigation of stormwater impacts shall:

- a. Provide for erosion and sediment control during all stages of development from the land clearing stage to the final stage;
- b. Provide for the attenuation of peak storm volume and discharge rate to prevent flooding;
- c. Provide for reduced post development runoff volumes;
- d. Provide for safe conveyance of stormwater on the project site;
- e. Provide for the protection of stream corridors; and
- f. Provide for the protection of water quality by treating the "first flush."

Stormwater management systems such as (a) infiltration, (b) retention, and (c) extended detention shall be used to capture and treat the "first flush." Supplemental stormwater management practices include water quality inlets, open vegetated swales, vegetated buffer zones and filter strips to provide water quality treatment by filtration, attenuation, buffering, sedimentation, biological removal and practical retention.

Three basic approaches for controlling erosion and sedimentation shall be employed: (a) soil stabilization - initially control sheet and rill erosion to prevent gully and channel erosion, (b) runoff control - then control gully, channel and stream erosion to prevent transport of sediment and (c) sediment control - then control sediment transport to protect off-site areas.

Erosion and sediment control measures should be constructed prior to beginning any land disturbances. All runoff from disturbed areas should be directed to the sediment control devices. These devices shall not be removed until the disturbed land areas are stabilized.

The **CONTRACTOR's** bid price includes all costs necessary to provide for stormwater management and erosion and sedimentation control during construction. The **CONTRACTOR** is solely responsible for sizing and providing any

and all stormwater management and erosion control measures necessary to meet Federal, State and local requirements and guidelines. The **CONTRACTOR** is responsible at **CONTRACTOR**'s own cost for any corrective measures required by **CONTRACTOR**'s failure to comply with these specifications or any Federal, State or local requirements and guidelines.

2. The SMECP shall follow guidelines for structure and content contained in SPDES GP-93-06, Appendix F.

The SMECP shall include:

- a. Information regarding site background, description of work, analysis of site limitations for stormwater facilities, and potential impact to natural resources;
- b. All calculations and assumptions used for the sizing and siting of proposed temporary erosion and sedimentation control facilities;
- c. Information regarding maintenance needs and safety considerations of stormwater management and erosion and sediment control facilities;
- d. Implementation schedule for staging of stormwater management facilities and conveyance systems;
- e. Description of the coordination of staging of erosion and sedimentation control facilities and construction activities; and
- f. Description of winterization provisions.

2.1.1.1 Erosion and Sediment Control Guidelines

- A. Existing vegetation on the project site shall be retained and protected to minimize soil loss on the project site and to minimize erosion control costs.
- B. Sediment control practices and measures, where necessary, shall be designed to protect the natural character of rivers, streams, lakes, coastal waters or other waterbodies on-site and minimize erosion and sedimentation off-site from the start of land disturbance activities to establishment of permanent stabilization.
 1. The off-site impacts of erosion and sedimentation related to land clearing, grading and construction activities shall not be any greater during and following land disturbance activities than under pre-development conditions.
 2. Pursuant to 6 NYCRR Part 700:
 - a. Toxic and other deleterious substances shall not be discharged in amounts that will adversely affect the taste, color, or odor thereof, or impair the waters of the state for their classified usages.
 - b. Suspended, colloidal and settleable solids shall not be discharged in amounts that cause substantial visible contrast to natural conditions, or causes deposition or impairs the waters for their classified usages.

Stream reaches on site and downstream of construction areas shall not have substantial visible contrast relative to color, taste, odor, turbidity and sediment deposition from

the reaches upstream of the construction area. Impacts such as these which result from construction or developmental activities are a violation of 6 NYCRR Part 700 water quality standards and may be subject to enforcement actions.

- C. Erosion and sediment control measures shall be constructed in accordance with an erosion and sediment control plan. The plan shall:
 - 1. Describe the temporary structural and vegetative measures that will be used to control erosion and sedimentation for each stage of the project from land clearing to the finished stage.
 - 2. Provide a map showing the location of erosion and sediment control measures.
 - 3. Provide dimensional details of proposed erosion and sediment control facilities as well as calculations used in the siting and sizing of sediment basins.
 - 4. Identify temporary erosion and sediment control facilities which will be converted to permanent stormwater management facilities.
 - 5. Provide an implementation schedule for staging temporary and permanent erosion and sediment control facilities.
 - 6. Provide a maintenance schedule for soil erosion and sediment control facilities and describe maintenance activities to be performed.
- D. Erosion and sediment control measures shall be constructed prior to beginning any other land disturbances. The devices shall not be removed until the disturbed land areas are stabilized.
- E. Guidance.
 - 1. Exposure Restrictions: No more than 5 acres of unprotected soil shall be exposed at any one time. Previous earthwork shall be stabilized in accordance with SWCS before additional area is exposed. Site factors including topograph, soil erosion potential, proximity to wetlands and water courses may require limiting the amount of raw earth that can be exposed at any one time to less than 5 acres.
 - 2. Grading: Perimeter grading shall blend with adjoining properties.
 - 3. Vegetative Protection: Where protection of trees or other vegetation is required, the location of the site to be protected shall be shown on the erosion control plan. The method of protecting vegetation during construction shall conform to the design criteria in SWCS.

4. Drainage Control.

- a. Surface runoff that is relatively clean and sediment free shall be diverted or otherwise prevented from flowing through areas of construction activity on the project site.
- b. A fill associated with an approved temporary sediment control structure or permanent stormwater management structure shall not be created which causes water to pond off-site on adjacent property, without first having obtained ownership or permanent easement for such use from the owner of the off-site or adjacent property.
- c. Natural drainage channels shall not be altered or relocated without the proper approvals. Pursuant to ECL, Article 15, a protected stream and the bed and banks thereof shall not be altered or relocated without the approval of the **DEPARTMENT**.
- d. Runoff from any land disturbing activity shall not be discharged or have the potential to be discharged off site or into storm drains or into watercourses unless such discharge is directed through a properly designed, installed and maintained structure such as a sediment trap, to retain sediment on site. Accumulated sediment shall be removed when 60% of the storage capacity of the sediment retention structure is filled with sediment.
- e. For finished grading, adequate gradients shall be provided so as to prevent water from standing on the surface of lawns for more than 24 hours after the end of a rainfall, except in a swale flow area which may drain as long as 48 hours after the end of rainfall.
- f. Permanent swales or other points of concentrated water flow shall be stabilized with sod, riprap, paving, or covered with an approved erosion-control matting as provided for in the design criteria in SWCS.
- g. Surface flows over cut and fill slopes shall be controlled as provided for in the design criteria for vegetating waterways in SWCS.

5. Timing.

- a. Except as noted below, all sites shall be seeded and stabilized with erosion control materials such as straw mulch, jute mesh, or excelsior within 15 days of final grading. If construction has been suspended, or sections completed, areas shall be seeded immediately and stabilized with erosion control materials. Maintenance shall be performed as necessary to ensure continued stabilization.
 - i. For active construction areas such as borrow or stockpile areas, roadway improvements, and areas within 50 feet of a building under construction, a perimeter sediment control system consisting of silt fencing or hay bales shall be installed and maintained to contain soil.
 - ii. On cut side of roads, ditches shall be stabilized immediately with rock riprap or other non-erodible liners, or where appropriate, vegetative measures such as sod. When seeding is approved, an anchor mulch shall be used and soil shall be limed and fertilized in accordance with SWCS.
 - iii. Permanent seeding shall optimally be undertaken in the spring from March 21 through May 20, and in later summer and early fall from August 25 to October 15. During the peak summer months and in

the fall after October 15 when seeding is found to be impracticable, an appropriate mulch shall be applied. Permanent seeding shall be undertaken during summer if plans provide for adequate watering of the seedbed.

- iv. All slopes steeper than 3:1 (h:v), as well as basin or trap embankments and perimeter dikes shall, upon completion, be immediately stabilized with sod, seed and anchored straw mulch or other approved stabilization measures. Areas outside of the perimeter sediment control system shall not be disturbed. Maintain as necessary to ensure continued stabilization.
 - b. Temporary sediment trapping devices shall be removed within 30 calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.
6. Stream Protection.
- a. The bed and banks of all on- and off-site streams that may be impacted by land clearing, grading, and construction activities shall be protected to prevent stream, river, lake or coastal sedimentation, streambank erosion, stream enlargement and degradation or loss of fisheries habitat. Measures for protecting the bed and banks of a stream include: riprap, log cribbing, and vegetative measures.
 - b. Where temporary work roads or haul roads cross stream channels, adequate waterway openings shall be constructed using spans, culverts, washed rock backfill or other acceptable, clean methods that will ensure that road construction and use do not result in turbidity and sediment downstream. All stream crossing activities and appurtenances shall be in compliance with a permit issued pursuant to ECL, Article 15, and shall be carried out in conformance with guidelines in DEC-SCM.
7. Maintenance.
- a. An erosion control plan for the project site shall identify maintenance requirements for erosion and sediment control practices utilized, and it shall provide a maintenance schedule. All erosion and sediment control measures shall be inspected periodically and maintained in conformance with the schedule so as to ensure they remain in effective operating condition until such times as they are removed.
 - b. All points of construction ingress and egress shall be protected to prevent the deposition of materials onto traversed public thoroughfare, either by installing and maintaining a stabilized construction entrance, or by washing all vehicle wheels in a safe disposal area. All materials deposited onto public thoroughfares shall be removed immediately. Proper precautions shall be taken to ensure that materials deposited onto public thoroughfares are removed so that they do not enter catch basins, storm sewers, or combined sewers.
 - c. Accumulated sediment shall be removed when 60 percent of the storage capacity of the retention structure is filled with sediment.

3. EXECUTION

Not used.

END OF SECTION

SECTION 01160 HEALTH AND SAFETY

1. GENERAL

This section describes the minimum health and safety requirements for this project, including the requirements for the development of a written Health and Safety Plan (HASP).

HEALTH AND SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE REQUIREMENTS OF THIS HEALTH AND SAFETY SECTION ARE PROVIDED AS THE MINIMUM REQUIREMENTS. THE ENGINEER ASSERTS THAT THE CONTENTS CONTAINED HEREIN ARE NOT AN ADEQUATE HEALTH AND SAFETY PLAN ALONE. ANY CONFLICT BETWEEN THE SPECIFICATIONS AND OSHA REQUIREMENTS SHALL BE RESOLVED IN FAVOR OF THE ONE THAT PROVIDES THE HIGHER DEGREE OF PROTECTION TO THE PROJECT PERSONNEL AND COMMUNITY. THE CONTRACTOR IS RESPONSIBLE FOR THE HEALTH AND SAFETY AT THE SITE AND SHALL PREPARE A PLAN THAT ADDRESSES THE UNIQUE NEEDS OF THE SITE.

1.1 SUMMARY

The CONTRACTOR is responsible and liable for the health and safety of all on-site personnel and off-site communities impacted by the remediation. All on-site workers shall comply with the requirements of the HASP. The CONTRACTOR's HASP shall comply with all applicable federal and state regulations protecting human health and the environment from the hazards posed by activities during this site remediation. The HASP is a required deliverable for this project. The HASP will be reviewed by the ENGINEER. The CONTRACTOR shall submit the HASP, addressing all review comments from the ENGINEER. The CONTRACTOR shall not initiate on-site work in contaminated areas until an approved HASP addressing all comments has been issued. Consistent disregard for the provision of these health and safety specifications shall be deemed just and sufficient cause for immediate stoppage of work and termination of the Contract or any Subcontract without compromise or prejudice to the rights of the DEPARTMENT or the ENGINEER. Any discrepancies between this HASP and the specifications shall be resolved in favor of the more stringent requirements as determined by the ENGINEER.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

ACGIH TLVs

Threshold Limit Values for Chemical
Substances and Physical Agents and
Biological Exposure Indices (Latest Edition)

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards (Latest Edition)
29 CFR 1926	Safety and Health Regulations for Construction (Latest Edition)
40 CFR 262	Standards Applicable to Generators of Hazardous Waste (Latest Edition)
49 CFR 178	Shipping Container Specification (Latest Edition)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 9285.1-03	1992 or latest edition: Standard Operating Safety Guides (Office of Emergency and Remedial Response)
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NATIONAL INSTITUTES FOR SAFETY AND HEALTH (NIOSH)

NIOSH 85-115	1985 or latest edition: Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, OSHA, USCG, and EPA)
NIOSH 89-127	1989 or latest edition: Manual of Analytical Methods

N.Y.S. DEPARTMENT OF LABOR (NYSDEL)

NYSDEL 28.876	1980 Article 28 Section 876 NYS Labor Law (Right-to-Know Law)
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1.3 DEFINITIONS

The following definitions shall apply to the work of this Contract:

Project Personnel: Project personnel include the **ENGINEER**, the **ENGINEER's** On-Site Representatives, **CONTRACTOR**, Subcontractors, and Federal and State Representatives working or having official business at the Project Site.

Authorized Visitor: Authorized visitors who work for the State of New York shall receive approval to enter the site from the **DEPARTMENT**. The Safety Officer has primary responsibility on determining who is qualified and may enter the site. The Site Safety Officer shall only allow authorized visitors with written proof that they have been medically certified and trained in accordance with 29 CFR 1910.120 to enter the contamination reduction zone or exclusion area.

Health and Safety Coordinator (HSC): The HSC shall be a Certified Industrial Hygienist (CIH) or Certified Safety Professional (CSP), retained by the **CONTRACTOR**, with a minimum of two years

experience in hazardous waste site remediations or related industries and who have a working knowledge of federal and state occupational health and safety regulations. The HSC shall be familiar with air monitoring techniques and the development of health and safety programs for personnel working in potentially toxic atmospheres. The HSC shall be responsible for the development and implementation of the HASP.

Safety Officer (SO): The SO shall be the **CONTRACTOR's** on-site person responsible for the day-to-day implementation and enforcement of the HASP. The designated SO shall have, at a minimum, two years of experience in the remediation of hazardous waste sites or related field experience. The SO shall have formal training in health and safety and be conversant with federal and state regulations governing occupational health and safety. The SO shall be certified in CPR and first aid and have experience and training in the implementation of personal protection and air monitoring programs. The SO shall have "hands-on" experience with the operation and maintenance of real-time air monitoring equipment. The SO shall be thoroughly knowledgeable of the operation and maintenance of air-purifying respirators (APR) and supplied-air respirators (SAR) including SCBA and airline respirators.

Health and Safety Technicians (HST): The HST(s) shall be the **CONTRACTOR's** on-site person(s) who assists the SO in implementing the HASP, in particular, with air monitoring in active work areas and maintenance of safety equipment. The HST shall have one year of hazardous waste site or related experience and be knowledgeable of applicable occupational health and safety regulations. The HST shall be certified in CPR and first aid.

Medical Consultant (MC): The MC is a physician certified in occupational medicine, retained by the **CONTRACTOR**, and responsible for conducting physical exams as specified under the Medical Monitoring Programs in this section. The MC shall have experience in the occupational health area and shall be familiar with potential site hazards of remedial action projects.

Project Site: The area designated on the site sketch, which includes the **CONTRACTOR** Work Area.

CONTRACTOR Work Area: An area of the project site including the Support Zone, access road, staging area, and Exclusion Zone.

CONTRACTOR Support Zone: An area of the **CONTRACTOR** Work Area outside the Exclusion Zone, accessible for deliveries and visit, vehicles, or equipment may enter these areas from the Exclusion Zone without having gone through specified decontamination procedures in the adjacent Contamination Reduction Zone.

Staging Areas: Areas within the Exclusion Zone for the temporary staging of contaminated soil and debris.

Exclusion Zone: The innermost area within the **CONTRACTOR** Work Area that encloses the area of contamination. Protective clothing and breathing apparatus as specified in the health and safety requirements and in the **CONTRACTOR's** approved HASP shall be worn.

Contamination Reduction Zone: An area at the exit point of the Exclusion Zone through which all personnel, vehicles, and equipment shall enter and exit. All decontamination of vehicles and equipment

and removal of personal protective clothing and breathing apparatus shall take place at the boundary between the Exclusion Zone and the Contamination Reduction Zone.

ENGINEER's On-Site Representative: The **ENGINEER's** representative assigned responsibility and authority by the **ENGINEER** for day-to-day field surveillance duties.

Monitoring: The use of direct reading field instrumentation to provide information regarding the levels of particulates, gases, vapors, or other hazards which are present or potentially present during remedial action. Monitoring shall be conducted to evaluate employee exposures to toxic materials and hazardous conditions.

1.4 SUBMITTALS

Submit the following in accordance with Section VIII, Articles 5.23 -5.29, "Shop Drawings and Samples."

SD-18, Records

Health and Safety Plan (HASP)

Prepare a HASP in accordance with the minimum requirements and formats described herein. The **ENGINEER** will review and comment on the **CONTRACTOR's** HASP. Agreed-upon responses to all comments shall be incorporated into the final copy of the HASP. The HASP shall govern all work performed for this contract. The HASP shall contain and address, at a minimum, the following items in accordance with 29 CFR 1910.120(i)(2) as further described in this section:

- A. Health and Safety Organization,
- B. Site Description and Hazard Assessment,
- C. Training,
- D. Medical Surveillance,
- E. Work Areas,
- F. Standard Operating Safety Procedures and Engineering Controls,
- G. Personal Protective Equipment (PPE),
- H. Personnel Hygiene and Decontamination,
- I. Equipment Decontamination,
- J. Air Monitoring,
- K. Emergency Equipment and First Aid Requirements,

- L. Emergency Response and Contingency Plan,
- M. Permit-Required Confined-Space Entry Procedures,
- N. Spill Containment Plan,
- O. Heat & Cold Stress,
- P. Record Keeping, and
- Q. Community Protection Plan.

1.4.1 Basis

29 CFR 1910, 29 CFR 1926, NYSDOL 28.876, EPA 9285.1-03, and NIOSH 85-115 provide the basis for the safety and health program. Other specifications within this section are in addition to OSHA regulations and reflect the positions of both the EPA and the NIOSH regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.

The safety and health of the public and project personnel and the protection of the environment shall take precedence over cost and schedule considerations for all project work. Any additional costs will be considered only after the cause for suspension of operations is addressed and work is resumed. The **ENGINEER's** On-Site Representative and the **CONTRACTOR's** Superintendent shall be kept appraised, by the Safety Officer, of conditions which may adversely affect the safety and health of project personnel and the community. The **ENGINEER** may stop work for health and safety reasons. If work is suspended for health or safety reasons, it shall not resume until approval is obtained from the **ENGINEER**. The cost of work stoppage due to health and safety is the responsibility of the **CONTRACTOR** under this Contract.

1.4.2 Responsibilities

1.4.2.1 ENGINEER's Responsibilities

The **ENGINEER** will be responsible for the following:

- A. Review of the HASP for the acceptability for **ENGINEER's** personnel and the impact on the site.
- B. Review of modifications to the HASP.

1.4.2.2 CONTRACTOR's Responsibilities

The **CONTRACTOR** shall be responsible for the following:

- A. Perform all work required by the Contract Documents in a safe and environmentally acceptable manner.

- B. Provide for the safety of all project personnel and the community for the duration of the Contract.
- C. Employ an SO who shall be assigned full-time responsibility for all tasks herein described under this HASP. In the event the SO cannot meet his responsibilities, the **CONTRACTOR** shall be responsible for obtaining the services of an "alternate" SO meeting the minimum requirements and qualifications contained herein. No work will proceed on this project in the absence of an approved SO.
- D. Ensure that all project personnel have obtained the required physical examination prior to and at the termination of work covered by the contract.
- E. Pre-job indoctrination of all project personnel with regard to the HASP and other safety requirements to be observed during work, including:
 - 1. Potential hazards,
 - 2. Personal hygiene principles,
 - 3. Personal protection equipment,
 - 4. Respiratory protection equipment usage and fit testing, and
 - 5. Emergency procedures dealing with fire and medical situations.
- F. Implement this HASP, and the Emergency Contingency and Response Plan.
- G. Provide and ensure that all project personnel are properly clothed and equipped and that all equipment is kept clean and properly maintained in accordance with the manufacturer's recommendations or replaced as necessary.
- H. Alert appropriate emergency services before starting any hazardous work and provide a copy of the Emergency Contingency Plan to the respective emergency services.
- I. Sole and complete responsibility of safety conditions for the project, including safety of all persons (including employees).
- J. Protect the project personnel and the general public from hazards due to the exposure, handling, and transport of contaminated materials. Barricades, lanterns, roped-off areas, and proper signs shall be furnished in sufficient amounts and locations to safeguard the project personnel and public at all times.
- K. Ensure all OSHA health and safety requirements are met.
- L. Maintain a chronological log of all persons entering the project site. It shall include organization, date, and time of entry and exit. Each person shall sign in and out.

1.4.3 HASP Content

The following paragraphs describe the requirements of each of the above-listed elements of the HASP.

1.4.3.1 Health and Safety Organization

List in the HASP a safety organization with specific names and responsibilities. At a minimum, provide the services of a Health and Safety Coordinator, Safety Officer, Health and Safety Technician, and a Medical Consultant.

- A. Health and Safety Coordinator: Retain the services of a Health and Safety Coordinator (HSC). The HSC shall have the following responsibilities:
 - 1. Responsibility for the overall development and implementation of the HASP.
 - 2. Responsibility for the initial training of on-site workers with respect to the contents of the HASP.
 - 3. Availability during normal business hours for consultation by the Safety Officer.
 - 4. Availability to assist the Safety Officer in follow-up training and if changes in site conditions occur.
- B. Safety Officer: The SO shall be responsible for the following minimum requirements:
 - 1. Implement, enforce, and monitor the health and safety plan.
 - 2. Preconstruction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including:
 - a. Potential hazards,
 - b. Personal hygiene principles,
 - c. Personal protective equipment (PPE),
 - d. Respiratory protection equipment usage and fit testing,
 - e. Emergency procedures dealing with fire and medical situations, and
 - f. Conduct daily update meetings in regard to health and safety.
 - 3. Alert the **ENGINEER's** on-site representative prior to starting any particular hazardous work.
 - 4. Inform project personnel of the NYSDOL 28.876.
 - 5. Maintain separation of Exclusion Zone (Dirty) from the Support Zone (Clean) areas as described hereafter.
- C. Health and Safety Technicians: The HST shall be under direct supervision of the SO during on-site work. The HST shall be familiar with the operations, maintenance and calibration of monitoring equipment used in this remediation. An HST shall be assigned to each work crew or task in potentially hazardous areas.
- D. Medical Consultant: The MC shall be available to provide annual physicals and to provide additional medical evaluations of personnel when necessary.

1.4.3.2 Site Description and Hazard Assessment

Perform a hazard assessment to provide information to assist in selection of PPE and establish air monitoring guidelines to protect on-site personnel, the environment, and the public.

Provide a general description of the site, its location, past history, previous environmental sampling results, and general background on the conditions present at the site.

A. Chemical Hazards

Provide a qualitative evaluation of chemical hazards based on the following:

1. Nature of potential contaminants,
2. Location of potential contaminants at the project site,
3. Potential for exposure during site activities, and
4. Effects of potential contaminants on human health.

B. Biological Hazards

Provide a qualitative evaluation of biological hazards consisting of the elements listed for chemical hazards.

C. Physical Hazards

Assess the potential for physical hazards affecting personnel during the performance of on-site work.

D. Ergonomic Hazards

Assess the potential for ergonomic hazards affecting personnel during the performance of the on-site work.

Develop a hazard assessment for each site task and operation established in the HASP.

1.4.3.3 Training

A. OSHA Training

Ensure that all project personnel have been trained in accordance with 29 CFR 1910.120 regulations.

Ensure that all employees are informed of the potential hazards of toxic chemicals to the unborn child and of the risks associated with working at the project site.

Be responsible for, and guarantee that, personnel not successfully completing the required training are not permitted to enter the project site to perform work.

B. Safety Meetings

The SO shall conduct daily safety meetings that shall be mandatory for all project personnel. The meetings shall provide refresher courses for existing equipment and protocols, and shall examine new site conditions as they are encountered. Additional safety meetings shall be held on an as-required basis.

Any unforeseen or site-peculiar safety-related factor, hazard, or condition that becomes evident during the performance of work at this site shall be brought to the attention of the SO in writing as quickly as possible for resolution. In the interim, the **CONTRACTOR** shall take prudent action to establish and maintain safe working conditions and to safeguard employees, the public, and the environment.

1.4.3.4 Medical Surveillance

Utilize the services of a Physician to provide the minimum medical examinations and surveillance specified herein. The name of the Physician and evidence of examination of all **CONTRACTOR** and Subcontractor on-site personnel shall be kept by the SO. Provide all **CONTRACTOR** and Subcontractor project personnel involved in this project with medical surveillance prior to onset of work. Immediately at the conclusion of this project, and at any time there is suspected excessive exposure to substances that would be medically detectable, all project personnel shall be medically monitored. The costs for these medical exams, including state field representatives (maximum of four), are to be borne by the **CONTRACTOR**.

Physical examinations are required for:

- A. Any and all personnel entering the Contamination Reduction Zone or Exclusion Zones or performing work that requires respiratory protection.
- B. All **CONTRACTOR** personnel on site who are dedicated or may be used for emergency response purposes in the Contamination Reduction Zone or Exclusion Zone.
- C. **CONTRACTOR** supervisors entering the Contamination Reduction Zone or Exclusion Zones, or on site for more than 16 hours during the length of the Contract.

Physical examinations are not required for people making periodic deliveries provided they do not enter the Contamination Reduction Zone or Exclusion Zones.

In accordance with good medical practice, the examining Physician or other appropriate representative of the Physician shall discuss the results of such medical examination with the individual examined. Such discussion shall include a any medical condition that the Physician believes required further evaluation or treatment and any medical condition which the Physician believes would be adversely affected by such individual's employment at the project site. A written report of such examination shall be transmitted to the individual's private physician upon written request by the individual.

The examining Physician or Physician group shall notify the SO in writing that the individual has received a medical examination and shall advise the SO as to any specific limitations upon such individual's ability to work at the project site that were identified as a result of the examination. Appropriate action shall be taken in light of the advice given pursuant to this subparagraph.

The physical examination shall also include the following minimum requirements:

- A. Complete blood profile;
- B. Blood chemistry to include: chloride, CO₂, potassium, sodium, BUN, glucose, globulin, total protein, albumin, calcium, cholesterol, alkaline phosphatases, triglycerides, uric acid, creatinine, total bilirubin, phosphorous, lactic dehydrogenase, SGPT, SGOT;
- C. Urine analysis;
- D. "Hands on" physical examination to include a complete evaluation of all organ systems including any follow-up appointments deemed necessary in the clinical judgement of the examining physician to monitor any chronic conditions or abnormalities;
- E. Electrocardiogram;
- F. Chest X-ray (if recommended by examining physician in accordance with good medical practice);
- G. Pulmonary function;
- H. Audiometry - To be performed by a certified technician, audiologist, or physician. The range of 500 to 8,000 hertz should be assessed;
- I. Vision screening - Use a battery (TITMUS) instrument to screen the individual's ability to see test targets well at 13 to 16 inches and at 20 feet. Tests should include an assessment of muscle balance, eye coordination, depth perception, peripheral vision, color discrimination, and tonometry;
- J. Tetanus booster shot (if no inoculation has been received within the last five years); and
- K. Complete medical history.

1.4.3.5 Site Security, Site Control, and Work Areas

A. Site Security

Provide and maintain during the active construction hours. The gate shall be locked after each day's work is completed.

Provide security identification, specific to the project site, for all project personnel entering the project site. Ensure that such identification shall be worn by each individual, visible at

all times, while the individual is on the site. Vehicular access to the site, other than to designated parking areas, shall be restricted to authorized vehicles only.

Restrict the use of on-site designated parking areas to vehicles of the **ENGINEER**, **ENGINEER's** On-Site Representative, **CONTRACTOR**, Subcontractor, and service personnel assigned to the site and actually on duty, but may also be used on short-term basis for authorized visitors.

Maintain a log of security incidents and visitor access granted in accordance with the Subpart "Logs, Reports, and Record Keeping," paragraph titled "Security Log" of this Section. Require all personnel having access to the project site to sign in and out, and keep a record of all site access. All approved visitors to the site shall be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Do not permit site visitors to enter a hazardous work zone unless approved by the **DEPARTMENT** with appropriate site access agreement.

Post project sites in accordance with the Subpart "Logs, Reports, and Record Keeping," paragraph titled "Posting Regulations" of this Section and restrict access by the use of a snow fence or equal at a minimum. Warning signs shall be posted at a minimum of every 500 feet.

B. Site Control

Provide the following site control procedures as a minimum:

1. A site map,
2. A map showing site work zones,
3. The use of a "buddy system," and
4. Standard operating procedures or safe work practices.

C. Work Areas

Clearly lay out and identify work areas in the field. Limit equipment, operations and personnel in the areas as defined below:

Exclusion Zone: This shall include all areas where potential environmental monitoring has shown or it is suspected that a potential hazard may exist to workers. The level of PPE required in these areas shall be determined by the SO after air monitoring and on-site inspection has been conducted. The area shall be clearly delineated from the decontamination area. As work within the Exclusion Zone proceeds, the delineating boundary shall be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone shall be delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing).

Contamination Reduction Zone: This zone shall occur at the interface of "Hazardous" and "Clean" areas and shall provide for the transfer of equipment and materials from the Support Zone to the Exclusion Zone, the decontamination of personnel and clothing prior to entering the "Clean" area, and for the physical segregation of the "Clean" and "Hazardous" areas. This area shall contain all required emergency equipment. This area shall be clearly delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing). It shall also delineate an area that although not contaminated at a particular time may become so at a later date.

Support Zone: This area is the remainder of the work site and project site. The Support Zone shall be clearly delineated and procedures implemented to prevent active or passive contamination from the work site. The function of the Support Zone includes:

1. An entry area for personnel, material, and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
2. An exit for decontamination personnel, materials and equipment from the "Decontamination" area of site operations;
3. The housing of site special services; and
4. A storage area for clean, safety, and work equipment.

1.4.3.6 Standard Operating Safety Procedures, Engineering Controls

A. Standard Operating Safety Procedures

Ensure that all safety equipment and protective clothing is kept clean and well maintained.

Ensure that all prescription eyeglasses in use on this project be safety glasses and are compatible with respirators. No contact lenses shall be allowed on site.

Ensure that all disposable or reusable gloves worn on the site are approved by the SO.

Change respirator filters during periods of prolonged respirator usage in contaminated areas, upon breakthrough. Respirator filters shall always be changed daily.

Cover footwear used on site with rubber overboots or booties when entering or working in the Exclusion Zone area or Contamination Reduction Zone. Boots or booties shall be washed with water and detergents to remove dirt and contaminated sediment before leaving the Exclusion Zone or Contamination Reduction Zone.

Decontaminate or dispose of all PPE used on site at the end of the work day. The SO shall be responsible for ensuring decontamination of PPE before reuse.

Individually assign all respirators and do not interchange them between workers without cleaning and sanitizing. **CONTRACTOR**, Subcontractor and service personnel unable to

pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.

Ensure that all project personnel shall have vision or corrected vision to at least 20/40 in one eye.

On-site personnel found to be disregarding any provision of this plan shall, at the request of the SO, be barred from the project.

Do not reuse disposable outerwear such as coveralls, gloves, and boots. Used disposable outerwear shall be removed upon leaving the Exclusion Zone and shall be placed inside disposable containers provided for that purpose. These containers shall be stored at the site at the designated staging area and the **CONTRACTOR** shall be responsible for proper disposal of these materials at the completion of the project. This cost shall be borne by the **CONTRACTOR**.

Immediately replace protective coveralls that become torn or badly soiled.

Prohibit eating, drinking, chewing gum or tobacco, and smoking in the Exclusion Zone and Contamination Reduction Zone.

All personnel shall thoroughly cleanse their hands, face, forearms, and other exposed areas prior to eating, smoking or drinking.

Workers who have worked in an Exclusion Zone shall shower at the completion of the work day.

All personnel shall wash their hands, face, and forearms before using toilet facilities.

Do not allow alcohol, firearms or drugs (without prescriptions) on site at any time.

All personnel who are on medication should report it to the SO, who shall make a determination whether or not the individual will be allowed to work and in what capacity. The SO may require a letter from the individual's personal physician stating what limitations (if any) the medication may impose on the individual.

B. Engineering Controls

Provide all equipment and personnel necessary to monitor and control air emissions.

1.4.3.7 Personal Protective Equipment

A. General

Provide all project personnel with the necessary safety equipment and protective clothing, taking into consideration the chemical, physical, ergonomic, and biological hazards at the site. Supply the **ENGINEER's** on-site personnel (average one person for the project duration) and the **DEPARTMENT's** on-site personnel (maximum of four people) with PPE

as specified. The **ENGINEER** will require specific manufacturers and styles of PPE, or equal, which are detailed in the Safety Equipment Specifications at the end of this section. At a minimum, supply all project personnel with the following:

1. Two sets of cotton work clothing to include underwear, socks, work shirts, and work pants. Leather steel-toed work boots, and such other clothing and outer garments as required by weather conditions (e.g., insulated coveralls and winter jacket);
2. Sufficient disposable coveralls;
3. One pair splash goggles;
4. Chemical-resistant outer and inner gloves;
5. Rubber overshoes (to be washed daily);
6. Hard hat;
7. One full-face respirator with appropriate cartridges. The **ENGINEER** and the **DEPARTMENT** will supply their own full-face respirator. The **CONTRACTOR** shall supply the appropriate cartridges to all on-site project personnel including the **ENGINEER** and the DEP MSA cartridges; and
8. For all project personnel involved with Levels A or B protection, a positive-pressure SCBA or positive-pressure airline respirator. A 5-minute escape bottle shall be included with the airline respirator.

B. Levels of Protection

The determination of the proper level of protection for each task shall be the responsibility of the **CONTRACTOR**. These task specific levels of protection shall be stated in the **CONTRACTOR's HASP**.

The following sections describe the requirements of each level of protection.

1. Level A Protection

a. Level A PPE

- Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and NIOSH. Respirators may be:
 - Positive-pressure SCBA; or
 - Positive-pressure airline respirator (with escape bottle for Immediately Dangerous to Life and Health [IDLH] or potential for IDLH atmosphere);
- Fully encapsulating chemical-resistant suit;
- Coveralls;
- Cotton long underwear (OPTIONAL);
- Gloves (inner), chemical-resistant;
- Boots, chemical-resistant, steel toe and shank (depending on suit construction, worn over or under suit boot);

- Hard hat (under suit) (OPTIONAL);
 - Disposal gloves and boot covers (worn over fully encapsulating suit);
 - Cooling unit (OPTIONAL); and
 - Two-way radio communications (inherently safe) (OPTIONAL).
- b. Criteria for Level A Selection
- Meeting any of these criteria warrants use of Level A protection:
- The chemical substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on:
 - Measures (or potential for) high concentration of atmospheric vapors, gases, or particulates; or
 - Site operations and work functions involves high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials highly toxic to the skin.
 - Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.
 - Operations shall be conducted in confined, poorly ventilated areas until the absence of substances requiring Level A protection is determined.
 - Direct readings on field Flame Ionization Detectors (FID) or Photoionization Detectors (PID) and similar instruments indicate high levels of unidentified vapors and gases in the air.
- c. Guidance on Level A Selection
- Fully encapsulating suits are primarily designed to provide a gas- or vapor-tight barrier between the wearer and atmospheric contaminants. Therefore, Level A is generally worn when high concentrations of airborne substances could severely effect the skin. Since Level A requires the use of SCBA, the eyes and respiratory system are also more protected.
 - Until air surveillance data become available to assist in the selections of the appropriate level of protection, the use of Level A may have to be based on indirect evidence of the potential for atmospheric contamination or other means of skin contact with severe skin affecting substances.

Conditions that may require Level A protection include:

- Confined spaces: Enclosed, confined, or poorly ventilated areas are conducive to the buildup of toxic vapors, gases, or particulates. (Explosive or oxygen-deficient atmospheres are also more probable in confined spaces). Confined-space entry does not automatically warrant wearing Level A protection, but should serve as a cue to carefully consider and to justify a lower level of protection.
- Suspected or known highly toxic substances: Various substances that are highly toxic, especially skin absorption, for example, fuming corrosives, cyanide compounds, concentrated pesticides, Department of Transportation Poison "A" materials, suspected carcinogens, and infectious substances may be known or suspected to be involved. Field instruments may not be available to detect or quantify air concentrations of these materials. Until these substances

are identified and concentrations measured, maximum protection may be necessary.

- Visible emissions: Visible air emissions from leaking containers or railroad/vehicular tank cars, as well as smoke from chemical fires and others, indicate high potential for concentrations of substances that could be extreme respiratory or skin hazards.
- Job Functions: Initial site entries are generally walk-throughs, in which instruments and visual observations are used to make a preliminary evaluation of the hazards.

In initial site entries, Level A should be worn when:

- There is a probability for exposure to high concentrations of vapors, gases, or particulates; and
- Substances are known or suspected of being extremely toxic directly to the skin or by being absorbed.

Subsequent entries are to conduct the many activities needed to reduce the environmental impact of the incident. Levels of protection for later operations are based not only on data obtained from the initial and subsequent environmental monitoring, but also on the probability of contamination and ease of decontamination.

Examples of situations where Level A has been worn include:

- Excavating of soil to sample buried drums suspected of containing high concentrations of dioxin;
- Entering a cloud of chlorine to repair a valve broken in a railroad accident;
- Responding to accidents involving cyanide, arsenic, and undiluted pesticides; and
- The fully encapsulating suit provides the highest degree of protection to skin, eyes, and respiratory system if the suit material resists chemicals during the time the suit is worn. While Level A provides maximum protection, all suit material may be rapidly permeated and degraded by certain chemicals from extremely high air concentrations, splashes, or immersion of boots or gloves in concentrated liquids or sludges. These limitations should be recognized when specifying the type of fully encapsulating suit. Whenever possible, the suit material should be matched with the substance it is used to protect against.

2. Level B Protection

a. Level B PPE

- Positive-pressure SCBA (MSHA/NIOSH-approved); or
- Positive-pressure air line respirator (with escape bottle for IDLH or potential for IDLH atmosphere) MSHA/NIOSH-approved;
- Chemical-resistant clothing (coveralls and long-sleeved jacket; coveralls or hooded, one- or two-piece chemical-splash suit; disposable chemical-resistant, one-piece suits);
- Cotton long underwear (OPTIONAL);

- Coveralls;
- Gloves (outer), chemical-resistant;
- Gloves (inner), chemical-resistant;
- Boots (inner), chemical-resistant or leather work shoe with steel toe and shank;
- Boots (outer), chemical-resistant (disposable);
- Hard hat (face shield) (OPTIONAL);
- 2-way radio communication (OPTIONAL); and
- Taping between suit and gloves, and suit and boots.

b. Criteria for Level B Selection

Any one of the following conditions warrants use of Level B Protection:

- The type of atmospheric concentration of toxic substances have been identified and require a high level of respiratory protection, but less skin protection than Level A. These atmospheres would:
 - Have IDLH concentrations; or
 - Exceed limits of protection afforded by an air-purifying mask; or
 - Contain substances for which air-purifying canisters do not exist or have low removal efficiency; or
 - Contain substances requiring air-supplied equipment, but substances or concentrations do not represent a serious skin hazard.
- The atmosphere contains less than 19.5% oxygen.
- Site operations make it highly unlikely that the work being done will generate high concentrations of vapors, gases or particulates, or splashes of material that will affect the skin of personal wearing Level B protection.
- Working in confined spaces.
- Total atmospheric concentrations, sustained in the breathing zone, of unidentified vapors or gases range from 5 ppm above background to 500 ppm above background as measured by direct reading instruments such as the FID or PID or similar instruments, but vapors and gases are not suspected of containing high levels of chemicals toxic to skin.

c. Guidance on Level B Selection Criterial

Level B equipment provides a reasonable degree of protection against splashes and to lower air contaminant concentrations, but a somewhat lower level of protection to skin than Level A. The chemical-resistant clothing required in Level B is available in a wide variety of styles, materials, construction detail, permeability, etc. Taping joints between the gloves, boots and suit, and between hood and respirator reduces the possibility for splash and vapor or gas penetration. These factors all affect the degree of protection afforded. Therefore, the SO should select the most effective chemical-resistant clothing based on the known or anticipated hazards and job function.

Level B does provide a high level of protection to the respiratory tract. Generally, if SCBA is required, Level B clothing rather than a fully encapsulating suit (Level A) is selected based on needing less protection against known or anticipated substances affecting the skin. Level B skin protection is selected by:

- Comparing the concentrations of known or identified substances in air with skin toxicity data;
- Determining the presence of substances that are destructive to or readily absorbed through the skin by liquid splashes, unexpected high levels of gases, vapor or particulates, or other means of direct contact; and
- Assessing the effect of the substance (at its measured air concentrations or splash potential) on the small area of the head and neck left unprotected by chemical-resistant clothing.

For initial site entry at an open site, Level B protection should protect site personnel, providing the conditions described in selecting Level A are known or judged to be absent.

3. Level C Protection

a. Level C PPE

- Full-face, air-purifying, cartridge- or canister- equipped respirator (MSHA/NIOSH-approved) with cartridges appropriate for the respiratory hazards;
- Chemical-resistant clothing (coveralls, hooded, one-piece or two-piece chemical splash suit; chemical-resistant hood and apron; disposable chemical-resistant coveralls);
- Coveralls;
- Cotton long underwear (OPTIONAL);
- Gloves (inner), chemical-resistant;
- Boots (inner), chemical-resistant or leather work shoes with steel toe and shank;
- Boots (outer), chemical-resistant (disposable) (OPTIONAL);
- Hard hat (face shield) (OPTIONAL);
- Escape SCBA of at least 5-minute duration;
- 2-way radio communications (inherently safe) (OPTIONAL); and
- Taping between suit and boots, and suit and gloves.

b. Criteria for Level C Selection

Meeting all of these criteria permits use of Level C protection:

- Measured air concentrations of identified substances will be reduced by the respirator to, at or below, the substance's Threshold Limit Value (TLV) or appropriate occupational exposure limit and the concentration is within the service limit of the canister.
- Atmospheric contaminant concentrations do not exceed IDLH levels.
- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of the skin left unprotected by chemical-resistant clothing.
- Job functions do not require SCBA.
- Total readings register between background and 5 ppm above background as measured by instruments such as the FID or PID.
- Oxygen concentrations are not less than 19.5% by volume.
- Air shall be monitored continuously.

c. Guidance on Level C Selection

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing (MSHA/NIOSH-approved) equipped with a cartridge suspended from the chin or on a harness. Cartridges shall be able to remove the substances encountered.

A full-face, air-purifying mask can be used only if:

- Oxygen content of the atmosphere is at least 19.5 % by volume;
- Substance(s) is identified and its concentrations(s) measured;
- Substance(s) has adequate warning properties;
- Appropriate cartridge is used, and its service limits concentration is not exceeded.

An air monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators (Level C). Continual surveillance using direct-reading instruments and air sampling is needed to detect any changes in air quality necessitating a higher level of respiratory protection. Total unidentified vapor or gas concentrations exceeding 5 ppm above background require Level B.

4. Level D Protection

a. Level D PPE

- Coveralls, chemical resistant;
- Gloves (outer), chemical resistant;
- Gloves (inner), chemical resistant (OPTIONAL);
- Boots (inner), chemical resistant or leather work shoes with steel toe and shank;
- Boots (outer), chemical resistant (disposable) (OPTIONAL);
- Hard hat;
- Face shield (OPTIONAL);
- Safety glasses with side shields or chemical splash goggles (OPTIONAL); and
- Taping between suit and boots, and suit and gloves.

b. Criteria for Level D Selection

- No atmospheric contaminant is present.
- Direct reading instruments do not indicate any readings above background.
- Job functions have been determined not to require respirator protection.

c. Guidance on Level D Selection

Level D protection is distinguished from Level C protection in the requirement for respiratory protection. Level D is used for non-intrusive activities or intrusive activities with continuous air monitoring. It can be worn only in areas where there is no possibility of contact with contamination.

C. Safety Equipment Specifications

Notify the **ENGINEER**, prior to purchasing any equipment or supplies required by this HASP, the type, model, manufacturer and supplier of that particular safety equipment proposed to used or purchased for use on this project. The specifications for PPE that the **CONTRACTOR** is to supply to the **ENGINEER** and which differ from the minimum requirements described herein are to be provided at the end of this section.

D. Self-contained Breathing Apparatus (SCBA)

Provide positive-pressure SCBA for possible upgrades in respiratory protection.

Supply all the SCBA for all field personnel for the duration of normal work activities. The units shall be a MSHA/NIOSH-approved pressure-demand type with a 30-minute service life, manufactured or supplied by Scott, MSA, or other appropriate manufacturers.

Inspect and maintain respirators in accordance with 29 CFR 1910.134 and as recommended by the manufacturer.

E. Disposable Coveralls

Provide, as necessary, protective coveralls for all project personnel each day with extra sets provided for authorized visitors. The coveralls shall be of the disposable type made of Tyvek or equivalent material, and shall be manufactured or supplied by Durafab, Koppler, or other appropriate manufacturers. To protect project personnel from exposure to liquids, splash-resistant suits (Saranex suits, from appropriate manufacturers) shall be provided. Ripped suits shall be immediately replaced after all necessary decontamination has been completed to the satisfaction of the SO.

F. Hard Hat

Provide and maintain one hard hat per person on site (authorized visitors included). The hard hats shall comply with 29 CFR 1910.135.

G. Face Shields

Provide and maintain one face shield per person. Face shields shall be of the full-face type, meeting 29 CFR 1910.133, and shall have brackets for mounting on hard hats. Hard hats and face shields shall be from the same manufacturer to ensure proper fit and shall be manufactured or supplied by Bullard, Norton, or other appropriate manufacturers.

H. Work Clothing

Provide a minimum of two sets of work clothing per personnel to allow for changing if contaminated. The work clothing shall include a minimum of underwear, socks, work shirts, work pants, and other clothing as weather conditions dictate. All work clothes shall be put on clean, before entering the site and shall not be kept in the same lockers as the

workers' street clothes. All project personnel shall shower and change to street clothing prior to leaving the site. All contaminated work clothing shall be laundered on site with wash water drained to the decontamination water holding tank.

I. Escape-Type Respirator

Provide and maintain one self-contained breathing escape-type respirator per person working on site. The small self-contained device shall be capable of providing oxygen to the worker while protecting an escaping worker from toxic gases. The respirator shall be made by Scott, MSA, or other appropriate manufacturer. Inspect and ensure all devices are in working order before issuing to personnel. Employees shall be trained to use equipment prior to being allowed to work on site and carry the escape-type respirator with them. An escape-type respirator shall be provided if positive-pressure SCBA are not part of the ensemble worn by each person on site.

J. Full-Face Organic Vapor Respirator

Provide and maintain a dedicated air-purifying organic vapor respirator per person working in Exclusion and Support Zones. The respirator shall be of the full-face canister type with cartridges appropriate for the respiratory hazards. Respirators and cartridges shall be MSHA/NIOSH approved, manufactured or supplied by MSA, Scott, or other appropriate manufacturers. Inspect and maintain respirators and canisters in accordance with 29 CFR 1910.134 and in accordance with manufacturer's instructions. Ensure that proper fit testing training and medical surveillance of respirator users is in accordance with <RID> 29 CFR 1910.134.

K. Gloves (Outer)

Supply a minimum of one pair of gloves per workman in areas where skin contact with hazardous material is possible. Work gloves shall consist of nitrile (NCR) or Neoprene material. Other gloves may be selected if required based on the potential chemical present.

Provide cotton liners during cold weather.

L. Gloves (Inner)

Supply Latex or equivalent surgical gloves to be worn inside the outer gloves.

M. Boots (Inner)

Supply one pair of safety shoes or boots per workman of the safety-toe type meeting the requirements of 29 CFR 1910.136.

N. Boots (Outer)

Provide and maintain one pair of overshoes for the on-site person entering a hazardous work area. The overshoes shall be constructed of rubber and shall be a minimum of 12 inches high.

1.4.3.8 Personnel Hygiene and Decontamination**A. On-Site Hygiene Facility**

Provide a hygiene facility on site. The hygiene facility shall include the following:

1. Adequate lighting and heat;
2. Shower facilities for project personnel;
3. Laundry facilities for washing work clothes and towels;
4. Areas for changing into and out of work clothing. Work clothing should be stored separately from street clothing;
5. Clean and "dirty" locker facilities; and
6. Storage area for work clothing, etc.

B. Portable "Boot Wash" Decontamination Equipment

Provide a portable decontamination station, commonly referred to as a "Boot Wash" facility for each hazardous work zone requiring decontamination for project personnel. These facilities shall be constructed to contain spent wash water, contain a reservoir of clean wash water, a power supply to operate a pump for the wash water, a separate entrance and exit to the decontamination platform, with the equipment being mobile, allowing easy transport from one hazardous work zone to the next. An appropriate detergent such as trisodium phosphate shall be used.

C. Personnel Decontamination

Provide full decontamination facilities at all hazardous zones. Decontamination facilities shall be described in detail in the HASP.

D. Disposal of Spent Clothing and Material

Place all contaminated clothing, used respirator cartridges and other disposable items into containers for transport and proper disposal in accordance with 40 CFR 262. Containers shall conform to the requirements of 49 CFR 178. Containers containing hazardous material shall be transported by the **CONTRACTOR** to the staging area.

Provide proper container packaging, labeling, transporting, and disposal.

1.4.3.9 Equipment Decontamination

A. General

Thoroughly wash all equipment and material used in this project in accordance with established federal and state procedures before it is removed from the project site. With the exception of the excavated materials and contaminated debris, all other contaminated materials and clothing that cannot be decontaminated shall be disposed at the **CONTRACTOR's** expense by a method permitted by appropriate regulatory agencies.

Certify, in writing, that each piece of equipment has been decontaminated prior to removal from the site. Decontaminate all vehicles and equipment used in the "Dirty Area" (Exclusion Zone), or that has come in contact with contaminated material. Decontamination shall take place within the designated equipment and materials decontamination area. The decontamination shall consist of degreasing (if required), followed by high-pressure, hot-water cleaning, supplemented by detergents as appropriate. Wash units shall be portable, high-pressure with a self-contained water storage tank and pressurizing system (as required). Each unit shall be capable of heating wash waters to 180 degrees Fahrenheit and providing a nozzle pressure of 150 psi.

Obtain **ENGINEER's** approval prior to removal from site of equipment which has entered the Exclusion Zone.

Personnel engaged in vehicle decontamination shall wear, at a minimum, Level C Protective clothing and equipment.

If the **CONTRACTOR** cannot or does not satisfactorily decontaminate his tools or equipment at the completion of the project, the **CONTRACTOR** shall dispose of any equipment which cannot be decontaminated satisfactorily and shall bear the cost of such tools and equipment and its disposal without any liability to the **ENGINEER**.

Completely decontaminate and clean the decontamination area at the completion of the project.

B. Decontamination Station

Construct a decontamination station(s). The decontamination station(s) shall be located in the Contamination Reduction Zone and shall be used to clean all vehicles leaving the Exclusion Zone prior to entering the Support Zone or leaving the site. Clean station as needed and at least once each day. Do not allow the buildup of ice, snow, or soil. Store all decontamination water in holding tanks. Do not allow overflow of these tanks. Immediately repair penetrations which may cause leakage.

1.4.3.10 Air Monitoring Program

A. General

The **CONTRACTOR** shall develop, as part of the HASP, an air monitoring program (AMP). The purpose of the AMP is to determine that the proper level of personnel protective equipment is used, to document that the level of worker protection is adequate, and to assess the migration of contaminants to off-site receptors as a result of site work.

The **CONTRACTOR's** AMP shall include both real-time and documentation air monitoring (personal and area sampling as needed).

The purpose of real-time monitoring will be to determine if an upgrade (or downgrade) of PPE is required while performing on-site work and to implement engineering controls, protocols, or emergency procedures if **CONTRACTOR**-established action levels are encountered.

The **CONTRACTOR** shall also use documentation monitoring to ensure that adequate PPE is being used and to determine if engineering controls are mitigating the migration of contamination to off-site receptors.

The **CONTRACTOR** shall develop level of protection site action levels for organic vapors and inorganic species for each site task and operation in this HASP. If minimum action levels or **CONTRACTOR**-established action levels are exceeded at half the distance to the work site perimeter location, work must be suspended and engineering controls must be implemented to bring concentrations back down to acceptable levels.

Air monitoring equipment will be operated by personnel trained in the use of the specific equipment provided and will be under the control of the SO.

The SO will determine when and if operations should be shut down.

Air monitoring shall be conducted by a minimum of one dedicated person with communication to the foreman whenever intrusive activities are performed in an exclusion zone. After completion of intrusive activities involving contaminated materials and removal of the exclusion zone, air monitoring may be discontinued.

The **CONTRACTOR** shall install a meteorological station on site that will be capable of recording, at a minimum, outside air temperature, wind velocity and wind direction.

B. Equipment

The **CONTRACTOR** shall supply all personnel, equipment, facilities, and supplies to develop and implement the air monitoring program described in this section. Equipment shall include at a minimum: an organic vapor analyzer, photo ionizer, and real-time aerosol monitors, depending on work activities and environmental conditions.

Additional equipment may be required once the hazard assessment in the subpart "Site Description and Hazard Assessment" of this section is complete.

Organic vapor photo ionizers shall be Photovac TIP, total organic vapor analyzer as manufactured by Photovac International, 739B Park Avenue, Huntington, New York 11743 or equal.

Total particulates shall be measured using a real-time aerosol monitor. The instrument shall be calibrated daily according to the procedure in the users manual. The meter shall be capable of measuring particulate concentrations in the size range of 0.1 to 10 microns with a sensitivity down to 0.001 mg/m³. The monitor shall be Miniram model MIEPDM-3, or equal.

C. Real-Time Monitoring

Sampling at the hazardous work site will be conducted on a continuous basis. Real-time monitoring will be conducted during any intrusive work (including treatment) involving contaminated materials.

Real-time particulate monitoring shall be conducted using the following equipment (at a minimum):

- Organic vapor photo ionizers,
- Real-time aerosol particulate monitors, and
- Explosimeter/oxygen meters.

The **CONTRACTOR** shall provide one Photovac TIP or flame ionization detector for each and every hazardous work zone operation.

Monitor the air, using the same equipment, for 10-15 minutes upwind of the work site to establish background level. The background level shall be established before the start of each shift every day. If the wind direction changes during the course of the day, a new background reading will be made.

During the progress of active remedial work, the **CONTRACTOR** will monitor the quality of the air in and around each active hazardous operation with real-time instrumentation prior to personnel entering these areas and while work is ongoing.

Any departures from general background will be reported to the SO (prior to entering the area if initiating work).

Real-time monitoring will also be conducted at half the distance to the work site perimeter locations, including an upwind (background) and a downwind location. Downwind readings at half the distance to the work site perimeter will be made when **CONTRACTOR** action levels have been exceeded at the work zone or at a minimum of twice a day.

In the event that downwind particulates are detected at levels in excess of $150 \mu\text{g}/\text{m}^3$ or 2.5 times the established background level at the work site, remeasure the background levels upwind of the work zone using the same equipment. If the measured particulate level at the work zone is $100 \mu\text{g}/\text{m}^3$ above background, monitor at half the distance to the downwind site perimeter and implement additional dust controls in the work zone. Continue to take hourly measurements of the upwind background concentrations and compare such concentrations with the particulate levels at the work zone, until the downwind level at the work zone is less than $100 \mu\text{g}/\text{m}^3$ above the upwind level. If at any time the measured particulate level at the work zone is more than $150 \mu\text{g}/\text{m}^3$ over background concentrations, the **CONTRACTOR** shall immediately suspend work at the site, promptly notify the safety officer, and implement suitable corrective actions or engineering controls before work resumes.

D. Documentation Monitoring

Documentation monitoring will be conducted as specified or required by 29 CFR 1910 at the perimeter at a minimum of four locations (one upwind and three downwind). The four locations will be chosen according to site activities and expected wind direction.

The perimeter locations will be established and marked with high visibility paint or flagging at approximately equidistant points around the site. Samples will be collected at a height of 6 feet above ground surface.

In addition to perimeter monitoring, documentation samples will be collected to assess worker exposure. Samples will be collected by choosing "high risk" workers to wear appropriate collection media for select contaminants present on site in accordance with 29 CFR 1910. "High risk" workers are those workers most likely to encounter contamination on a particular task.

Documentation samples (including "high risk" workers) will be collected twice a week at regularly scheduled intervals and at the initiation of a new phase of on-site work. Samples will be collected during the normal work hours when activities are occurring on site. At the end of the week, meteorological data will be reviewed, and one upwind sample and two downwind samples will be chosen to be analyzed. Also, a set (minimum of one sample for each analysis or contaminant of concern) of "high risk" worker samples will be analyzed.

Total nuisance dust will be collected using a PVC collection filter and personnel sampling pump and analyzed gravimetrically according to NIOSH Method 0500. Collect air samples and analyze for VC - NIOSH Method 1007. Collect air samples and analyze for metals according to NIOSH Method 7300 or equal.

E. Reporting

A log of the location, time, type and value of each reading and/or sampling event will be maintained. Copies of log sheets will be provided on a daily basis to the **ENGINEER's** on-site representative.

The **CONTRACTOR** shall submit a written copy of real-time air monitoring results for each workday, by 10:00 a.m. the following work day, which shall include an appropriately scaled map of the work area depicting sample locations, wind direction and other pertinent meteorological data; date; time; analytical results; applicable standards; and engineering controls implemented (if necessary).

Documentation samples chosen for analysis shall be submitted to the laboratory at the end of each work week. Within 7 days of shipment, the **CONTRACTOR** shall submit a written copy of documentation air monitoring results for the previous week, including an appropriately scaled map of the work area depicting sample locations, wind direction at the time of sample collection, and other pertinent meteorological data; date; time; analytical results; and applicable standards.

The documentation sampling results submitted shall also identify the "high risk" workers chosen to wear appropriate collection media for contaminants, date media was worn, task involved, analytical results and applicable standards.

Payment for air monitoring will not be approved unless and until the above submittals have been received and approved by the **ENGINEER**.

1.4.3.11 Emergency Equipment and First Aid Requirements

A. Communications

Provide telephone communication at the site field office. Emergency numbers, such as police, sheriff, fire, ambulance, hospital, NYSDEC, EPA, NYSDOH, and utilities, applicable to this site shall be prominently posted near the telephone. Establish a signaling system for emergency purposes.

B. Emergency Shower and Emergency Eye Wash

Supply and maintain one portable eyewash and body wash facility per active hazardous work zone. The facility shall have a minimum water capacity of 10 gallons and shall conform to 29 CFR 1910.151. The portable eyewash and body wash facility shall be manufactured and supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

C. Fire Extinguishers

Supply and maintain at least one fire extinguisher in the **CONTRACTOR**'s office and one at each hazardous work zone. The fire extinguisher shall be a 20-pound Class ABC dry fire extinguisher with UL-approval per 29 CFR 1910.157. The fire extinguisher shall be manufactured or supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

D. First Aid Kit

Supply and locate in the **CONTRACTOR's** office and at each and every hazardous work zone one 24-unit (minimum size) "industrial" or "contractor" first aid kit, required by 29 CFR 1910.151. The first aid kit shall be manufactured or supplied by Norton, Scott, or other appropriate suppliers.

E. Emergency Inventory

In addition to those items specified elsewhere, the SO shall maintain the following inventory of equipment and protective clothing for use at the site in the event of emergencies:

1. Washable coveralls,
2. Gloves (outer),
3. Gloves (inner),
4. SCBA,
5. Escape SCBA (authorized visitor use),
6. Face shields,
7. Safety glasses,
8. Respirators and appropriate cartridges,
9. Disposable coveralls,
10. Chemical-resistant boots and latex boot covers,
11. Hard hats,
12. Bottled breathing air, and
13. Rain suits.

1.4.3.12 Emergency Response and Contingency Plan**A. Procedures for Daily Work**

Monitor during the progress of work the quality of the air in and around each active hazardous operation prior to personnel entering these areas. Sampling shall be conducted on a continuous basis. Based on the air monitoring data, the proper level of protection shall be chosen by the SO.

B. Emergency Vehicle Access

Immediately move operations (equipment, materials etc.) to allow emergency vehicles access in the event that such vehicles (police, fire, ambulance) need access to a location which is blocked by the working crew operations. Emergency crews shall be briefed as to site conditions and hazards by the SO. All vehicles and personnel shall be decontaminated prior to leaving the site.

C. Personal Injury Response Plan

In cases of personal injuries, the injured person or the crew personnel in charge shall notify the SO. The SO shall assess the injury, give first aid treatment if advisable, consult by telephone with a physician if necessary, and arrange for hospitalization, if required. The SO shall arrange for an ambulance, if required.

Wrap the injured person in blankets for transportation to the hospital if soiled clothing cannot be removed.

Flush the personnel, including unauthorized personnel, having skin contact with chemically contaminated liquids or soils with water after any wet or soiled clothing has been removed. These personnel should be observed by the SO to ascertain whether there are any symptoms resulting from the exposure. If there is any visible manifestation of exposure such as skin irritation, the project personnel shall refer to a consulting physician to determine whether the symptoms were the result of a delayed or acute exposure, a secondary response to exposure such as skin infection, or occupational dermatitis. All episodes of obvious chemical contamination shall be reviewed by the SO in order to determine whether changes are needed in work procedures.

D. Route to the Hospital

Post in conspicuous places in the Support Zone a map with written directions to the nearest hospital or emergency medical treatment facility.

E. Fire Service

Make arrangements to take immediate firefighting and fire protection measures with the local Fire Chief. If there is a fire, the crewmen or their person in charge shall immediately call the SO.

The SO shall immediately call the fire personnel. Monitor the air downwind from any fire or explosion immediately in order to protect workers and the nearby community. If personal injuries result from any fire or explosion, the procedures outlined in the Personal Injury Response Plan are to be followed.

F. Telephone List

Complete the attached master telephone list and prominently post at the field office. Add to or modify as necessary. The list shall include telephone numbers of all project personnel, emergency services such as hospital, fire, police, and utilities. In addition, copies with some telephone numbers are to be given to the **DEPARTMENT** for emergency reference purposes.

Project Telephone List

Contact	Number
Fire Department: (Brockport Fire Dept.)	911
Police Department: (Monroe County Sheriff)	911
Ambulance:	911
Hospital/Emergency Care Facility: (Lakeside Memorial)	(716) 274-6087
Poison Control Center: (Monroe County)	(716) 275-3232
Chemical Emergency Advice: (CHEMTREC)	
Monroe County Department of Health Joseph Albert David Napier	(716) 274-6904
New York State Department of Health:	1-800-458-1158
NYSDOH, Rochester Field Office:	(716) 423-8071
NYSDEC Regional Office (Region 8):	(716) 226-2466
NYSDEC Div. of Environmental Remediation, Albany, New York	(518) 457-7878 1-800-392-9296
Contractor	
Engineer	

1.4.3.13 Permit-Required Confined Space Entry Procedures

Evaluate the work areas and determine if there are any permit-required confined spaces. If the **CONTRACTOR** determines that personnel will not need to enter a permit-required confined space, appropriate measures to prevent personnel from entering such shall be taken. If the **CONTRACTOR** determines that personnel will need to enter a permit-required confined space, develop and implement a written permit-required confined spa written program shall comply with 29 CFR 1910.146 and shall include the following:

- Implement methods to prevent unauthorized entry;

- Identify and evaluate the hazards of permit-required confined spaces before personnel entry;
- Develop and implement procedures for safe permit-required confined space entry;
- Provide the appropriate equipment to evaluate permit-required confined spaces;
- Evaluate permit-required confined spaces when entry operations are conducted;
- Provide at least one attendant and one entry supervisor outside the permit-required confined space which will be entered;
- Designate the personnel who will have active roles in entry operations;
- Develop and implement procedures for obtaining rescue and emergency services;
- Develop and implement a system for the preparation, issuance, use, and collection of entry permits;
- Develop and implement procedures to coordinate entry operations when personnel from more than one employer are working;
- Develop and implement procedures for concluding the entry;
- Review and revise entry operations if measures may not protect personnel; and
- Review the permit-required confined space program to ensure personnel are protected from the hazards present.

Copies of the permit-required confined space program and employee training certificates shall be included with the HASP.

1.4.3.14 On-Site Spill Containment Plan

Provide a written on-site spill containment program that includes the following minimum requirements:

- Procedures to help prevent spills from occurring,
- Spill reporting procedure,
- Spill containment equipment list,
- Hazard assessment for known or unknown spilled materials,
- Containment techniques,
- Air monitoring and sampling requirements,
- Personal protective equipment requirements,

- Employee training requirements,
- Decontamination procedures,
- Cleanup and disposal methods, and
- Emergency evacuation procedures.

1.4.3.15 Heat and Cold Stress Monitoring

A. Heat Stress

Maintain an American Red Cross Standard First Aid book or equivalent on site at all times so that the SO and site personnel will be able to recognize symptoms of heat emergencies and be capable of controlling the problem, since site personnel who wear protective clothing allow body heat to be accumulated causing an elevation of the body temperature. Heat cramps, heat exhaustion, and heat stroke can be experienced, which, if not remedied, can threaten life or health.

When protective clothing is worn, especially Levels A and B, the suggested guidelines for ambient temperature and maximum wearing time per excursion are:

Ambient Temperature (F)	Maximum Wearing Time per Excursion (minutes)
Above 90	15
85 to 90	30
80 to 85	60
70 to 80	90
60 to 70	120
50 to 60	180

One method of measuring the effectiveness of employees' rest-recovery regime is by monitoring the heart rate. The "Brouha guideline" is one such method:

1. During a 3-minute period, count the pulse rate for the last 30 seconds of the first minute, the last 30 seconds of the second minute, and the last 30 seconds of the third minute.
2. Double the count.

If the recovery pulse rate during the last 30 seconds of the first minute is at 110 beats per minute or less and the deceleration between the first, second, and third minutes is at least 10 beats per minute, the work-recovery regime is acceptable. If the employee's rate is above that specified, a longer rest period is required, accompanied by an increased intake of fluids.

In the case of heat cramps or heat exhaustion, "Gatorade" or its equivalent is suggested as part of the treatment regime. The reason for this type of liquid refreshment is that such beverages shall return much-needed electrolytes to the system. Without these electrolytes, body systems cannot function properly, thereby increasing the represented health hazard.

Store liquid refreshment in a cooler at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles shall be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles. Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

1. Personnel shall wash and rinse their outer gloves and remove them.
2. Personnel shall remove their hard hats and respirators and place them on table.
3. Personnel shall remove their inner gloves and place them on table.
4. Personnel shall wash and rinse their face and hands.
5. Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.
6. The used bottle or cups shall not be returned to the cooler, but shall be placed in a receptacle or container to be cleaned or disposed of.
7. Personnel shall replace their respirators, hard hats, gloves and tape gloves prior to re-entering the hazardous zone.

When personnel are working in situations where the ambient temperatures and humidity are high, and in situations where protection Levels A, B, and C are required, the SO shall:

1. Assure that all employees drink plenty of fluids ("Gatorade" or its equivalent);
2. Assure that frequent breaks are scheduled so overheating does not occur; and
3. Revise work schedules, when necessary, to take advantage of the cooler parts of the day (i.e., 5:00 a.m. to 1:00 p.m., and 6:00 p.m. to nightfall).

B. Cold Stress

Whole-body protection shall be provided to all site personnel that have prolonged exposure to cold air. The appropriate type of protective clothing shall be provided to site personnel to prevent cold stress.

Provide the following dry clothing as deemed necessary by the SO:

1. Appropriate underclothing (wool or other),
2. Outer coats that repel wind and moisture,
3. Face, head, and ear coverings,
4. Extra pair of socks,
5. Insulated safety boots, and
6. Glove liners (wool) or wind- and water-repellant gloves.

The SO shall use the equivalent chill temperature when determining the combined cooling effect of wind and low temperatures on exposed skin or when determining clothing insulation requirements.

Site personnel working continuously in the cold are required to warm themselves on a regular basis in the on-site hygiene facility. Personnel should consume warm, sweet liquids to prevent dehydration. The SO shall follow the work practices and recommendations for cold stress threshold limit values as stated by ACGIH TLVs, or equivalent cold stress prevention methods.

1.4.3.16 Logs, Reports, and Record Keeping**A. Security Log**

Maintain a daily log of security incidents and visitors granted access to the site, as well as a log of all personnel entering and exiting the site.

B. Safety Log

Maintain a bound safety logbook. The log shall include all health and safety matters on site and include the following information:

1. Date and weather conditions on site,
2. A description of the proposed work for the day,
3. Times when site personnel arrive and depart,

4. Air monitoring data,
5. Heat or cold stress monitoring,
6. Decontamination procedures,
7. Type and calibration of air sampling/monitoring equipment used,
8. Safety meeting summaries, and
9. Accidents.

C. Emergency or Accident Report

Report immediately any emergency or accident to the SO. The **ENGINEER** shall also be notified. Submit a written report immediately, but no later than 24 hours of its concurrence. The report shall include the nature of the problem, time, location, areas affected, manner and methods used to control the emergency, sampling and monitoring data, impact, if any, to the surrounding minimize future occurrences. All spills shall be treated as emergencies.

D. Daily Work Report

Maintain a daily work report that summarizes the following:

1. Work performed,
2. Level of protection,
3. Air monitoring results,
4. Safety-related problems, and
5. Corrective actions implemented.

E. Posting Regulations

Post signs at the perimeter of the Exclusion Zone that state "Warning, Hazardous Work Area, Do Not Enter Unless Authorized." In addition, a notice directing visitors to sign in shall be posted at the project site. Post a sign stating that any questions about the site should be directed to the New York State Department of Environmental Conservation. Safety regulations and safety reminders shall be posted at conspicuous locations throughout the project area. At a minimum, the following safety regulations and safety reminders are to be posted around the job site.

SAFETY REGULATIONS
(To be Posted for Project Personnel)

The main safety emphasis is on preventing personal contact with gases, soils, sludge and water. Towards that end, the following rules have been established.

REGULATIONS

1. Eating on the site is PROHIBITED except in specifically designated areas.
2. All project personnel on the site shall wear clean or new gloves daily.
3. If you get wet to the skin, you shall wash the affected area with soap and water immediately. If clothes in contact with the skin are wet, these shall be changed.
4. You shall wash your hands and face before eating, drinking or smoking.
5. Observe regulations on washing and removing boots before entering the dressing room or a clean area and showering before going home.

RECOMMENDATIONS

1. Do not smoke with dirty hands; better yet, do not smoke.
2. Check for any personal habit which could get soil or water into your body (e.g., licking food off your fingers, wiping your face or nose with a dirty hand, or running a dirty hand through your hair).
3. Check that any regularly worn clothing is clean. Examples include dirty watchbands, neck chains and a dirty liner on your safety helmet. Safety practices with poisonous chemicals can be summed up with a few words:
 - Refrain from breathing in chemical odors and touching the water, soil, and sludge.
 - If you do get dirty or wet, clean up as soon as possible.

SAFETY REMINDER FOR TOXIC CHEMICALS

(Post for Project Personnel)

1. Chemicals can't cause problems unless you breathe them, eat them, or put them on your skin.

Chemicals in Gases, Soils, Sludge, and Water

2. Don't let them go into your mouth, nose, or stay on your skin.
3. Use common personal hygiene.
 - a. Don't eat or drink on the site.
 - b. No smoking in the area of work.
 - c. Wear protective clothing.
 - d. Glove liners shall be clean.
 - e. Wash your hands whenever practical. Wash before eating, drinking, or smoking.
 - f. Don't carry chemicals home to your family (e.g., on clothing, mud in the car, dirty hands).
 - g. Strictly follow the HASP.

1.4.3.17 Community Protection Plan

A. Community Protection Plan

Develop, as part of this HASP, a Community Protection Plan (CPP). The CPP shall outline those steps to be implemented to protect the health and safety of surrounding human population and the environment.

B. Air Monitoring

As part of the Air Monitoring Program, use real-time monitoring and documentation sampling as described in the Subpart "Air Monitoring Program" of this section to determine whether off-site emissions, as a result of site work, poses a threat to the surrounding community.

Provide real-time air monitoring for volatile compounds and particulate levels at the perimeter of the work area as necessary. Include the following:

1. Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 ppm above background, work activities shall be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.
2. Particulates shall be continuously monitored at the 4 documentation sampling stations for a total of 4 dust meters. If the downwind particulate level is 150 $\mu\text{g}/\text{m}^3$ greater than the upwind particulate level, work shall be suspended, the SO notified, and dust suppression techniques shall be employed. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.

C. Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceed 5 ppm above background at the perimeter of the work area, activities shall be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities may resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities may resume provided the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities shall be shutdown. When work shutdown occurs, downwind air monitoring as directed by the SO shall be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

D. Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property (whichever is less), all work activities shall be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, the air quality shall be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20-foot Zone).

If efforts to abate the emission source are unsuccessful, and if organic vapors levels are approaching 5 ppm above background and persist for more than 30 minutes in the 20-foot Zone, the Major Vapor Emission Response Plan shall automatically be put into effect.

However, the Major Vapor Emission Response Plan shall be immediately put into effect if organic vapor levels in the 20-foot Zone are greater than 10 ppm above background levels.

E. Major Vapor Emission Response Plan

Upon activation, the following shall be undertaken:

1. Contact all Emergency Response Contacts as listed in the Subpart titled "Emergency Response and Contingency Plan" paragraph titled "Telephone List."
2. The local police authorities shall immediately be contacted by the SO and advised of the situation. Coordinate with local officials to arrange for notification and evacuation of the surrounding community.
3. Frequent air monitoring shall be conducted at 30-minute intervals within the 20-foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the SO.

Coordinate with local officials to arrange for notification and evacuation of the surrounding community in the event that off-site emissions pose a threat.

F. Off-site Spill Response

Produce as part of the HASP a Spill Response Plan, also coordinated with local officials, in case of an off-site spill of either liquid or solid wastes. The plan shall include transportation routes and times, minimum requirements set forth in the Subpart titled "On-Site Spill Containment Plan." The driver shall be supplied with Material Safety Data Sheets (MSDSs), a 24-hour emergency phone number, and instructions for reporting emergencies to local agencies and the project site.

2. PRODUCTS

Not used.

3. EXECUTION

Not used.

ECOLOGY AND ENVIRONMENT CORPORATE PERSONAL PROTECTIVE EQUIPMENT SPECIFICATIONS^a			
Description	Manufacturer	Model Number	Size
Tyvek coveralls	Kappler/Abanda	1427/1428	xl/lg
Saranex coveralls	Kappler/Abanda	77427/77428/77434	xl/lg
Sijal acid suit	Chemtex Bata	91522-G	xl/lg
Surgical gloves	Best	7005	xl/lg
Neoprene gloves	Edmont	8-354	xl/lg
Nitrile gloves	Granet	1711	10
Butyl gloves	North	B-161	10
Viton gloves	North	F-124	10/11
Long gauntlet neoprene	Edmont	19-938	xl
Cotton work gloves	North	Grip-N/K511M	men's
Latex booties	Rainfair	1250-Y	xl
PAPR pesticide cartridges	Racal	AP-3	NA
PAPR asbestos cartridges	Racal	SP-3	NA
APR organic cartridges	MSA	GMC-H	NA
APR asbestos cartridges	MSA	Type H	NA
APR pesticide cartridges	MSA	GMP	NA
APR mercury cartridges	MSA	Mersorb	NA

^a Equivalent equipment will be allowed.

SECTION 01425 SAMPLING

PART 1 GENERAL

1.01 SUMMARY

A. This section includes:

1. Requirements for sampling, analyses, and reporting. Requirements for project sampling for chemical analysis are listed below:

Sample Type	Matrix	Parameter(s)	Method	Frequency
Dewatering treatment system, pretreatment	Water	VOCs, inorganics of SPDES permit	624, 200.7	per SPDES permit
Dewatering treatment system, post-treatment (if applicable)	Water	VOCs, inorganics of SPDES permit	624, 200.7	per SPDES permit
On-site topsoil characterization	Soil	VOCs	8260B	1 per 10,000 sf.
On-site fill characterization (existing stockpiles and cover soils)	Soil	VOCs	8260B	1 per 500 cy
Contaminated soil stockpile areas (pre- and post-stockpile construction)	Soil	VOCs	8260B	1 per 1,000 sf.
LTTD and dewatering treatment system locations	Soil	VOCs	8260B	1 per 1,000 sf.
LTTD, post-treatment	Soil	VOCs	8260B	1 per 160 tons
LTTD stack	Air	VOCs, mercury	See Section 13560	Per EPA protocol
Demonstration test, LTTD	Soil	VOCs, SVOCs, inorganics	See Section 13560	Per Section 13560 and EPA protocol
Demonstration test, LTTD stack, dewatering treatment system, air discharge (if any)	Air	VOCs, SVOCs, inorganics	See Section 13560	Per EPA protocol

Sample Type	Matrix	Parameter(s)	Method	Frequency
Demonstration test, dewatering treatment system	Water	VOCs, SVOCs, inorganics	CLP95-1, CLP95-2, CLP	Per EPA protocol
Confirmation	Soil	VOCs	8260B	Per ENGINEER

1.02 SPECIAL PROJECT PROCEDURES

- A. The DEPARTMENT maintains the option to modify sampling procedures and frequency.

1.03 SUBMITTALS

A. Plans

1. Submit in accordance with Section III, Bidding Information and Requirements:
 - a. Sampling Plan,
 - b. Quality Assurance Project Plan (QAPjP).

B. Results

1. Submit the following in accordance with Section VIII, Articles 5.23-5.29, "Shop Drawings and Samples":
 - a. Analytical Results
 - i. Submit a hard copy of the analytical results from the laboratory, including QA/QC summaries, within 72 hours of verified time of sample receipt (VTSR).
 - ii. Submit the ASP Category B reporting and deliverable package in CLP format within 30 days of VTSR.
 - iii. Submit monthly Sample Results Summary Table
 - iv. One electronic copy and three hard copies of the completed Analytical Results Summary Table shall be provided to the ENGINEER within 40 days of the VTSR of the last sample collected and prior to Substantial Completion. Electronic copies shall be submitted on 3.5-inch diskettes.

PART 2 PRODUCTS

2.01 SAMPLING PLAN

A. The Sampling Plan shall include the following:

1. A chart and /or map indicating the approximate number of samples to be collected and the matrices of each, including anticipated QA/QC samples.
2. Procedures for sample collection.
3. Description of sampling equipment and maintenance procedures for the equipment.
4. Procedures for decontamination of sampling equipment.
5. Sample handling, labeling, and regulatory compliance procedures for shipping.
6. Training requirements for environmental sampling for new employees and refresher training requirements for current employees.

2.02 QUALITY ASSURANCE PROJECT PLAN (QAPjP)

- A. The QAPjP shall be project-specific and include the following:
 - 1. Organization chart, including a designated QA officer.
 - 2. Data quality objectives for the site.
 - 3. A chart reflecting types of samples, approximate number of samples, matrices, holding times, analytical protocols, and anticipate QA/QC samples to be collected or analyzed.
 - 4. Specific limits of concern for each analyte for each matrix to be sampled.
 - 5. The matrix-specific method detection limit that must be obtained for each of the analytes and matrices listed.
 - 6. The analytical laboratory to be used and evidence of their certification for all subcategories of solid and hazardous waste, including CLP metals, under the NYSDOH ELAP CLP.
 - 7. Criteria for laboratory selection and audits.
 - 8. Criteria for field sampling audits.
 - 9. Record maintenance and archive methods.
 - 10. Review and checking procedures for the sampling plan and the analytical results reporting.
 - 11. Copy of the QAO's resume and training certificates.

2.03 ANALYTICAL RESULTS

- A. All analytical results for soils shall be reported on a dry-weight basis.
- B. Category B presentation of the reporting and deliverables package as per Volume I of the NYSDEC ASP is required.
- C. Sample result summaries shall be prepared using Lotus 1-2-3 for Windows or a similar spreadsheet program.
- D. The Sample Results Summary Table shall present the following information as appropriate to the matrix in tabular format on 8-1/2" by 11" paper:
 - 1. Table title with project and site information;
 - 2. **CONTRACTOR's** sample identification;
 - 3. Sample location;
 - 4. Soils, water, or air represented by sample (location and/or quantity and/or time period);
 - 5. Final sample results in mg/kg, µg/L, or per analytical method;
 - 6. An indication if the results represent nonattainment of site cleanup levels;
 - 7. Laboratory sample data package identification;
 - 8. A column for comments; and
 - 9. Indicate the dates of sampling, analysis, and reporting for each sample.
- E. The Sample Results Summary Table shall be kept current and be available on site for review by the **ENGINEER**.
- F. A copy of the Summary Table shall be attached to each analytical results submittal.

PART 3 EXECUTION

3.01 PLAN PREPARATION

- A. When preparing the QAPjP, designate the analytical protocols by method number contained in the NYSDEC ASP.
- B. The designated QA Officer shall meet the following criteria:
 - 1. Is an employee of the firm generating the sampling plan and the QAPjP.
 - 2. Shall have no other position on the project that involves productivity or profitability as a job performance criteria.
 - 3. Shall not be the **CONTRACTOR**'s Health and Safety Officer.
 - 4. Shall have a bachelor's degree in Chemistry or Natural Science, with 20 credit hours in chemistry.
 - 5. Shall be proficient in analytical methodology, data interpretation and validation, the development of sampling plans, QC procedures, and auditing procedures.
 - 6. Shall have a 40-hour OSHA safety training and be current in refresher training.
 - 7. The QAO shall be independent of the analytical laboratory.
- C. The QAO shall assist the project manager in the preparation of the sampling plan.
- D. The QAPjP and all revisions to it must be signed by the QAO prior to submission.
- E. The method detection limits of the QAPjP shall be one-fifth of the site-specific limit of concern (cleanup goal).

3.02 SAMPLING

- A. Collect samples as specified in Section 02221, "Excavation," 13560, "Thermal Treatment System," and 02140, "Dewatering." The **CONTRACTOR** shall provide 24-hour notice (unless longer is specified) to the **ENGINEER** prior to sampling. Sampling and analytical methods and procedures for sampling shall be in accordance with the approved Sampling Plan and QAPjP.
- B. Collect samples from the depths and locations identified in the specifications.
- C. Samples shall have VTSR at the laboratory within 48 hours of collection. Results shall be available within 72 hours of VTSR and data packages within 30 days.

3.03 SAMPLING CRITERIA

A. Soil Sampling Criteria

Each soil sample shall be analyzed for the following constituents:

Constituent	Site-specific Limit of Concern
Acetone	0.198 mg/kg
2-Butanone	0.405 mg/kg
Trichloroethene	1.134 mg/kg
4-Methyl-2-pentanone	1.710 mg/kg
Tetrachloroethene	3.276 mg/kg
1,2-Dichloroethene (total)	0.438 mg/kg
Mercury (total)	0.1 mg/kg

- B. Water Sampling Criteria
(Based on SPDES included at the end of this section).
- C. Air Sampling Criteria
1. Per NYSDEC Air Guide-1 and EPA protocol.

3.04 QUALITY CONTROL

- A. Samples
1. Samples will be considered environmental samples, not waste samples, and require strict adherence to QA/QC requirements for environmental samples.
 2. Laboratory QA/QC samples include analysis of one matrix spike/matrix spike duplicate (MS/MSD) set per 20 samples, per batch, or per samples collected within seven days, whichever is more frequent. One matrix spike blank analysis for every MS/MSD set is also required to substantiate any matrix interferences.
 3. Field duplicate and field rinsate blank QC samples are required. Field duplicate samples shall be collected and analyzed at a rate of one per every 10 field samples. Field rinsate blank samples are not required if dedicated sampling equipment is used.
- B. Results
1. Laboratory results that are not within acceptable QA/QC ranges as stated in the **CONTRACTOR's** approved QAPjP shall require resampling and reanalysis of the affected samples at no additional cost to the **DEPARTMENT**. This shall include resampling and reanalysis; further excavation; backfilling; and topsoiling, seeding, and mulching.
 2. A maximum 72-hour turnaround time is required on additional verification sample analysis.
 3. Resampling and reanalysis as stated in this paragraph shall not increase the contract time for completion of the work.
 4. No deviations from analytical protocols approved in the QAPjP shall be made prior to notification of and acceptance from the **ENGINEER**.
 5. QAD shall audit the laboratory during this project.

END OF SECTION

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning August 1998

and lasting until August 2002

the discharges from the treatment facility to the *wetland* near 7e and trib. Incl P158d, P158e of Salmon Creek, Class C ,
RECEIVING WATER shall be limited and monitored by the operator as specified below.

Outfall Number and Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max		Measurement Frequency	Sample Type
Outfall 001 - Treated Groundwater Remediation Discharge:					
Flow	30000	90000	GPD	Continuous	Meter
pH (range)	6.5 to 8.5		SU	Monthly	Grab
VINYL CHLORIDE	Monitor	5	µg/l	Weekly	Grab
METHYLENE CHLORIDE	Monitor	5	µg/l	Weekly	Grab
ACETONE	Monitor	50	µg/l	Weekly	Grab
1,1-DICHLOROETHENE	Monitor	5	µg/l	Weekly	Grab
1,1-DICHLOROETHANE	Monitor	5	µg/l	Weekly	Grab
2-BUTANONE (M E K)	Monitor	50	µg/l	Weekly	Grab
1,2-DICHLOROETHENE, Total	Monitor	5	µg/l	Weekly	Grab
1,1,1-TRICHLOROETHANE	Monitor	5	µg/l	Weekly	Grab
TRICHLOROETHENE	Monitor	10	µg/l	Weekly	Grab
1,1,2-TRICHLOROETHANE	Monitor	5	µg/l	Weekly	Grab
BENZENE	Monitor	0.70	µg/l	Weekly	Grab
TETRACHLOROETHENE	Monitor	1	µg/l	Weekly	Grab
TOLUENE	Monitor	5	µg/l	Weekly	Grab
ETHYL BENZENE	Monitor	5	µg/l	Weekly	Grab
XYLENES, Total	Monitor	5	µg/l	Weekly	Grab
CHLOROFORM	Monitor	7	µg/l	Weekly	Grab
ANTIMONY	Monitor	3	µg/l	Weekly	Grab
IRON	Monitor	300	µg/l	Weekly	Grab
MAGNESIUM	Monitor	35000	µg/l	Weekly	Grab

Additional Conditions:

(1) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

Chief - Operation Maintenance and Support Section
Bureau of Hazardous Site Control
Division of Environmental Remediation
NYSDEC
50 Wolf Road
Albany, N.Y. 12233-7010

With a copy sent to:

Tom Pearson, RWE
New York State Department of Environmental Conservation
6274 East Avon - Lima Rd
Avon, NY 14414-9519

- (2) Only site generated wastewater is authorized for treatment and discharge.
- (3) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.
- (4) Both concentration (mg/l or µg/l) and mass loadings (lbs/day) must be reported to the Department for all parameters except flow and pH.
- (5) Any use of corrosion/scale inhibitors or biocidal-type compounds used in the treatment process must be approved by the department prior to use.
- (6) This discharge and administration of this discharge must comply with the attached General Conditions.
- (7) This Discharge must also comply with the requirements of the N. Y. Freshwaters Wetlands Act.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES)
DISCHARGE PERMIT**

**GENERAL CONDITIONS
(PART II)**

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1. GENERAL PROVISIONS

- a. This permit, or a true copy, shall be kept readily available for reference at the wastewater treatment facility.
- b. A determination has been made on the basis of a submitted application, plans, or other available information, that compliance with the specified permit provisions will reasonably protect classified water use and assure compliance with applicable water quality standards. Satisfaction of permit provisions notwithstanding, if operation pursuant to the permit causes or contributes to a condition in contravention of State water quality standards, or if the Department determines, on the basis of notice provided by the permittee and any related investigation, inspection or sampling, that a modification of the permit is necessary to prevent impairment of the best use of the waters or to assure maintenance of water quality standards or compliance with other provisions of ECL Article 17, or the Act, the Department may require such a modification and may require abatement action to be taken by the permittee and may also prohibit the noticed act until the permit has been modified.
- c. All discharges authorized by this permit shall be consistent with the terms and conditions of this permit. Facility expansion or other modifications, production increases, product changes, product process modifications, and wastewater collection, treatment and disposal system changes which will result in new or increased discharges of pollutants into the waters of the state must be reported by submission of a new SPDES application, in which case the permit may be modified accordingly. The discharge of any pollutant, not identified and authorized, or the discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Facility modifications, process modifications, or production decreases which result in decreased discharges of pollutants must be reported by submission of written notice to the permit-issuing authority, in which case the permit-issuing authority may require the permittee to submit a new SPDES application.
- d. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- e. If the discharge(s) permitted herein originate within the jurisdiction of an interstate water pollution control agency, then the permitted discharge(s) must also comply with any applicable effluent standards or water quality standards promulgated by that interstate agency.
- f. The permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the Environmental Conservation Law and the Clean Water Act and is grounds for: enforcement action; for permit suspension, revocation and modification; and for denial of a permit renewal application.
- g. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit such facts or information.
- h. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- i. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- j. The Clean Water Act provides that any person who violates a permit condition implementing sections 301, 302, 305, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violations. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than three years, or both.
- k. The filing of a request by the permittee for a permit modification, revocation, transfer, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- l. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, suspending, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

m. Nothing in this permit relieves the permittee from a requirement to obtain other permits required by law, including, but not limited to:

- (1) an air contamination source permit/certification under 6NYCRR Part 201;
- (2) a waste transporter permit under 6NYCRR Part 364; or
- (3) a radioactive waste discharge permit under 6NYCRR Part 380.

2. SPECIAL REPORTING REQUIREMENTS FOR EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS

All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not specifically controlled in the permit, pursuant to General Provision 1 (c) herein. For the purposes of this section, recurrent accidental or unintentional spills or releases shall be considered to be a discharge on a frequent basis.
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) 500 micrograms/liter;
 - (2) 1.0 milligram/liter for antimony;
 - (3) five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - (4) the level established by the Department in accordance with 40 CFR §122.44(f).
- c. That they have begun or expect to begin to use, or manufacture as an intermediate or final product or by-product, any toxic pollutant which was not reported in the permit application under 40 CFR §122.21(g)(9) and which is being or may be discharged to waters of the state.

3. EXCLUSIONS

- a. The issuance of this permit by the Department and the receipt thereof by the Applicant does not supersede, revoke or rescind an order or modification thereof on consent or determination by the Commissioner issued heretofore by the Department or any of the terms, conditions or requirements contained in such order or modification thereof unless specifically intended by said order.
- b. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations; nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the discharge authorized.
- c. This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.
- d. Oil and hazardous substance liability: The imposition of responsibilities upon, or the institution of any legal action against the permittee under Section 311 of the Clean Water Act shall be in conformance with regulations promulgated pursuant to Section 311 governing the applicability of Section 311 of the Clean Water Act to discharges from facilities with NPDES permits.

4. MODIFICATION, SUSPENSION, REVOCATION

- a. If the permittee fails or refuses to comply with any requirement in this permit, such noncompliance shall constitute a violation of the permit for which the Commissioner may modify, suspend, or revoke the permit after notice and opportunity for hearing and take direct enforcement action pursuant to law. When, at any time during or prior to a period for compliance, the permittee announces or otherwise lets it be known, or the Commissioner on reasonable cause determines, that the permittee will not make the requisite efforts to achieve compliance with an interim or final requirement, the Commissioner may modify, suspend or revoke the permit and take direct enforcement action pursuant to law, without waiting for expiration of the period for compliance with such requirements.

- b. After notice and opportunity for a hearing, the Department may modify, suspend or revoke this permit in whole or in part during its term for cause including, but not limited to, the following:
- (1) violation of any provision of this permit; or
 - (2) obtaining this permit by misrepresentation or failure to disclose fully all relevant facts at any time; or materially false or inaccurate statements or information in the application or the permit; or
 - (3) a change in any physical circumstances, requirements or criteria applicable to discharges, including, but not limited to:
 - (i) standards for construction or operation of the discharging facility;
 - (ii) the characteristics of the waters into which such discharge is made;
 - (iii) the water quality criteria applicable to such is made;
 - (iv) the classification of such waters; or
 - (v) effluent limitations or other requirements applicable pursuant to the Act or State Law.
 - (4) a determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification, a suspension, or revocation.
 - (5) violation of any order of the Commissioner or provision of ECL or regulation promulgated thereunder, which is related to the permitted activity.
 - (6) Newly discovered material information or material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of this permit.
- c. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the Clean Water Act for a toxic pollutant and that a standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Department shall institute proceedings to modify the permit in order to achieve conformance with the toxic effluent standard or prohibition and in conformance with ECL 17-0809.

5. REPORTING NONCOMPLIANCE

- a. Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written noncompliance report shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written noncompliance report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent the noncompliance and its reoccurrence.
- (1) The following shall be included as information which must be reported within 24 hours under paragraph (b) above:
 - (i) any unanticipated bypass which violates any effluent limitation in the permit;
 - (ii) any upset which violates any effluent limitation in the permit;
 - (iii) violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.
 - (iv) any unusual situation, caused by a deviation from normal operation or experience (e.g. upsets, bypasses, inoperative treatment process units, spills or illegal chemical discharges or releases to the collection system) which create a potentially hazardous condition.
 - (v) any dry weather overflow(s).
 - (2) The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(3) Reports required by this section shall be filed with the Department's regional office having jurisdiction over the permitted facility. During weekends, oral noncompliance reports, required by this paragraph, may be made at (518) 457-7362.

- c. Other noncompliance. The permittee shall report all instances of noncompliance not otherwise required to be reported under this section or other sections of this permit, with each submitted copy of its Discharge Monitoring Reports until such noncompliance ceases. Such noncompliance reports shall contain the information listed in paragraph (b) of this section.
- d. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. INSPECTION AND ENTRY

The permittee shall allow the Commissioner of the Department, the EPA Regional Administrator, the County Health Department, or their authorized representatives, upon the presentation of credentials and other documents as may be required by law, to:

- a. enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, including records maintained for purposes of operation and maintenance;
- c. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit;
- d. sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or Environmental Conservation Law, any substances or parameters at any location; and
- e. enter upon the property of any contributor of wastewater to the system under authority of the permittee's Sewer Use Ordinance (municipalities) or Regulations.

7. TRANSFER OF PERMIT

- a. A permit is transferable only with prior written approval of the Department.
- b. To transfer a permit to a new owner or operator, written application must be made to the Department. Application for Permit Transfer forms can be obtained from, and must be submitted to, the appropriate regional office of the Department's Division of Regulatory Affairs.
- c. In order for operation of the facility to continue without interruption, application must be made at least 30 days in advance of the transfer.
- d. If, when the ownership or operation is transferred, the volume or composition of the facility discharge will be altered, a new application for permit may be required.

8. PERMIT RENEWAL

- a. Any permittee who wishes to continue to discharge after the expiration date of a permit shall apply for renewal of its permit no later than 180 days prior to the permit's expiration date (unless permission for a later date has been granted by the Department) by submitting any forms, fees, or supplemental information which may be required by the Department. Upon request, the Department shall provide the permittee with specific information concerning the forms, fees, and supplemental information required.
- b. When a permittee has made timely and sufficient application for the renewal of a permit or a new permit with reference to any activity of a continuing nature, the existing permit does not expire until the application has been finally determined by the Department, and, in case the application is denied or the terms of the new permit limited, until the last day for seeking review of the Department order or a later date fixed by order of the reviewing court, provided that this subdivision shall not affect any valid Department action then in effect summarily suspending such permit.
- c. A municipality applying for a permit (renewal) shall submit evidence that it is enforcing an up-to-date enacted Sewer Use Ordinance which was approved by the Department.

- d. A municipality applying for a permit (renewal) shall have an approved method of residuals disposal in compliance with Part 6-NYCRR 360 and 364.
- e. A municipality receiving industrial waste shall submit evidence that it is operating (or implementing) its industrial pretreatment program in accordance with Part 6 NYCRR 651.53(f).

9. SPECIAL PROVISIONS - NEW OR MODIFIED DISPOSAL SYSTEMS OR SERVICE AREAS

- a. Prior to construction of any new or modified waste disposal system or modification of a facility or service area generating wastewater which could alter the design volume of, or the method or effect of treatment or disposing of the sewage, industrial waste or other wastes, from an existing waste disposal system, the Permittee shall submit to the Department or its designated field office for review, an approvable engineering report, plans, and specifications which have been prepared by a person or firm licensed to practice Professional Engineering in the State of New York.
- b. The construction of the above new or modified disposal system shall not start until the Permittee receives written approval of the system from the Department or its designated field office.
- c. The construction of the above new or modified disposal system shall be under the general supervision of a person or firm licensed to practice Professional Engineering in New York State. Upon completion of construction, that person or firm shall certify to the Department or its designated field office that the system has been fully completed in accordance with the approved engineering report, plans and specifications, permit and letter of approval; and the permittee shall receive written acceptance of such certificate from the Department or designated field agency prior to commencing discharge.
- d. The Department and its designated field offices review wastewater disposal system reports, plans, and specifications for treatment process capability only, and approval by either office does not constitute approval of the system's structural integrity.

10. MONITORING, RECORDING, AND REPORTING

10.1 GENERAL

- a. The permittee shall comply with all recording, reporting, monitoring and sampling requirements specified in this permit and such other additional terms, provisions, requirements or conditions that the Department may deem to be reasonably necessary to achieve the purposes of the Environmental Conservation Law, Article 17, the Act, or rules and regulations adopted pursuant thereto.
- b. Samples and measurements taken to meet the monitoring requirements specified in this permit shall be representative of the quantity and character of the monitored discharges. Composite samples shall be composed of a minimum of 8 grab samples, collected over the specified collection period, either at a constant sample volume for a constant flow interval or at a flow-proportioned sample volume for a constant time interval, unless otherwise specified in Part I of this permit. For GC/MS Volatile Organic Analysis (VOA), aliquots must be combined in the laboratory immediately before analysis. At least 4 (rather than 8) aliquots or grab samples should be collected over the specified collection period. Grab sample means a single sample, taken over a period not exceeding 15 minutes.
- c. Accessible sampling locations must be provided and maintained. New sampling locations shall be provided if existing locations are deemed unsuitable by the Department or its designated field agency.
- d. Actual measured values of all positive analytical results obtained above the Practical Quantitation Limit (PQL)¹ for all monitored parameters shall be recorded and reported, as required by this permit; except, where parameters are limited in this permit to values below the PQL, actual measured values for all positive analytical results above the Method Detection Limit (MDL)² shall be reported.

¹ Practical Quantitation Limit (PQL) is the lowest level that can be measured within specified limits of precision and accuracy during routine laboratory operations on most effluent matrices.

² Method Detection Limit (MDL) is the level at which the analytical procedure referenced is capable of determining with a 99% probability that the substance is present. This value is determined in distilled water with no interfering substances present. The precision at this level is +/- 100%.

- e. The permittee shall periodically calibrate and perform manufacturer's recommended maintenance procedures on all monitoring and analytical instrumentation to insure accuracy of measurements. Verification of maintenance shall be logged into the daily record book(s) of the facility. The permittee shall notify the Department's regional office immediately if any required instrumentation becomes inoperable. In addition, the permittee shall verify the accuracy of their measuring equipment to the Department's Regional Office annually.
- f. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, shall upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years per violation or by both. If a conviction of such person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both.

10.2 SIGNATORIES AND CERTIFICATION

- a. All reports required by this permit shall be signed as follows:
 - (1) for a corporation: by a responsible corporate officer. For the purposes of this section, a responsible corporate officer means:
 - (i) a president, secretary, treasurer, or a vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making function for the corporation, or
 - (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - (2) for a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) for a municipality, state, federal, or other public agency: by either a principal or executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency; or
 - (4) a duly authorized representative of the person described in items (1), (2), or (3). A person is a duly authorized representative only if:
 - (i) the authorization is made in writing by a person described in paragraph (a)(1), (2), or (3) of this section;
 - (ii) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (iii) the written authorization is submitted to the Department.
- b. Changes to authorization: If an authorization under subparagraph (a)(4) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subparagraph (a)(4) of this section must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- c. Certification: Any person signing a report shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, in accordance with a system, designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the permit or persons who manage the

system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

- d. The Clean Water Act provides that any person who knowingly makes any material false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of such person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both.

10.3 RECORDING OF MONITORING ACTIVITIES AND RESULTS

- a. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.
- b. Records of monitoring information shall include:
 - (1) the date, exact place, and time of sampling or measurements;
 - (2) the individual(s) who performed the sampling or measurements;
 - (3) the date(s) analyses were performed;
 - (4) the individual(s) who performed the analyses;
 - (5) the analytical techniques or methods used; and
 - (6) the results of such analyses.

10.4 TEST AND ANALYTICAL PROCEDURES

- a. Monitoring and analysis must be conducted using test procedures promulgated, pursuant to 40 CFR Part 136, except:
 - (1) should the Department require the use of a particular test procedure, such test procedure will be specified in Part I of this permit.
 - (2) should the permittee desire to use a test method not approved herein, prior Department approval is required, pursuant to paragraph (b) of this section.
- b. Application for approval of test procedures shall be made to the Department's Regional Permit Administrator (see Part 1, page 1 for address), and shall contain:
 - (1) the name and address of the applicant or the responsible person making the discharge, the DEC permit number and applicable SPDES identification number of the existing or pending permit, name of the permit issuing agency name and telephone number of applicant's contact person;
 - (2) the names of the pollutants or parameters for which an alternate testing procedure is being requested, and the monitoring location(s) at which each testing procedure will be utilized;
 - (3) justification for using test procedures other than those approved in paragraph (a) of this section; and
 - (4) a detailed description of the alternate procedure, together with:
 - (i) references to published studies, if any, of the applicability of the alternate test procedure to the effluent in question;
 - (ii) information on known interferences, if any; and

- (5) a comparability study, using both approved and the proposed methods. The study shall consist of 8 replicates of 3 samples from a well mixed waste stream for each outfall if less than 5 outfalls are involved, or from 5 outfalls if 5 or more outfalls are involved. Four (4) replicates from each of the samples must be analyzed using a method approved in paragraph (a) of this section, and four of the replicates of each sample must be analyzed using the proposed method. This results in 24 analyses per outfall up to a maximum of 120 analyses per permit. A statistical analysis of the data must be submitted that shall include, as a minimum:

- (i) calculated statistical mean and standard deviation;
- (ii) a test for outliers at the mean \pm 3 standard deviations level. Where an outlier is detected, an additional sample must be collected and 8 replicates of the sample must be analyzed as specified above;
- (iii) a plot distribution with frequency counts and histogram;
- (iv) a test for equality among with-in sample standard deviation;
- (v) a check for equality of pooled with-in sample variance with an F-Test;
- (vi) a t-Test to determine equality of method means; and

copies of all data generated in the study.

Additional information can be obtained by contacting the Bureau of Technical Services & Research (NYSDEC, 50 Wolf Road, Albany, New York 12233 - 3502).

11. DISPOSAL SYSTEM OPERATION AND QUALITY CONTROL

11.1 GENERAL

- a. The disposal system shall not receive or be committed to receive wastes beyond its design capacity as to volume and character of wastes treated, nor shall the system be materially altered as to: type, degree, or capacity of treatment provided; disposal of treated effluent; or treatment and disposal of separated scum, liquids, solids or combination thereof resulting from the treatment process without written approval of the Department of Environmental Conservation or its designated field office.
- b. The permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (or related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes as a minimum, the following: 1) A preventive/corrective maintenance program. 2) A site specific action orientated operation and maintenance manual for routine use, training new operators, adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- c. When required under Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6NYCRR 650), sufficient personnel meeting qualifications for operators of sewage treatment works as required therein and additional maintenance personnel shall be employed to satisfactorily operate and maintain the treatment works.
- d. The permittee shall not discharge floating solids or visible foam.

11.2 BYPASS

a. Definitions:

- (1) "Bypass" means the intentional or unintentional diversion of waste stream(s) around any portion of a treatment facility for the purpose or having the effect of reducing the degree of treatment intended for the bypassed portion of the treatment facility.
- (2) "Severe property damage" means substantial damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which would not reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations:

The permittee may allow any bypass to occur which does not cause effluent limitations to be violated, but only if it also is for essential maintenance, repair or replacement to assure efficient and proper operation. These bypasses are not subject to the provisions of paragraph (c) and (d) of this section, provided that written notice is submitted prior to bypass (if anticipated) or as soon as possible after bypass (if unanticipated), and no public health hazard is created by the bypass.

c. Notice:

- (1) Anticipated bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, at least forty five (45) days before the date of the bypass.
- (2) Unanticipated bypass - The permittee shall submit notice of an unanticipated bypass as required in Section 5, paragraph b. of this Part (24 hour notice).

d. Prohibition of bypass:

- (1) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 - (i) bypass was unavoidable to prevent loss of life, personal injury, public health hazard, or severe property damage;
 - (ii) there were no feasible alternatives to the bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal period of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance or if designed and installed backup equipment which could have prevented or mitigated the impact of the bypass is not operating during the bypass; and
 - (iii) the permittee submitted notices as required under paragraph (c) of this section and, excepting emergency conditions, the proposed bypass was accepted by the Department.

11.3 UPSET

a. Definition:

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset:

An upset constitutes an affirmative defense to an action brought for noncompliance with such permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset:

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operation logs, or other relevant evidence that:

- (1) an upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) the permitted facility was at the time being properly operated; and
- (3) the permittee submitted notice of the upset as required in Section 5, paragraph b of this part (24 hour notice).

- (4) the permittee complied with any remedial measures required under Section 5, paragraph d of this part.

d. Burden of proof:

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

11.4 SPECIAL CONDITION - DISPOSAL SYSTEMS WITH SEPTIC TANKS

If a septic tank is installed as part of the disposal system, it shall be inspected by the permittee or his agent for scum and sludge accumulation at intervals not to exceed one year's duration, and such accumulation will be removed before the depth of either exceeds one-fourth (1/4) of the liquid depth so that no settleable solids or scum will leave in the septic tank effluent. Such accumulation shall be disposed of in an approved manner.

11.5 SLUDGE DISPOSAL

The storage or disposal of collected screenings, sludges, other solids, or precipitates separated from the permitted discharges and/or intake or supply water by the permittee shall be done in such a manner as to prevent creation of nuisance conditions or entry of such materials into classified waters or their tributaries, and in a manner approved by the Department. Any live fish, shellfish, or other animals collected or trapped as a result of intake water screening or treatment should be returned to their water body habitat. The permittee shall maintain records of disposal on all effluent screenings, sludges and other solids associated with the discharge(s) herein described. The following data shall be compiled and reported to the Department or its designated field office upon request:

- a. the sources of the materials to be disposed of;
- b. the approximate volumes, weights, water content and (if other than sewage sludge) chemical composition;
- c. the method by which they were removed and transported, including the name and permit number of the waste transporter; and
- d. their final disposal locations.

12. CONDITIONS APPLICABLE TO A PUBLICLY OWNED TREATMENT WORKS (POTW)

12.1 GENERAL

- a. All POTWs must provide adequate notice to the Department of the following:
 - (1) any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - (2) any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (3) For purposes of this paragraph, adequate notice shall include information on:
 - (i) the quality and quantity of effluent introduced into the POTW; and
 - (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- b. Dry weather overflows are prohibited. The occurrence of any dry weather overflow constitutes a bypass exceeding limitations as defined in Section 11.2 of this Part and shall be promptly abated and reported to the Department in accord with Section 5 of this Part. The permittee shall inspect all overflow facilities at least twice per year (once each spring and fall) during periods of dry weather flow to ensure they are functioning properly. Records of all inspections shall be maintained for inspection by the Department or its designated representative

- c. The permittee shall identify all inflow to the tributary system and remove excessive infiltration/inflow to an extent which is economically feasible.
- d. The permittee shall enact, maintain and enforce an up-to-date and effective Sewer Use Ordinance which has been approved by the Department.
- e. New connections to a publicly owned sewer system or a privatized municipal sewer system are prohibited when the permittee is notified by the Department:
 - (1) that the discharge(s) regulated by this permit create(s) or is likely to create a public health or potential public health hazard, a contravention of water quality standards or the impairment of the best use of waters, as determined by the Commissioner; or
 - (2) that the discharge(s) regulated by this permit exceeded the permit limit for a specific parameter, including flow, in four of any six consecutive month periods or exceeded a permit limit by 1.4 (1.2 for toxics) times the permit limit in two of any six consecutive month periods; or
 - (3) that the permittee has failed or is likely to fail to carry out, meet or comply with any requirement of this permit, compliance schedule, order of the Department, judicial order, or consent decree.
- f. The provisions provided for in e. above shall remain in effect until the Permittee can demonstrate to the Department's satisfaction and approval that adequate available capacity exists in the plant and that the facility is in full compliance with all of effluent limitations required by this permit.

12.2 NATIONAL PRETREATMENT STANDARDS: PROHIBITED DISCHARGES

a. General prohibitions:

Pollutants introduced into POTW's by a non-domestic source shall not pass through the POTW or Interfere with the operation or performance of the works or disposal of sludge. These general prohibitions and the specific prohibitions in paragraph (b) of this section apply to all non-domestic sources introducing pollutants into a POTW whether or not the source is subject to other National Pretreatment Standards or any national, State, or local Pretreatment Requirements.

b. Specific prohibition:

In addition, the following pollutants shall not be introduced into a POTW:

- (1) pollutants which create a fire or explosion hazard in the POTW;
- (2) pollutants which will cause corrosive structural damage to the POTW, but in no case discharge with pH lower than 5.0 unless the works is specifically designed to accommodate such discharges;
- (3) solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference;
- (4) any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW.
- (5) heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40° C (104° F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits.

c. When Specific Limits Must be Developed by a POTW:

- (1) POTW's developing POTW Pretreatment Programs pursuant to §403.8 shall develop and enforce specific limits to implement the prohibitions listed in §403.5(a) and (b).
- (2) All other POTW's shall, in cases where pollutants contributed by User(s) result in Interference or Pass-Through, and such violation is likely to recur, develop and enforce specific effluent limits for Industrial User(s), and all other users, as appropriate, which, together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure renewed and continued compliance with the POTW's SPDES permit or sludge use or disposal practices.

(3) Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

d. Local Limits:

Where specific prohibitions or limits on pollutants or pollutant parameters are developed by a POTW in accordance with paragraph (c) above, such limits shall be deemed Pretreatment Standards for the purposes of §307(d) of the Act.

e. EPA and State Enforcement Actions:

If, within 30 days after notice of an Interference or Pass Through violation has been sent by EPA or DEC to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA and DEC may take appropriate enforcement action.

SECTION 01510 TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Requirements for provision of power, water, and light during the project.
 - 2. Temporary sanitary facilities for the project.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Use new materials and equipment or used material and equipment that are undamaged and in serviceable condition.
- B. Use materials and equipment suitable for their intended use and in compliance with appropriate standards and regulations.

PART 3 EXECUTION

3.01 ACCEPTABLE INSTALLERS

- A. Use qualified tradesmen appropriate to the utility being installed.

3.02 INSTALLATION

- A. Temporary utility services
 - 1. Provide electrical energy for temporary power and light for the project.
 - 2. Provide water for operations and for temporary decontamination facilities.
 - 3. Locate services per approved Work Plan.
 - 4. Relocate, modify, or extend services as required to accommodate the work.
 - 5. Temporary services installation shall comply with the servicing utilities requirements.
- B. Temporary toilets
 - 1. Provide and maintain self-contained, chemical toilet units in an amount based on total project personnel in accordance with the provisions of the health and sanitary codes of the state. A combination toilet/urinal unit shall count as one facility.
 - 2. Units shall be provided from mobilization to demobilization.

END OF SECTION

SECTION 01540 SITE SECURITY

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Requirements for provision of the work.
 - 2. Requirements for protection of materials, supplies, equipment, and facilities.
- B. Related Sections
 - 1. Section 01160, "Hazardous Materials Health and Safety"
 - 2. Section 01720, "Project Record Documents"

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Articles 5.23-5.29:
 - 1. Security Firm experience and personnel resume(s).
- B. Submit the following as part of the project record documents:
 - 1. Three copies of the site entrance/exit log.
 - 2. Three copies of the watchman logs.
- C. Interim submittals.
 - 1. Submit one copy of logs monthly.

PART 2 PRODUCTS

2.01 SITE ENTRANCE/EXIT LOG

- A. Log shall contain signed entry and exit record for project personnel and visitors.
- B. Log shall record time of entry and exit and firm of the individual.

2.02 WATCHMAN LOG

- A. Log shall record all security checks performed by security personnel and shall contain date and time, problems notes and CONTRACTOR personnel notified of problems.

PART 3 EXECUTION

3.01 APPLICATION

- A. Provide full-time, uniformed, security personnel at site access gate(s) during working hours from mobilization to substantial completion.
- B. Conduct three security checks at 5-hour intervals during workday non-working hours.

- C. Conduct three security checks at 8-hour intervals during non-workdays.
- D. Report problems noted to **CONTRACTOR's** authorized representative and expeditiously correct problems noted.
- E. Invoke emergency contact procedures as defined in the HASP if situation warrants.
- F. Provide written report of problems and corrective actions to **ENGINEER** within 24 hours of occurrence.
- G. Maintain entrance/exit log and watchman's log and allow inspection of same by **ENGINEER** or **DEPARTMENT**.
- H. Security personnel shall have facilities separate from the **DEPARTMENT** or **ENGINEER**.
- I. Maintain security of the site such that site access is only granted for project personnel or approved visitors.
- J. Maintain the security of materials, supplies, equipment, and facilities at the site from theft or vandalism.

END OF SECTION

SECTION 01560 TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Provisions for temporary controls during the project.
- B. Related Sections
 - 1. Section 01150, "Work Plan"
 - 2. Section 01450, "Health and Safety"
 - 3. Section 01540, "Site Security"
 - 4. Section 02102, "Clearing and Grubbing"
 - 5. Section 02920, "Seeding and Mulch"
 - 6. Section 02940, "Off-site Transportation and Disposal"
 - 7. Section 02940, "Off-site Disposal"

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Article 5.23-5.29, "Shop Drawings and Samples."
 - 1. Manufacturer's catalog data
 - a. Silt fences for approval
 - b. Erosion control matting for approval
 - 2. Records
 - a. Emergency services meeting minutes for the project record within seven days of the meeting.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials for erosion control shall comply with the guidelines contained in the approved SMECP as specified in Section 01150, "Work Plan."

PART 3 EXECUTION

3.01 PROTECTION OF NATURAL RESOURCES

- A. General
 - 1. Preserve the natural resources within the project site that are not specified for removal or change.
 - 2. Preserve the natural resources outside the project site impacted by the work.
 - 3. Conform to federal, state, and local permitting requirements.

4. Restore disturbed resources to an equivalent or improved condition upon completion of work.
 5. Vehicles, equipment, and machinery delivered or used at the site that have visible oil or hydraulic fluid leaks will not be allowed on site. Cleanup any oil or hydraulic fluid spills.
- B. Land Resources
1. Except in areas specified to be cleared, do not remove, cut, deface, injure, or destroy existing vegetation.
 2. Protect vegetation, that is to remain, from damage by construction operations.
 3. Vegetation, intended to remain, that is scarred or damaged by construction operations shall be removed and replaced with equivalent, undamaged vegetation.
 4. Removal of scarred or damaged vegetation shall be in accordance with Section 02102.
 5. Trees or shrubs with 30 percent or more of their root systems damaged shall require removal and replacement.
 6. Replacement vegetation shall be approved by the **ENGINEER** before replacement.
- C. Water Resources
1. Prevent oily or hazardous substances from entering the ground, drainage areas, or local bodies of water.
 2. Provide secondary containment of temporary fuel oil, petroleum, or hazardous substance storage tanks of sufficient size and strength to contain the contents of the tanks.
- D. Fish and Wildlife Resources
1. Do not alter or significantly disturb water flows on or adjacent to the project site, except as indicated or specified.
 2. Do not alter or significantly disturb native habitat on or adjacent to the project site, except as indicated or specified.

3.02 EROSION AND SEDIMENTATION CONTROL

- A. General
1. Comply with the measures approved in the SMECP as specified in Section 01150.
 2. Control the rate of runoff from the site to levels present before beginning construction.
 3. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.
- B. Control Measures
1. Measures for controlling and retarding runoff shall include the following:
 - a. Diversion ditches, benches, and berms.
 - b. Silt fences, strawbales, and erosion-control matting.
 - c. Temporary seeding and mulching or sodding.
- C. Sequencing
1. Immediately protect slopes upon completion of rough grading.
 2. Promptly seed disturbed areas upon conclusion of disturbance or, if disturbance is to be ongoing, install erosion control measures at onset of disturbance. Seeding operation can be temporary, or if permanent, shall be as specified in Section 02920.

3. Earthwork brought to final grade shall be promptly vegetated as specified in Section 02920.

3.03 RUBBISH CONTROL AND REMOVAL

- A. Clean up and containerize the rubbish (refuse, debris, waste materials, outside of the contamination reduction or exclusion zones of the work) at the end of each workday and leave the site clean. Locate containers where directed.
- B. Remove rubbish from site at least once a week and more often if rubbish containers are full or if rubbish presents a hazard. Properly dispose of the rubbish.
- C. Containers shall have secure tops.
- D. Burning of rubbish will not be permitted.

3.04 CONTRACTOR-GENERATED HAZARDOUS WASTE CONTROL AND REMOVAL

- A. Contractor-generated hazardous waste shall be confined to the contamination reduction or exclusion zones until transported off-site for proper disposal.
- B. Off-site transport shall be as specified in Section 02935.
- C. Off-site disposal shall be as specified in Section 02940.

3.05 NOISE CONTROL

- A. Control noise levels associated with site operations to not exceed the energy equivalent ambient sound level (Leq) of 35 dBA at the site perimeter.
- B. Measure noise levels in decibels with a sound level meter conforming to the American National Standard Specification, S1.4 (1971) Type S2A, and set to use the A-weighted network with slow meter response.
- C. Measurements shall be made at the site perimeter.
- D. Measurements shall be continuous during the first week of construction activities, during the dewatering treatment system (if applicable) start-up and the first two weeks of the demonstration period, and during the LTDD unit start-up and testing. Additional measurements may be directed by the **ENGINEER** throughout the course of the project.
- E. Measurements shall be documented and reported to the **ENGINEER**.
- F. If the Leq levels are not maintained the **CONTRACTOR** shall take appropriate measures to bring the noise under control at no additional cost to the **DEPARTMENT**.

3.06 DUST CONTROL

- A. No visible dust shall be permitted. Use work procedures and dust suppression techniques to achieve this, including such as the following:
 - 1. Apply water or dust suppressants to exposed soil, haul roads or routes, and other areas disturbed by operations.
 - 2. Provide a means of removing dirt or mud from vehicle wheels before they are permitted to exit the site.
 - 3. Dry power brooming will not be permitted.
 - 4. Only wet cutting of concrete will be permitted.
 - 5. Do not unnecessarily shake bags of dry product such as cement, concrete mortar, or fertilizer.
- B. See Section 01160 – Hazardous Health and Safety regarding hazardous particulate criteria.

3.07 TRAFFIC CONTROL

- A. Comply with governing regulations for control of traffic when working in public roadway rights-of-way.
- B. Provide all necessary signage and flagmen required for public and worker safety related to work on or near the site.
- C. Limit on-site vehicles to the designated temporary access roads, routes, or parking areas when in transit and to the work area(s) when working.
- D. Maintain temporary access roads, routes, and parking to ensure unimpeded daily operations.

3.08 FIRE PREVENTION

- A. Take precautions necessary to prevent fires.
- B. Do not use or store flammable liquids, other than those specified, within a building or temporary facility.
- C. In conjunction with the briefing of local emergency services groups as required in Section 01160 part 3.01.C, meet with the local fire department to discuss the operations plan and fire safety considerations. Provide minutes of the meeting for the project record.

3.09 PARKING CONTROL

- A. Park vehicles in areas designated and approved in the Work Plan.
- B. Keep the designated parking areas clear of dirt and debris resulting from the work.

3.10 REMOVAL

- A. Maintain temporary controls as long as needed for the safe and proper completion of the work.
- B. Remove temporary controls as soon as safe progress of the work permits.

3.11 PROTECTION OF EXISTING FACILITIES

- A. Fencing
 - 1. Protect existing fencing from damage due to construction operations.
 - 2. Where fences and posts are temporarily removed for access they shall be reinstalled or replaced with new.
 - 3. Reuse of existing fence shall be allowed only if it can be reinstalled to the same or better condition than when it was removed.

3.12 MATERIAL STAGING AREAS

- A. Clean soil staging areas.
 - 1. Staging areas for clean soils can be outside the exclusion zone.
 - 2. Cover staged clean soils with 20 mil liner, laid in a manner to prevent water infiltration.
 - 3. Maintain the cover for the duration of the stockpile.
 - 4. Dispose of the cover when staging area is no longer needed.
- B. Contaminated soil staging areas.
 - 1. Staging areas shall be constructed to prevent the spread of contamination to surrounding uncontaminated soils, surface water, or groundwater.
 - 2. Staging areas shall be in an exclusion zone.
 - 3. Staging areas shall have a 40 mil bottom liner that is water tight.
 - 4. Sample the soil beneath the staging area before and after its use as a staging area and analyze in accordance with Section 01425.
 - 5. Cover the stockpiles soil in the staging area with 20 mil liner laid in a manner to prevent water infiltration.
 - 6. Remove the liners when the staging area is no longer needed, decontaminate, and dispose off-site.

END OF SECTION

**SECTION 01580
PROJECT SIGN****PART 1 GENERAL****1.01 REFERENCES**

- A. Lumber Standard: American Softwood Lumber Standard; U.S. Department of Commerce Product Standard PS20.
- B. Softwood Plywood Standard: Construction and Industrial; U.S. Department of Commercial Product Standard PS1.

1.02 QUALITY ASSURANCE

- A. Painters Qualifications: All paint shall be applied by a professional sign painter.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Posts: Standard Grade Douglas Fir, White Pine, or Southern Pine; S4S; preservative treated; 4-inch by 4-inch by 12-feet long.
- B. Plywood: Overlaid Plywood, MDO B-B EXT-APA; 3/4 to 1 inch.
- C. Framing: Snap trim edge cap of polyvinyl coated aluminum channel.
- D. Paint
 - 1. Background Enamel: Exterior, alkyd, glass enamel with primer as recommended by finish coat manufacturer.
 - 2. Lettering and Striping Enamel: Exterior, long-oil, alkyd; high gloss enamel manufactured for lettering signs.
 - 3. Colors: As per attached illustration.

2.02 FABRICATION

- A. Painting:
 - 1. Paint both sides and all edges of signs with two coats of primer and one coat of background enamel.
 - 2. Paint lettering and striping with two coats of lettering enamel.
 - 3. Do not apply succeeding coat until previous coat has completely dried.
 - 4. Apply even coats of uniform thickness without brush marks, runs, or lap marks.
 - 5. Lettering and striping shall be uniform with sharp, neat profiles.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install signs within one week after work begins at site.
- B. Install signs where directed by **ENGINEER**.
- C. Set posts plumb, 4 feet into the ground. Compact backfill around posts.
- D. Fasten sign, in a level position, securely to posts, with center approximately 6 to 7 feet above ground level.

3.02 MAINTENANCE AND REMOVAL

- A. Maintain the signs plumb and level for the duration of the work.
- B. When directed, at completion of project, remove the signs.

END OF SECTION



	3'	
2"		White Background
2"	FIELD OFFICE	Black Text
2"		
2"	NEW YORK STATE DEPARTMENT	
2"		
2"	OF	
2"		
2"	ENVIRONMENTAL CONSERVATION	
4"		
2"	Telephone: __/ __-__	
2"		

NOTE: Include telephone number in trailer sign, once available.

SECTION 01580 - DEPARTMENT/ENGINEER FIELD OFFICE SIGN

01580-4

SECTION 01590 FIELD OFFICES

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Provide and maintain a field office comprised of mobile or relocatable office units, furniture, and equipment for the use of the **DEPARTMENT's Representative** and the **ENGINEER**. Include temporary services and accessories necessary for the use of the items specified.
 - 2. Provide and maintain field office for **CONTRACTOR** sufficient for performance of the work.
- B. Related sections:
 - 1. Section 01510, "Temporary Utilities"
 - 2. Section 01560, "Temporary Controls"

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Articles 5.23-5.29, "Shop Drawings and Samples".
 - 1. Floor plan of field office for **DEPARTMENT/ENGINEER** showing layout of rooms, furnishings, facilities, and utilities.

1.03 SCHEDULING

- A. Provide field office, ready for occupancy by **DEPARTMENT'S REPRESENTATIVE** and **ENGINEER** within 14 days after Notice-to-Proceed.

PART 2 PRODUCTS

2.01 MOBILE OR RELOCATABLE OFFICE UNITS

- A. Number and approximate size.
 - 1. One unit with 330 square feet of interior space for **DEPARTMENT/ENGINEER**.
 - 2. Units of number and size as needed for **CONTRACTOR**.
- B. Office Unit Requirements (**DEPARTMENT/ENGINEER**)
 - 1. Ceiling height: 7'-0" minimum.
 - 2. Insulation: Minimum R-11 in floors and walls, R-19 in ceiling.
 - 3. Exterior Doors: Minimum2, with key-in-knob lock sets.
 - 4. Windows: Approximately 7 percent of exterior wall area with storm windows (or double glazing) and insect screens).
 - 5. Air conditioning system with sufficient capacity to maintain field office temperature below 75 degrees Fahrenheit.

6. Heating system with sufficient capacity to maintain field office temperature above 70 degrees Fahrenheit.
7. VCT or sheet vinyl floor finish.
8. Wood paneled walls.
9. Fluorescent lights in all rooms sufficient to maintain a minimum of 60 foot candles at desk top level.
10. Bulletin board (4 feet x 6 feet) in meeting room.
11. Insulated skirting from bottom of unit to grade, around entire unit.
12. Electric energy for the duration of the Contract.
13. Two full height partitioned offices with locking doors, each having a minimum of 96 square feet of floor area.
14. A full height partitioned closet with door having a minimum 4 square feet of floor area.
15. Meeting area having approximately 140 square feet of floor area.

2.02 FURNITURE AND EQUIPMENT (DEPARTMENT/ENGINEER)

A. Furniture:

1. Four swivel type chairs with arms suitable for use at office desks.
2. Eight straight back stackable or folding chairs
3. Two lockable metal office desks, 30 x 44 inches, single pedestal type with keys.
4. One drafting table, 48 x 72 inches.
5. One drafting stool.
6. One conference table, 2.4 x 10 foot, with laminated top.
7. One bookshelf, 3' x 4' foot or wall shelves with a total of 12 feet of shelf space.
8. Two, 2-drawer, fireproof, lockable file cabinets.
9. Three wastebaskets.
10. 3' x 8' carpet runners at entrances.

B. Equipment:

1. One plain paper fax machine with built-in telephone, auto dial, and auto receive features.
 - a. Supplies: 1 box of paper for every 2 months of the project.
2. One photocopying machine with auto feet, 10 bin sorter, and stand.
 - a. Supplies: 1 box of 8.5 x 11 paper for every month of project, 1 box of 11 x 17 inch for every two months at project, and necessary toner and oil for copying.
 - b. Service: Provide a service contract for duration of project.
3. One calculator with printing capability.
 - a. Supplies: Tapes sufficient for project.
4. One personal computer, IBM desktop Pentium 166 MHZ or equal with 2.1GB hard drive/32 MB RAM/1.44 MG 3.5 inch disk drive/33,000 bps fax modem/16x CD ROM drive.
 - a. Include the following accessories and peripherals:
 - i. Color monitor (15-inch).
 - ii. Hewlett-Packard Desk Jet or 100% compatible printer with cable and stand.
 - iii. 4 plug surge protector.
 - iv. Compatible mouse and pad.
 - v. One dust cover for printer.
 - vi. One dust cover for PC.

- vii. One 4 x 5 foot floor static reduction mat.
- viii. One work station or stand for computer.
- ix. External or internal zip drive.
- b. Supplies:
 - i. One box of printer paper for every 2 months of the project.
 - ii. One printer cartridge for every month of the project.
 - iii. Forty 3.5-inch double sided, high density diskettes.
 - iv. One head cleaner kit for 3.5-inch disk drive.
 - v. One 3/5-inch disk holder with capacity for 50 disks.
 - vi. One 10 pack of zip disks.
- c. Service:
 - i. Provide a service contract for the personal computer for duration of project.
 - ii. Provide a service contract for the printer for duration of project.
- 5. Personal computer software registered to the **CONTRACTOR**, supplied on 3.5-inch disk or CD ROM with manual(s).
 - a. Communications software compatible with the computer and modem provided.
 - b. One Prolog Manager by Meridian Project Systems, Inc., 2335 American River Dr., St. 303, Sacramento, CA 95825, 816/641-3080.
 - c. One Microsoft Windows 95.
 - d. One WordPerfect Suite for Windows 95.
 - e. One AutoCAD LT for Windows 95
 - f. Lotus 1,2,3; Microsoft Excel; or Corel Quattro compatible with **CONTRACTOR** submittals required in Section 01150, "Work Plan".
- 6. One refrigerated bottled water dispenser with hot and cold service, cups, and bottled water for duration of project.
- 7. One first aid kit, Bullard Mfg. Co., Model 136 or equal.
- 8. Two self-contained breathing apparatus, Scott Air Pack, pressure demand, 30-minute unit, model no. 900-014-000 or equal.
- 9. Fire extinguisher, 10-pound class, ABC type.

2.03 TELEPHONE SERVICE AND EQUIPMENT (DEPARTMENT/ENGINEER)

- A. Service:
 - 1. One direct line for exclusive use of the **DEPARTMENT's** representative.
 - 2. One direct line for exclusive use of the **ENGINEER**.
 - 3. One direct line for the fax machine.
 - 4. One direct line for the personal computer.
 - 5. Locate the service connects as directed by **ENGINEER**.
- B. Equipment:
 - 1. One phone with speaker capability for **ENGINEER**.
 - 2. One phone for the **DEPARTMENT**.
 - 3. Two answering machines which can be internal or external to the phones.

2.04 RADIO COMMUNICATION EQUIPMENT (DEPARTMENT/ENGINEER)

- A. One hand held unit and charger compatible with the **CONTRACTOR'S** equipment for the use of the **ENGINEER**.

PART 3 EXECUTION**3.01 INSTALLATION**

- A. Install office unit for **DEPARTMENT** and **ENGINEER** and office unit(s) for **CONTRACTOR** where approved in the Work Plan (see Section 01150).
- B. Provide proper stairs with platform and railings at each exterior door.
- C. Provide temporary electric service to office units (see Section 01510).
- D. Install specified computer software on to hard drive of computer provided to **DEPARTMENT/ENGINEER** and ensure software and hardware are properly functioning.

3.02 MAINTENANCE AND CLEANING

- A. Maintain and clean the **DEPARTMENT/ENGINEER** office unit for the duration of the Contract. Include the following:
 - 1. Daily removal of rubbish.
 - 2. Weekly sweeping and mopping of floors.
 - 3. Weekly dusting of surfaces.
- B. Maintain approaches free of mud and snow.

3.03 OWNERSHIP

- A. The office unit for the use of **DEPARTMENT** and **ENGINEER** and all equipment and furnishing specified shall not be transferred to the **DEPARTMENT** at the conclusion of the Project but shall remain with the **CONTRACTOR** or leasing service utilized by the **CONTRACTOR** except for the following:
 - 1. All 3.5-inch diskettes supplied for use with the computer shall be retained by **ENGINEER** for transfer to the **DEPARTMENT** as part of the project records.

3.04 REMOVAL

- A. Remove the field office(s), furniture and equipment when directed. Restore the area used for the unit(s) to their original condition or better (see Section 02920).

END OF SECTION

**SECTION 01720
PROJECT RECORD DOCUMENTS**

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes
 - 1. Supplemental requirements to those stated in Section VIII, Article 5.19 for recording of field modifications made during construction, to be marked on a clean set of Contract Documents by the **CONTRACTOR** (As-Built Documents) and for preparing Supplemental Record Drawings by the Surveyor to be submitted to the **DEPARTMENT** and **ENGINEER**. The As-Built Documents and the Supplemental Record Drawings shall constitute the Project Record Documents.
- B. Related sections:
 - 1. General Conditions - Article 5.19
 - 2. Section 01050 - "Surveys"

1.02 SUBMITTALS

- A. As-Built Documents
 - 1. Make available for review prior to submission of each monthly pay estimate.
- B. Supplemental record Drawings
 - 1. See Section 01050.
- C. Project Record Documents
 - 1. Submit preliminary and final as specified in Part 3 of this section.

PART 2 PRODUCTS

2.01 AS-BUILT DOCUMENTS

- A. The **CONTRACTOR** shall clearly and neatly mark up in red ink one set of Contract Documents to show the record conditions.
- B. These record marked documents (As-Built Documents) shall be kept current and available on the job site at all times.
- C. All changes from the contract which are made in the work, or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes.
- D. The As-Built Documents shall be jointly inspected for accuracy and completeness by the **ENGINEER** and a responsible representative of the **CONTRACTOR** prior to submission of each monthly pay estimate.

- E. The documents shall include but not be limited to the following:
1. Installations of any kind or description known to exist within the construction area. The locations shall include dimensions to permanent features.
 2. The location and dimensions of any changes within the design features of any kind or description known to exist within the construction area. The locations shall include dimensions to permanent features.
 3. Correct grade or alignment of roads, structures, utilities, or project component.
 4. Correct elevations.
 5. Changes in details or dimensions.
 6. The topography and grades of all drainage structures installed or affected as part of the project construction.
 7. Additional information obtained from working drawings.
 8. Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the As-Built Documents.
 9. Additional work ordered by the **ENGINEER** or **DEPARTMENT**.
 10. Depths of various elements of foundation in relation to datum.
 11. Horizontal and vertical location of underground utilities and appurtenance referenced to permanent surface improvement.
 12. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

2.02 SUPPLEMENTAL RECORD DRAWINGS

- A. The Surveyor retained by the **CONTRACTOR** shall prepare the Supplemental Record Drawings (see Section 01050).
- B. The Supplemental Record Drawings shall include but not be limited to the following:
1. A topographic survey of the site prior to and following waste soil excavation, final subgrade preparation, fill and topsoil placement. The survey should, as a minimum, show ground surface elevations on the specified grid and at all grade changes and also indicate the thickness of the cover layers. The survey should adequately extend beyond the limits of work to properly overlap existing conditions.
 2. Locations and elevations of all groundwater monitoring wells.

PART 3 EXECUTION

3.01 MAINTENANCE OF DOCUMENTS

- A. Maintain in **CONTRACTOR**'s field office in clean, dry, legible condition complete sets of the following:
1. Drawings,
 2. Specifications,
 3. Addenda,
 4. approved Shop Drawings,
 5. Samples, photographs,
 6. Change Orders,

7. Other modifications of Contract Documents,
 8. Test records,
 9. Survey data,
 10. Field Orders, and
 11. Other documents pertinent to **CONTRACTOR's** work.
- B. Provide files and racks for proper storage and easy access.
- C. File in accordance with filing format of Construction Specification Institute (CSI), unless otherwise approved by the **ENGINEER**.
- D. Make documents available at all times for inspection by **ENGINEER** and **DEPARTMENT**.
- E. Record documents shall not be used for any other purpose and shall not be removed from the **CONTRACTOR's** office without the **ENGINEER's** approval.

3.02 PRELIMINARY SUBMITTAL

- A. The **CONTRACTOR** shall prepare two (2) copies of the As-Built Documents and the Surveyor shall prepare two (2) copies of the Supplemental Record Drawings. These documents (Project Record Documents) shall be submitted to the **ENGINEER** following substantial completion of the work (within 7 calendar days) for review and approval.
- B. These documents shall be neat, legible, and accurate.
- C. If upon review, the documents are found to contain errors and/or omissions, they shall be returned to the **CONTRACTOR** and/or Surveyor for corrections.
- D. The **CONTRACTOR** and/or Surveyor shall complete the corrections and return the drawings to the **ENGINEER** within 10 calendar days for subsequent review.

3.03 FINAL PROJECT RECORD DOCUMENT PREPARATION

- A. Upon approval of the As-Built Documents and Supplemental Record Drawings submitted, these Project Record Documents shall be modified by the **ENGINEER**, as necessary, to add any additional information which is pertinent to the project.
- B. **CONTRACTOR** shall supply six (6) copies of the approved As-Built Documents and the Surveyor shall supply six (6) copies of the Supplemental Record Drawings.
- C. These documents shall be part of the permanent records of this project.
- D. Each document to be submitted by the **CONTRACTOR** shall be lettered or stamped with the words "RECORD DOCUMENT" in 1-inch-high printed letters followed by the name of the **CONTRACTOR** and the **ENGINEER**.

- E. All original Contract Documents shall be marked by the **ENGINEER** either "Record," denoting no revisions on the sheet, or "Revised Record," denoting one or more revisions.
- F. The Supplemental Record Drawings to be submitted by the Surveyor shall:
 - 1. Be stamped and signed by the Surveyor retained by the **CONTRACTOR**.
 - 2. Be prepared on a 24" by 36" reproducible sheet with the same ledger and title block used for contract drawings.
 - 3. Locate all work referenced to the limits of the project area;
 - 4. Have all locations referenced to the site horizontal coordinate system.
 - 5. The grid coordinate system shall be shown on all record drawings.
 - 6. Elevations shall be referenced to the vertical control established for the project.
- G. **CONTRACTOR** shall provide all site surveys and drawings on 3.5" disk in AutoCad Release 13, AutoCad LT Version 2 or AutoCad LT for Windows 95.

END OF SECTION

**INDEX
DIVISION 2**

Section	Title
02050	DEMOLITION AND REMOVAL
02110	CLEARING AND GRUBBING
02140	DEWATERING
02221	EXCAVATION
02222	BACKFILL
02276	LANDFILL COVER SYSTEM
02670	MONITORING WELLS
02911	TOPSOIL
02920	SEED AND MULCH
02935	OFF-SITE TRANSPORTATION
02940	OFF-SITE DISPOSAL

SECTION 02050 DEMOLITION AND REMOVAL

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. Requirements for demolition, removal, and disposal of concrete slabs, foundations, and structures.
- A. Related sections
 - 1. Section 01560, "Temporary Controls"
 - 2. Section 02222, "Backfill"
 - 3. Section 02911, "Topsoil"
 - 4. Section 02920, "Seed and Mulch"

1.02 REFERENCES

- A. American National Standards Institute (ANSI)
 - 1. ANSI A10.6, 1983 Demolition Operations - Safety Requirements

1.03 PERFORMANCE REQUIREMENTS

- A. In addition to the requirements specified elsewhere in this contract, demolition safety requirements shall comply with ANSI A10.6.

1.04 SUBMITTALS

- A. Quality Control Submittals:
 - 1. Permits: Submit one copy of each permit.

1.05 QUALITY ASSURANCE

- A. Permits
 - 1. Before the work of this section is started, obtain all permits required by federal, state, and local jurisdictions.

1.06 PROJECT CONDITIONS

- A. The use of explosives is prohibited.
- B. Verify the location and status of utilities that may be impacted by the demolition and provide for disconnect.
- C. Demolition work shall only begin upon authorization from the **ENGINEER**.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Suitable fill: As specified in Section 02310.
- B. Topsoil: As specified in Section 02911.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Demolition-derived debris shall be incorporated into the landfill prior to placing the landfill cover system.
- B. Refer to Section 02222 as to site criteria for placement in the landfill.

3.02 EXISTING FACILITIES TO BE DEMOLISHED

- A. Structures
 - 1. Remove indicated existing structures to grade and foundations to two feet below final grade and slabs.
 - 2. Place all demolition-derived debris at locations designated by the **ENGINEER** within the landfill.
- B. Utilities and Related Equipment
 - 1. Remove existing utilities uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility, state and local building codes, and utility owner requirements.
 - 2. Remove meters and related equipment and deliver to a location in accordance with instructions of the **ENGINEER**.
 - 2. If utility lines are encountered that are not shown on drawings, inform the **ENGINEER** immediately. See Section VIII, Article 3.7.

3.03 DISPOSITION OF MATERIAL

- A. Title to Materials
 - 1. Except where specified in other sections, all materials and equipment removed, and not reused or disposed of by incorporating into the existing landfill shall become the property of the **CONTRACTOR** and shall be removed from the property.
 - 2. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the **CONTRACTOR** upon approval by the **ENGINEER** of the **CONTRACTOR**'s work plan and authorization by the **ENGINEER** to begin demolition.
 - 3. The **DEPARTMENT** will not be responsible for the condition or loss of, or damage to, such property after Notice to Proceed.

3.04 BACKFILLING AND GRADING

- A. Place suitable fill, in accordance with Section 02222, in voids left by demolition that are greater than 6 inches below grade.
- B. Rough grade the areas to an elevation 6 inches below adjoining grades.
- C. Backfill with 6 inches of topsoil in accordance with Section 02911.
- D. Seed and mulch areas in accordance with Section 02920.

3.05 CLEANUP

- A. Remove and transport debris and rubbish in a manner that will prevent spillage on pavements, streets or adjacent areas.
- B. Cleanup spillage from pavements, streets and adjacent areas.

END OF SECTION

SECTION 02110

CLEARING AND GRUBBING

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes procedures for clearing and grubbing.
- B. Related Section
 - 1. Section 01041, "Project Coordination"
 - 2. Section 01560, "Temporary Controls"
 - 3. Section 02935, "Off-Site Transportation"
 - 4. Section 02940, "Off-Site Disposal"

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Articles 5.23-5.29, "Shop Drawings and Samples."
 - 1. Tree-pruning compound
 - a. Submit samples in cans with manufacturer's label.

1.03 PROJECT REQUIREMENTS

- A. No burnoff if permitted.
- B. No organic matter shall be placed under the landfill cover system.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Tree-pruning compound:
 - 1. Waterproof, antiseptic, elastic, and free of kerosene, creosote, and other substances harmful to plants.

PART 3 EXECUTION

3.01 PREPARATION

- A. Protection
 - 1. Keep roads and walks free of dirt and debris at all times.
 - 2. Protection of land resources, utility lines and poles, and existing facilities shall be in accordance with Section 01560, "Temporary Controls" and GC's Art. 5.16, 5.17, and 5.18.
 - 3. Protect existing utility lines and poles that are indicated to remain from damage.

4. Notify the **ENGINEER** immediately of damage to or an encounter with an unknown existing utility line.
5. Repair damage to existing utility lines at no additional cost to the **DEPARTMENT**.
6. Notify the **ENGINEER** prior to interruption of utility services and be responsible for minimizing the time period of such interruption.
7. Protect those trees which have been designated by the **ENGINEER**.

3.02 CLEARING

- A. Clear living or dead vegetation growth where indicated or specified.
- B. Top and limb trees before felling, unless otherwise approved by the **ENGINEER**.
- C. Cut stumps off flush with ground surface or below.
- D. Clear rubbish from the areas indicated or specified for clearing and grubbing.
- E. Conduct the clearing in a manner that prevents, to the extent possible, soil or soil-like material from being collected with the cleared material.
- F. Cleared material from areas at contaminated soils shall be disposed off site.

3.03 PRUNING

- A. Trim only those trees and other vegetation adjacent to cleared work areas and necessary to conduct the required work.
- B. Trim and prune branches 1 1/2-inches or more in diameter.
- C. Neatly cut limbs and branches close to the bole of the tree or main branches.
- D. Paint cuts more than 1 1/4-inches in diameter with tree-pruning compound.

3.04 GRUBBING

- A. Grubbing shall only be performed in areas designated for excavation or vehicular access.
- B. Grubbed materials from contaminated soils shall be disposed off site.

3.05 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

- A. On-site Disposal
 1. Chip and stockpile on site in an uncontaminated area all tree trunks, limbs, brush, foliage, and other vegetation free of soil and soil-like material.
 2. Cover chipped material and protect until used for this specified purpose.

3. Spread chipped materials in a thin layer over the barrier soil layer of the landfill cover system prior to placement of topsoil.
- B. Off-site Disposal
1. Cleared or grubbed material not disposed of on site shall be disposed off site
 2. Transportation shall be in accordance with Section 02935.
 3. Disposal shall be in accordance with Section 02940.

END OF SECTION

SECTION 02140**DEWATERING****PART 1 GENERAL****1.01 SUMMARY**

- A. This section includes:
 - 1. Requirements for dewatering of work areas during excavation and backfill.
 - 2. Coordination of dewatering system with stormwater management plan.
- B. Related sections
 - 1. Section 01100, "Special Project Procedures."
 - 2. Section 01425, "Sampling."
 - 3. Section 01560, "Temporary Controls."
 - 4. Section 02221, "Excavation."
 - 5. Section 02222, "Backfill."

1.02 SUBMITTALS

- A. Submit the following in accordance with Section III, Article 5:
 - 1. Dewatering Plan with the work plan of Section 01150.
- B. The following shall be submitted in accordance with Section VIII, Articles 5.23 - 5.29, "Shop Drawings and Samples."
 - 1. Demonstration test report analytical results.
 - 2. Treatment system design.
 - 3. Off-site disposal facility.

1.03 PROJECT REQUIREMENTS

- A. Dewatering wastes of the project that have been in contact with contaminated soils or groundwater shall require treatment or proper off-site disposal. Dewatering wastes from excavation areas are "Listed Hazardous Waste".
- B. All waters encountered within the excavation limits of the source removal area require treatment or off-site disposal unless otherwise directed by the **DEPARTMENT** or **ENGINEER**.
- C. Treated dewatering wastes that meet site discharge limits shall be discharged to the wetland areas as indicated on the project plans.
- D. Vapor emissions from dewatering treatment system operation will be treated as necessary to meet the air guidance criteria identified in Section 01425, "Sampling".

PART 2 PRODUCTS**2.01 DEWATERING PLAN**

- A. This plan shall include a 1-inch, 100-foot scaled site map locating proposed operations, list of required equipment and materials, contingency plans and actions, description of system operations addressing relation to excavating, backfilling, consolidation, collection, transport, storage, and disposal operations. This plan shall include:
 - 1. Dewatering methods,
 - 2. Quantities anticipated by **CONTRACTOR**,
 - 3. Maximum rates anticipated by **CONTRACTOR**,
 - 4. Liquid handling methods,
 - 5. Phasing/scheduling of work,
 - 6. Contingencies,
 - 7. Effect on nearby wells,
 - 8. Treatment system or off-site disposal, and
 - 9. Flow metering equipment.
- B. The dewatering plan shall anticipate and calculate the need for dewatering systems from Notice to Proceed until Substantial Completion. The calculations shall consider the Storm Water Management Plan's control of run-on and runoff of the work areas. Include assumptions and calculations used.
- C. Select a method of dewatering that complements the **CONTRACTOR**'s plan for excavation and backfilling.
- D. Provide flexibility in the plan to handle variations in conditions that will also minimize the quantities of groundwater.

2.02 TREATMENT SYSTEM FOR WATER FROM DEWATERED AREAS

- A. System shall provide sufficient capacity to support excavation and backfill operations.
- B. System design shall be based on the effluent meeting New York State Water Quality Standards.

PART 3 EXECUTION**3.01 GENERAL**

- A. Control groundwater and run-on surface water within an excavation or backfill area by pumping or other methods to prevent softening of surfaces exposed by excavation.
- B. Use filters on dewatering devices to prevent removal of fines from soil.

- C. Excavation of material and placement of backfill shall not occur while there is standing water in an excavation.

3.02 TREATMENT OR DISPOSAL

- A. All dewatering wastes shall be treated or properly disposed of off site.
- B. No dewatering waste shall be taken off site without written approval by the **DEPARTMENT**.
- C. On-site dewatering treatment system is to be capable of removing particulates and contaminants, mainly VOCs and iron, from the dewatering water and have an effluent quality meeting the criteria specified in the **DEPARTMENT**'s SPDES permit standards listed at the end of this section.
- D. Air discharges from treatment elements of the dewatering treatment system (if applicable) are subject to the air discharge and testing requirements per Section 01425, "Sampling."
- E. Provide temporary on-site storage for dewatering wastes based on **CONTRACTOR**'s operations, while accounting for treatment system limitations, variations in volumes, and approval of effluent sampling results.

3.03 INSTALLATION

- A. Dewatering treatment system must be operational prior to excavation and removal of source area.
- B. Install all equipment in accordance with manufacturer's instructions and as shown in approved shop drawings.
- C. Ensure all equipment and materials are compatible as a system.

3.04 DEWATERING TREATMENT SYSTEM START-UP AND DEMONSTRATION

- A. Visually inspect all parts of the dewatering treatment system. Inspect inside of pipes, tanks, and equipment for debris and foreign objects. Correct any deficiencies found.
- B. Perform rotational checks of all equipment with moving parts (unpowered).
- C. Disconnect motor leads. Using control system sensors to the extent practicable, activate sensors and test voltages to ensure control system is operating as intended. If sensors cannot be activated without water, use simulators to mimic sensor signals. Perform repairs as necessary.
- D. Using potable water, fill the system and check all components for leaks. Pressure test, at 25 psi above working pressure of the system, all components and piping

for a period of 2 hours. For the equipment designed to operate at lower pressure, isolate them from the rest of the system and pressure test them at appropriate working pressure. After pressure testing, turn the power on while feeding clean water and check for leaks. Repair any leaks found.

- E. Empty clean water from process equipment.
- F. Connect liquid effluent discharge to temporary holding tank(s) to be provided by the **CONTRACTOR**. This storage facility shall have sufficient capacity for at least 8 hours of full capacity operation.
- G. Start up the system and make adjustment to the system as necessary to maintain smooth operation. Once all necessary adjustments are made, run the system continuously for 8 hours. Make sure that all valves open and close properly.
- H. During the start-up period, system influent and effluent samples will be collected after 4 hours of continuous operation. The effluent should be temporarily stored in a **CONTRACTOR**-provided storage tank.
- I. Air sampling of emission control/treatment elements of the dewatering treatment system is required during the start-up and demonstration per Section 01425, "Sampling."
- J. After the samples are collected, shut down the dewatering treatment system until confirmed analytical results are received.
- K. The effluent stored during system tests must meet analytical discharge requirements prior to being discharged.
- L. Parameters for operation and maintenance of the dewatering treatment system shall be established during the start-up and demonstration.

3.05 SYSTEM OPERATION AND MAINTENANCE

- A. Operate and maintain dewatering treatment system as long as necessary to complete the work. However, payment will only be made for a maximum of 60 calendar days after successful completion of the system start-up.
- B. Dewatering Treatment Operation Processes:
 - 1. During normal operation, grab samplings shall be collected from the effluent discharge(s) at the frequency specified in the SPDES permit. Samples will be analyzed for the parameters identified in the SPDES permit.
 - 2. Flow rates and the cumulative total volume of water treated shall be recorded daily.

3. The sampling frequency and laboratory turnaround time are presented in Section 01425, "Sampling" (from NYSDEC SPDES).
4. Follow the maintenance procedures specified in the manufacturer's manuals for all equipment.
5. Replenish all spare parts or supplies with the same types and amounts used.

3.06 REPORTING

- A. A detailed start-up and demonstration test report shall be submitted to the **DEPARTMENT/ENGINEER** for approval prior to the commencement of source removal.
- B. Bi-weekly discharge reports shall be provided at progress meetings during the 60-day excavation dewatering period. These reports shall include the period covered and all data required at the frequencies required in the Effluent Limitations and Monitoring Requirements attached to the end of this section. Submit reports within 14 days of the end of the bi-weekly period being monitored.

END OF SECTION

SECTION 02221**EXCAVATION****PART 1 GENERAL****1.01 SUMMARY**

- A. The section includes:
 - 1. Excavation of clean cover soils.
 - 2. Excavation of source removal areas.
 - 3. Excavation of anchor trench and drainage ditch or swale for the landfill cover.
- B. Related Sections:
 - 1. Section 01100, "Special Project Procedures"
 - 2. Section 01425, "Sampling"
 - 3. Section 01560, "Temporary Controls"
 - 4. Section 02110, "Clearing and Grubbing"
 - 5. Section 02140, "Dewatering"
 - 6. Section 02222, "Backfill"
 - 7. Section 02911, "Topsoil"

1.02 SYSTEM DESCRIPTION

- A. The excavation, LTTD, backfill, and topsoil work of this project are interrelated.
- B. Certain areas have been sufficiently characterized to allow excavation to be performed without sampling.
- C. Certain areas will require sampling prior to excavation to determine whether the soil must be sent to the LTTD system or stockpiled for use as backfill or topsoil.
- D. Existing stockpiled soils are available for use as suitable fill.
- E. It is the intent of the design that only excavation to the limits identified on the plans is necessary to accomplish the designed remediation. However, if it is determined during the course of the specified excavation work that it would be in the best interest of the **DEPARTMENT** to excavate further, the **CONTRACTOR** will be so directed in writing by the **DEPARTMENT**.

1.03 SUBMITTALS

- A. Analytical results for sampling specified in this section shall be submitted under Section 01425, "Sampling."

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION**3.01 GENERAL**

- A. Open excavations shall be secured daily.
- B. Excavation below the water table is expected (see Section 02140, "Dewatering").
- C. Prevent surface water from flowing into the excavations (see Section 01560, "Temporary Controls").
- D. Surface or rain water that accumulates in the excavations during excavation operations shall be removed (see Section 02140, "Dewatering").
- E. In source removal area, minimum excavation area shall be left open below the groundwater table for any overnight period.
- F. Implement construction techniques to minimize VOC-contaminated soil exposed to the atmosphere, thereby reducing fugitive emissions.
- G. Excavation in source removal area cannot begin until completion of start-up and demonstration of dewatering treatment system.

3.02 EXCAVATION OF EXISTING LANDFILL COVER SOILS

- A. Sampling
 - 1. Sample the soil of the area indicated on the project plans at the frequency specified in Section 01425 "Sampling."
 - 2. Collect samples at appropriate intervals until the design subgrade elevation is reached.
 - 3. Analyze and report results in accordance with Section 01425.
- B. Excavation
 - 1. Based on the sampling results, segregate excavation operations between clean and contaminated soils.
 - 2. Excavate and stockpile the top 6 inches of clean soils for use as topsoil when required.
 - 3. Excavate and stockpile the clean cover soils from 6 inches below existing grade to the design subgrade elevation for use as suitable fill when required.
 - 4. Excavate contaminated cover soils to the design subgrade. Contaminated cover soils to be treated on site by LTDD.

3.03 EXCAVATION OF SOURCE REMOVAL AREA

- A. Segregate excavation operations between clean and contaminated soils.
- B. Excavate clean cover soil (above poly liner) within the designated source area and stockpile until required for use.
- C. Excavate contaminated soil and debris (below poly liner) to the depths indicated on the plans and send it to the LTDD system for treatment and use as "treated soils" after treatment.

3.04 EXCAVATION SIDEWALL PROTECTION

- A. **CONTRACTOR** shall use temporary sheeting, slope benching, or layback.
- B. Cost of the method chosen is to be included in the unit price.
- C. Temporary sheeting
 - 1. Install temporary sheeting (or sheetpiling) with shoring and bracing as required to create a safe working environment and prevent settlement or other damage to adjacent grounds.
 - 2. Shore and brace sheeting in a manner that will not interfere with the progress of the work.
 - 3. Check shoring and bracing for settlement and adjust as needed.
 - 4. Promptly remove temporary sheeting, shoring, and bracing when no longer required.
- D. Slope benching or layback
 - 1. Bench or layback in accordance with OSHA criteria for safe excavations.
 - 2. No sloping or benching of the excavations adjacent to the wetland area.

3.05 STAGING AREAS AND SEGREGATION

- A. Staging
 - 1. Confine operations as much as practicable.
 - 2. Reduce the potential for cross-contamination of uncontaminated areas with contaminated soils by using staging areas and minimizing double moving of materials.
 - 3. All staging areas shall be constructed in accordance with Section 01560, "Temporary Controls," to prevent the spread of any contamination to surrounding uncontaminated soils, surfaces, or groundwater.
- B. Segregation of soils based on cleanup criteria
 - 1. Carefully segregate contaminated soils and soils that meet cleanup criteria and place in separate staging areas.
 - 2. Soils that meet cleanup criteria shall not be placed with contaminated soils.

3. Do not handle soils that meet cleanup criteria with contaminated equipment.
4. If, in the opinion of the **ENGINEER**, soils that meet the cleanup criteria have been staged with contaminated soils or wastes, or have been handled with contaminated equipment, the **ENGINEER** may direct the **CONTRACTOR** to perform corrective action at no additional cost to the **DEPARTMENT**.

END OF SECTION

SECTION 02222**BACKFILL****PART 1 GENERAL****1.01 SUMMARY**

- A. This section includes:
 - 1. Criteria for backfill materials.
 - 2. Criteria for placing untreatable landfill materials and backfill materials.
 - 3. Compaction criteria.
- B. Related sections:
 - 1. Section 01100, "Special Project Procedures"
 - 2. Section 01425, "Sampling"
 - 3. Section 01560, "Temporary Controls"
 - 4. Section 02140, "Dewatering"
 - 5. Section 02221, "Excavation"
 - 6. Section 02911, "Topsoil"
 - 7. Section 02576, "Landfill Cover System"

1.02 SUBMITTALS

- A. Submit in accordance with Section VIII, Article 5.23- through 5.29.
- B. Product data:
 - 1. Filter fabric
 - a. Manufacturer's catalog sheets, specifications, and installation instructions.
- C. Samples
 - 1. Select granular fill
 - a. 20- to 30-pound sample (one)
 - 2. Suitable fill (off-site source)
 - a. 40- to 50-pound sample (one)
 - 3. Filter fabric
 - a. 6-inch by 6-inch swatch (two)
 - 4. Coarse aggregate
 - a. 20- to 30-pound sample (one)
- D. Quality control data
 - 1. Granular material
 - a. Name and location, stockpile number, and latest NYSDOT test results.
 - 2. Suitable fill material data (three tests from each source)
 - a. Name and location, and ASTM test results.
 - 3. Treated soils material data (one test per 500 c.y.)
 - a. ASTM test results.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Protect filter fabric from sunlight and weather damage during transportation and storage.
- B. Transport, stockpile (if allowed), and place all materials in storage in a manner to prevent contamination and excessive wetting or drying of fill materials.
- C. Staging area location and construction shall be in accordance with Section 01560.

1.04 PROJECT REQUIREMENTS

- A. Use existing on-site stockpiled soils (approximately 2500 c.y.) for backfill in the source removal area.
- B. Backfill materials shall be from the sources and for the uses indicated below.

Table 02222-1		
Material	Source	Use
A. Granular Fill		
1. Select granular fill	Off site	Structural fill for collection sumps
2. Coarse aggregate	Off site	Stone access road, collection pipe porous fill, and gas vents
B. Soil Fill		
1. Suitable fill	Existing stockpiles or excavations	General backfill
2. Treated soils	LTDD system output	General backfill
C. Other Fill		
1. Filter fabric	Off site	Soil, geomembrane, and granular fill interfaces where shown on Drawings
2. Fill material	LTDD untreatable and suitable for landfilling or demolition debris	Backfill, minimum 12 inches under VFPE only

PART 2 PRODUCTS**2.01 MATERIALS****A. Granular fill materials****1. Select granular fill:**

- a. Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials.
- b. Comply with NYSDOT Article 304-2 for Subbase Course Type 4 material.

Sieve	Percent Passing
2 inch	100
1/4 inch	30-65
No. 40	5-40
No. 200	0-10

- c. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.
 - d. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
 - e. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one whose greatest dimension is more than 3 times its least dimension.
- 2. Coarse Aggregate:**
- a. Comply with applicable portions of NYSDOT Section 703-02, Size Designation 2, except as otherwise indicated.

B. Soil Fill Materials**1. Suitable Fill**

- a. Material consisting of mineral soil (inorganic), blasted or broken rock, and similar materials of natural origin, including mixtures thereof.
- b. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction.
- c. Potential off-site sources, existing on-site stockpile (unless otherwise designated), or clean soils from project excavations.

2. Treated Soils

- a. Material that has been processed and treated on site using LTTD Unit.
- b. Test for maximum density using ASTM D698, Standard Proctor Protocol.

C. Other Materials

- 1. Shall meet ASTM D2487 classification group SM, SM-SC, SC, ML, or ML-CL. Provide three classification tests per source. Tests include:
 - a. Filter Fabric:
 - 1. Hoechst Trevira Oil/120, Poly Felt TS210, or equal.
 - 2. Particle size analyses (ASTM D422, and ASTM D1140);

3. Moisture content (ASTM D2216) on sample preserved at natural/undisturbed) moisture condition;
 4. Maximum density (ASTM D698 - Standard Proctor);
 5. Permeability (ASTM D2434 - constant head method), performed on sample compacted to a minimum of 90 percent Standard Proctor maximum dry density.
2. Fill Material
 - a. Material that is untreatable in the LTDD system (see Section 13560) and suitable for placement in the on-site landfill or demolition debris (see Section 02050).

PART 3 EXECUTION

3.01 GENERAL

- A. Verify that the excavation meets design grades prior to placement of backfill.
- B. Prior to placement, smooth out and compact areas of wheel rutting due to excavation operations.
- C. Backfill as promptly as work permits but not prior to acceptance of the excavation by **ENGINEER**.
- D. Backfill in layers as specified and confirm compaction results of previous layer are acceptable to **ENGINEER** prior to addition of next layer.
- E. Do not place backfill on surfaces that are under water, muddy, frozen, or covered with ice.
- F. Dewater prior to and during backfill operations in accordance with Section 02140.
- G. Provide test results and obtain approval of off-site backfill sources from the **ENGINEER** prior to bringing material on site.

3.02 PLACING SOIL FILL

- A. All sources shall be tested for particle size, moisture content, maximum density, and permeability once every 500 cubic yards prior to placement.
- B. Place in lifts not more than 8 inches in loose depth, unless otherwise specified.
- C. Moisten or aerate each layer as necessary to facilitate compaction to the required density.
- D. **ENGINEER** must approve any modification to the layer thickness. This requires a written request giving evidence that compaction equipment is capable of meeting the density for the full depth of the proposed lift thickness.

- E. Areas of soil fill that will receive topsoil shall be free of material over 4 inches in diameter for the top 12 inches.

3.03 PLACING GRANULAR FILL

- A. Select granular fill at subbase of manholes and sumps shall be placed in 6-inch loose depth lifts and compacts.
- B. Select granular fill for pipe bedding shall be placed a minimum 3 inches deep prior to pipe placement. After pipe placement, place by hand to a minimum 6 inches above pipe. Then finish placement to design depth.
- C. Select granular fill for under the GTS building slab shall be placed a minimum of 6-inch loose depth leveled and compacted to meet the subgrade as designed. Fill shall not be placed in more than a 12-inch loose depth without compaction.
- D. Coarse aggregate for the groundwater collection trench shall be placed a minimum 3 inches deep prior to collection pipe placement. After pipe placement, place by hand to a minimum 6 inches above pipe. Then finish placement to design depth.
- E. Coarse aggregate for the stone access road shall be placed in 6-inch loose depth lifts, graded level, and compacted by one pass vibratory roller and one pass smooth roller.

3.04 PLACING FILL MATERIAL

- A. Fill material shall be placed a minimum of 12 inches below the VFPE grade (see Section 02276 and project plans).
- B. Fill material shall be of a size no greater than 6 inches in any cross-sectional dimension before placement.
- C. Fill material shall be placed in 6-inch lifts and compacted by six passes with a tracked dozer of 10-ton weight minimum.

3.05 COMPACTION

- A. General
 - 1. Compact each layer or lift of backfill for the areas specified to the density specified below.
 - 2. Report results verbally to the **ENGINEER** immediately. When unacceptable, follow up with written report submittals. When unacceptable, rework the backfill material and retest until acceptable before backfilling the area any further.
 - 3. When the existing ground surface to be compacted has a density less than that specified for the area, break up and pulverize, and moisture condition to facilitate compaction.

B. Moisture Control

1. Where backfill must be moisture conditioned before compaction, apply water uniformly to surface of each layer.
2. Prevent ponding or other free water on surface.
3. Where backfill or existing soil is too wet, remove and replace or scarify and air dry it.
4. Soil removed because it is too wet may be stockpiled or spread in staging areas and allowed to dry.
5. Assist drying, if necessary, by discing, harrowing, pulverizing, or other like means, until moisture content is acceptable.

C. Testing

1. Provide compaction testing as specified below with moisture content within minus 3% or plus 2% of optimum content as determined by ASTM D698.

Table 02222-2			
Area	ASTM Test Type^a	Density (%)	Frequency
Collection sump	D3017 and D2922	95	1 per lift
Source area soil fill	D3017 and D2922	90	1 per 500 cy of material
Landfill cover system	D3017 and D2922	80	1 per 500 cy of material
Soil fill	D2216 and D1556	80	1 per 2,500 cy of material
Landfill anchor trench soil fill	D3017 and D2922	90	1 per 500 cy of material

^a ASTM D3017 and D2922 are in-place moisture and density. ASTM D2216 and D1556 are laboratory-measured moisture and density.

3.06 PLACING FILTER FABRIC

- A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown on the plans.
- B. Cover tears and other damaged areas with additional filter fabric layer extending 3 feet beyond the damage.
- C. Do not permit traffic or construction equipment directly on filter fabric.
- D. Backfill over filter fabric within two days after placement.
- E. Backfill in accordance with manufacturer's instructions and in a manner to prevent damage to the fabric.

3.07 ROUGH GRADING**A. General**

1. Trim and grade areas as necessary to complete the Work required by this Contract to a level of 6 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated.
2. Provide smooth uniform transition to adjacent areas.
3. Slope cut and fill in transition areas, outside of the backfilled area, to meet corresponding levels of existing grades at a slope of 1 vertical to 2 horizontal unless otherwise indicated.

B. Landscaped Areas

1. Provide uniform subgrade surface within 1 inch of required level to receive topsoil thickness specified.
2. Remove objectionable material detrimental to proper compaction or to placing full depth of topsoil.

3.08 FINISH GRADING**A. Uniformly grade rough graded areas to finish grade elevations indicated.****B. Grade and compact to smooth finished surface within tolerances specified, and to uniform levels or slopes between points where finish elevations are indicated or between such points and existing finished grade.****C. Grade areas so as to drain and to prevent ponding.****D. Finish surfaces free from irregular surface changes, and as follows:**

1. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.
2. Pavements: Place and compact subbase material as specified. Shape surface of areas under pavement to required line, grade and cross section, with the finish surface not more than ½ inch above or below the required subbase elevation.
3. **CONTRACTOR** is responsible for protection and maintenance of subbase areas prior to installation of pavement.

3.09 MAINTENANCE AND RESTORATION**A. Restore grades to indicated levels where settlement or damage due to performance of the Work has occurred. Correct conditions contributing to settlement. Remove and replace improperly placed or poorly compacted fill materials.****B. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.****C. Topsoil and seed or sod damaged lawn areas. Water as required until substantial completion of the Work.**

3.10 PROTECTION

- A. Protect graded areas from traffic and erosion, and keep them free of trash and debris.

END OF SECTION

**SECTION 02276
LANDFILL COVER SYSTEM**

PART 1 GENERAL**1.01 SUMMARY**

- A. This section includes:
 - 1. Criteria for the elements of the landfill cover system.
- B. Related sections
 - 1. Section 02222, "Backfill"
 - 2. Section 02411, "Topsoil"
 - 3. Section 02920, "Seed and Mulch"

1.02 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM D 638 1991 Tensile Properties of Plastics
 - 2. ASTM D 1004 1990 Initial Tear Resistance of Plastic Film and Sheeting
 - 3. ASTM D 1204 1984 Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
 - 4. ASTM D 1505 1985 (® 1990) Density of Plastics by the Density-Gradient Technique
 - 5. ASTM D 1603 Carbon Black Content
 - 6. ASTM D 1693 1970 (® 1988) Environmental Stress-Cracking of Ethylene Plastics
 - 7. ASTM D 3083 1989 Flexible Polyvinyl Chloride Plastics Sheeting for Pond, Canal, and Reservoir Lining.
 - 8. ASTM D 4632 1991 Grab Breaking Load and Elongation of Geotextiles
 - 9. ASTM D 4716 1987 Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products
 - 10. ASTM D 5199 Test Method for Thickness on Geomembrane and Geotextiles
- C. Federal Test Method Standard (FTMS)
 - 1. FTMS 101 2065 Puncture Resistance
- D. New York State Department of Transportation (NYSDOT)
 - 1. NYSDOT Spec. 1990 Standard Specifications -- Construction and Materials

1.03 QUALIFICATIONS

- A. Manufacturer:
 - 1. Manufacturer shall have at least 5 years experience in the manufacture of liners, at least 10 completed projects, and at least 10 million square feet of liner installed.

B. Installer:

1. The Installer shall be approved or certified by the material manufacturer for a project of this type. The installer shall have installed at least 10 million square feet of liner during the past 5 years.

1.04 SUBMITTALS

Submit the following in accordance with Section VIII, Articles 5.23-5.29, "Shop Drawings and Samples."

A. Manufacturer's Catalog Data

1. Textured VFPE Geomembrane.
2. Non-Textured VFPE Geomembrane.
3. Geocomposite Drainage Layer.

B. Drawings

1. VFPE Geomembrane proposed installation panel layout identifying sequence, seams, details, textured and non-textured areas, and grade slopes.

C. Manufacturer's instructions for installation, testing, and repair.

1. Textured VFPE Geomembrane.
2. Non-Textured VFPE Geomembrane.
3. Geocomposite Drainage Netting.

D. Results of field tests conducted as required during installation.

1. Textured VFPE Geomembrane.
2. Non-Textured VFPE Geomembrane.
3. Pre-Installation Inspection Report.
4. Installation Report.

E. Certificates that each component of the cover system meets the requirements of the specifications.

1. Textured VFPE Geomembrane.
2. Non-Textured VFPE Geomembrane.
3. Geocomposite Drainage Netting.

F. Samples of each synthetic product used in the landfill cover system.

1. Textured VFPE Geomembrane.
2. Non-Textured VFPE Geomembrane.
3. Geocomposite Drainage Netting.

G. Records

1. Manufacturer Qualifications.
 - a. Manufacturer's brief historical background.
 - b. Information regarding factory size, capacity, and quality control.
 - c. List of ten completed projects where product has been installed. Each project shall list name and purpose of facility, size and location, installer, and

- name and telephone number of a contact at the facility who can discuss the project.
- 2. Installer Qualifications.
 - a. Installer's brief historical background, installation capabilities, and insurance coverage.
 - b. Installer's list of similar projects complete with name and telephone number of a contact at each facility along with a contact at the designing **ENGINEER's** office.
 - c. Installer's proof of approval or certification from manufacturer.
- H. Source material test results prior to delivery of material to site.
 - 1. Textured VFPE Geomembrane
 - 2. Non-textured VFPE Geomembrane

1.05 DELIVERY, STORAGE AND HANDLING

- A. Rolls of material shall be stored on smooth, flat, and dry surfaces (not pallets) and should not be stored more than two rolls high.
- B. Geocomposites and Geomembranes
 - 1. During shipment and storage, protect from ultraviolet light exposure, precipitation or other inundation, mud, dirt, dust, puncture, cutting, or any other damaging or deleterious conditions.
 - 2. Ship and store in relatively opaque and watertight wrappings.
 - 3. Geocomposites, and geomembranes shall not be exposed to sunlight for more than 15 days unless otherwise specified and guaranteed by the manufacturer.
 - 4. Deliver VFPE geomembrane material to site only after **ENGINEER's** approval of panel layout submittal.
- C. Damaged Materials
 - 1. Geocomposites, and geomembrane damage will be documented by the **ENGINEER**.
 - 2. Repair damaged materials if possible, in accordance with manufacturer's instructions or replace at no additional cost to the **DEPARTMENT**.

1.06 WARRANTY

- A. Geomembrane
 - 1. The manufacturer shall warrant the geomembrane materials for a minimum of 20 years against any form of deterioration.

PART 2 PRODUCTS

2.0 MATERIALS

- A. Filter fabric
 - 1. Provide in accordance with Section 02222, "Backfill."

B. Minimum Properties - VFPE Geomembrane

1. Very flexible polyethylene geomembrane both smooth and textured on both sides.

Property	Test Method	Minimum Value
Thickness	ASTM D 5199	40 - mil
Density	ASTM D 1505	0.92 g/cc
Carbon black content	ASTM D 1603	2% - 3%
Tensile strength at break	ASTM D 638 Type IV	150 lb/in
Elongation at break	ASTM D 638	800%
Tear strength	ASTM D 1004 Die C	25 lbs
Puncture resistance	FTMS 101 2065	68 lbs
Dimensional stability	ASTM D 1204	+/- 3%
Environmental stress crack	ASTM D 1693	> 2,500 hrs.
Seam shear strength	ASTM D 3083	60 lb/in
Minimum width	--	20 feet

2. The VFPE smooth geomembrane shall be Ultraflex as manufactured by GSE Lining Technology, Inc., or equal.
3. The VFPE textured geomembrane shall be FrictionFlex textured Ultraflex as manufactured by GSE Lining Technology Inc., or equal.

C. Minimum Properties - Geocomposite Drainage Netting.

1. Minimum Properties Geocomposite Drainage Netting shall have the following:

Property	Test Methods	Minimum Value
Thickness	ASTM D 5199	275 mil
Ply Adhesion	ASTM D 413	2 lb/in
Tensile Strength	ASTM D 4632	350 lb
Transmissivity	ASTM D 4716	$8.0 \times 10^{-4} \text{ m}^2/5$

2. The geocomposite shall be Gundflow by GSE Lining Technologies, Texnet by National Seal Corp., or equivalent with heat-bonded geotextile on both sides.

D. Final Cover and Barrier Protection Layers

1. Provide soil fill in accordance with Section 02222, "Backfill."

E. Vegetative Soil Layer

1. Provide in accordance with Section 02911, "Topsoil."

F. Vegetative Cover

1. Provide in accordance with Section 02920, "Seed and Mulch."

2.02 SOURCE QUALITY CONTROL**G. VFPE Geomembrane**

1. At the completion of production, material shall be checked for thickness across entire width and damage from the manufacturing process.
2. Manufacturer's QC Inspector at the manufacturing facility shall control all process paperwork, including tagging rolls on sleeve, inside core, and on production roll sample.
3. Before material is shipped, material shall be tested by a laboratory furnished by the manufacturer of material for this project for the following:
 - a. For every 30,000 sf of material for this project sample and test each for:
 - i. Thickness - ASTM D 5199,
 - ii. Tensile Properties - ASTM D 638,
 - iii. Tear Resistance - ASTM D 1004 Die C,
 - iv. Puncture Resistance - FTMS 101 2065, and
 - v. Carbon Black Content - ASTM D 1603.
 - b. On a daily basis during production:
 - i. Density - ASTM D 1505, each lot,
 - ii. Melt index - ASTM D 1238, each lot,
 - iii. Carbon black dispersion - ASTM D 3015, twice per day, and
 - iv. Dimensional stability - ASTM D 1204, twice per day.

H. Geocomposite Drainage Netting

1. Certification that drainage netting conforms to the above specifications.

PART 3 EXECUTION**3.01 CONTRACTOR'S FIELD SERVICES AND REPORTS**

- I. Retain services of materials manufacturer's factory-trained installer with demonstrated ability and field experience in all pertinent aspects of material installation to perform the services listed below.
 1. Inspect the material sub-surface and supervise any correction work required.
 2. Provide a pre-installation inspection report that includes:
 - a. ASTM methods used to test subsurface and values that result from tests after repairs.
 - b. Describe corrective work.
 3. Supervise the unloading, handling, and storage of material rolls.
 4. Supervise the handling, unrolling, and placement of all material sheets.
 5. Perform all field seaming and testing of material.
 6. Perform all repairs to damaged material sections.
 7. Supervise the placement of filter fabric, geomembrane, GCL, and synthetic drainage layer composite.
 8. Provide a written installation report at the completion of the work that includes the following:

- a. Complete identification of materials, including geomembrane resin type, physical properties, and other pertinent data. Identify ASTM methods and values.
- b. Complete description of field seaming system used, including material, method, temperatures, seam overlap, width, and cure or aging time.
- c. Complete description of field sampling and testing, including test equipment used, location of field tests, copy of test results, conditioning procedure prior to destructive seam testing, method of recording loading and determining average load for destructive test methods and type of failure in tests.
- d. Record documents showing actual layouts of material sheets and anchor trench details.

3.02 FINAL COVER LAYER

- A. Unexcavated Landfill Areas
 1. The final cover layer is currently in place over the landfill area.
 2. Ensure a minimum of 6 inches of final cover is in place over landfill debris.
 3. Ensure existing final cover is free of debris or material deleterious to the VFPE geomembrane layer.
 4. Grade existing final cover to meet the finished grades as shown on the plans.
- B. Excavated Areas
 1. Install a minimum of 6 inches of material that meets the criteria specified in Section 02222, "Backfill."
 2. Place and compact final cover soils as specified in Section 02222, "Backfill."
- C. Provide survey checks to the **DEPARTMENT** and **ENGINEER** of final cover layer for approval prior to placement of VFPE geomembrane.

3.03 VFPE GEOMEMBRANE LAYER

- A. General
 1. Textured VFPE geomembrane shall be applied to all slopes greater than or equal to 15 percent.
 2. Smooth VFPE geomembrane shall be applied on all other slopes as required.
- B. Subsurface Preparation
 1. Subsurface shall be smooth, free of foreign and organic material, sharp objects, and debris of any kind.
 2. Provide filter fabric as specified in Section 02222 to protect geomembrane where smooth soil surfaces or other protective material does not exist.
 3. Excavate for the perimeter anchor trench as indicated.
- C. Method of Placement
 1. Place in accordance with Manufacturer's recommendations and as specified.
- D. Care in Placement
 1. No equipment or tools shall damage the geomembrane by handling, trafficking, or other means.

2. No personnel working on the geomembrane shall smoke, wear damaging shoes, or engage in other activities that could damage the geomembrane.
3. The method used to unroll the panels shall not cause deep or frequent scratches or crimps in the geomembrane and shall not damage the supporting soil.
4. The method used to place the panels shall minimize wrinkles (especially differential wrinkles between adjacent panels).
5. Compensation wrinkles shall be identified as to proper location, the **CONTRACTOR's** panel layout drawings. Ballast shall be used to prevent relocation of the compensation wrinkles by wind.
6. Adequate loading (e.g., sand bags or similar items that will not damage the geomembrane) shall be placed to prevent uplift by wind. Continuous loading is recommended along edges of panels to minimize risk of wind flow under the panels.
7. Direct contact with the geomembrane shall be minimized, i.e., the geomembrane in traffic areas is protected by geotextiles, extra geomembrane, or other suitable materials.
8. Any geosynthetic elements immediately underlying the geomembrane shall be clean and free of debris.

E. Weather Conditions

1. Geomembrane deployment shall proceed between ambient temperatures of 40 degrees Fahrenheit to 104 degrees Fahrenheit.
2. Placement may proceed below 40 degrees Fahrenheit only after it has been verified by the **ENGINEER** that the material can be seamed according to the specification.
3. Geomembrane placement shall not be done during any precipitation, in the presence of excessive moisture (e.g., fog, rain, dew), or in the presence of excessive winds, as determined by the installation supervisor.

F. Factory Seam Quality Verifications

1. Up to 20 percent of factory fusion welds shall be field tested by nondestructive air pressure test or vacuum test to verify factory test results.
2. Additional testing at the **CONTRACTOR's** expense will be required if failed tests are obtained.
3. The **ENGINEER** will review welds to be tested.

G. Field Seaming

1. Seams shall be oriented parallel to the line of maximum slope, that is, oriented down, not across the slope.
2. In corners and odd-shaped geometric locations, the number of field seams shall be minimized and placed outside the corners.
3. No base T-seam shall be closer than 5 feet from the toe of the slope.
4. Seams shall be aligned with the least possible number of wrinkles and "fishmouths." If a fishmouth or wrinkle is found, it shall be relieved and cap-stripped.

H. Seam Overlap

1. Panels of geomembrane must have a finished overlap of a minimum of 5 inches for hot-wedge fusion welding and 4 inches for extrusion welding, but in any event

sufficient overlap shall be provided to allow peel tests to be performed on the seam.

2. No solvent or adhesive may be used.
3. The procedure used to temporarily bond adjacent panels together shall not damage the geomembrane; in particular, the temperature of hot air at the nozzle of any spot welding apparatus shall be controlled such that the geomembrane is not damaged.

I. Seaming Equipment and Accessories

1. Approved equipment for field seaming are hot-wedge fusion welders and extrusion welders.

J. Test Seams

1. Field test seams shall be conducted on geomembrane material by a manufacturer's representative to verify that seaming conditions are satisfactory.
2. Test seams shall be conducted at the beginning of each seaming period, at the **ENGINEER's** discretion, and at least once every 4 hours for each seaming apparatus used that day.
3. All test seams shall be made at a location selected by and observed by the **ENGINEER** in the area of the seaming.
4. The test seam samples shall be 10-feet long for hot-wedge fusion welding and 3-feet long for extrusion welding with the seam centered lengthwise.
5. Specimens 1-inch wide shall be cut from each opposite end of the test seam. A tensiometer shall be used to test these specimens for shear and peel.
6. If a test seam fails to meet field seam specifications, the seaming apparatus and seamer shall not be accepted and shall not be used for seaming until the deficiencies are corrected and two consecutive successful full test seams are achieved.

K. Nondestructive Seam Testing

1. The Installer shall perform nondestructive testing on all field seams over their full length.
2. Vacuum and air pressure tests shall be used for nondestructive testing.
3. The vacuum test shall be used for extrusion welds and single track hot-wedge fusion welds.
4. The air pressure test shall be used for double-track hot-wedge fusion welds.
5. Vacuum Testing
 - a. Equipment for testing single-wedge fusion seams and extrusion seams shall be comprised of the following:
 - i. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft rubber gasket attached to the bottom, port hole, or valve assembly, and a vacuum gauge.
 - ii. A vacuum tank and pump assembly equipped with a pressure controller and pipe connections.
 - iii. A rubber pressure/vacuum hose with fittings and connections.
 - iv. A plastic bucket and wide paint brush.
 - v. A soapy solution.
 - b. The following procedures shall be followed by the Installer:
 - i. Excess sheet overlap shall be trimmed away.
 - ii. Clean the window and gasket surfaces and check for leaks.

- iii. Energize the vacuum pump and reduce the tank pressure to approximately 5 psi.
 - iv. Wet a strip of geomembrane approximately 12 inches by 48 inches (length of box) with the soapy solution.
 - v. Place the box over the wetted area and compress.
 - vi. Close the bleed valve and open the vacuum valve.
 - vii. Ensure that a leak-tight seal has been created.
 - viii. For a minimum period of 10 seconds, examine the geomembrane through the viewing window for the presence of soap bubbles.
 - ix. If no bubbles appear after 10 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum of 3 inches overlap and repeat the process.
 - x. All areas where soap bubbles appear shall be marked and repaired.
6. Air Pressure Testing (for double-track fusion seams only)
- a. The following procedures are applicable to processes that produce a double seam with an enclosed space. Equipment for testing double-wedge fusion seams shall be comprised of the following:
 - i. An air pump equipped with pressure gauge capable of generating and sustaining a pressure between 25 and 30 psi and mounted on a cushion to protect the geomembrane.
 - ii. A manometer equipped with a sharp, hollow needle, or other approved pressure-feed device.
 - b. The following procedures shall be followed by the Installer.
 - i. Seal both ends of the seam to be tested.
 - ii. Insert needle or other approved pressure-feed device into the tunnel created by the double-wedge fusion weld.
 - iii. Energize the air pump to a pressure between 25 and 30 psi, close valve, and sustain pressure for at least 5 minutes.
 - iv. If loss of pressure exceeds 4 psi, or pressure does not stabilize, locate faulty area and repair.
 - v. Remove needle or other approved pressure-feed device and seal.
7. All test equipment shall be furnished by the Installer.
8. If the seam is accessible to testing equipment prior to final installation, the seam shall be nondestructively tested prior to final installation.
9. If the seam cannot be tested prior to final installation, the **ENGINEER** shall be notified and the seaming operations shall be observed by the Manufacturer's Representative and **ENGINEER** for uniformity and completeness.

L. Destructive Seam Testing

- 1. The Installer shall perform a minimum of one destructive test sample per 500 feet of seam length from a location specified by the **ENGINEER**.
- 2. The Installer shall not be informed in advance of the sample location.
- 3. Prior to any tests, the **ENGINEER** shall be notified.
- 4. Sampling Procedure:
 - a. In order to obtain test results prior to completion of cover installation, samples shall be cut by the Installer as the seaming progresses.
 - b. Sampling times and locations will be determined by the **ENGINEER**.

- c. The **ENGINEER** will witness the obtainment of all field test samples, and the Installer shall mark all samples with their location roll and seam number.
 - d. Installer shall also record in written form the date, time, location, roll seam number, ambient temperatures, and pass or fail description.
 - e. A copy of the information must be attached to each sample portion.
 - f. All holes in the geomembrane resulting from obtaining the seam samples shall be immediately repaired and vacuum tested.
5. Size and Disposition of Samples:
- a. The samples shall be 12-inches wide by 24-inches long with the seam centered lengthwise.
 - b. The sample shall be cut into two equal-length pieces, half to be given to the manufacturer's representative and the other half to be given to the **ENGINEER**. If the Installer desires a sample, the size should be increased to 12 inches wide by 36 inches long.
6. Field Laboratory Testing:
- a. The manufacturer's representative shall cut 10 1-inch-wide replicate specimens from his sample, and these shall be tested by the manufacturer's representative.
 - b. The manufacturer's representative shall test five specimens for seam strength and five for peel strength.
 - c. To be acceptable, four out of the five replicate test specimens must pass. Any specimen that fails through the weld or by adhesion at the weldsheet interface is a non-film tear bond break and shall be considered a failure.
 - d. The **ENGINEER** will witness field laboratory testing.
7. Independent Laboratory Testing:
- a. The **ENGINEER** will package and ship at least two seam samples received from the Installer to a certified laboratory for the determination of shear and peel strengths.
 - b. The test method and procedures to be used by the independent laboratory shall be the same used in field testing, where seam samples are 1-inch wide, and the grip separation rate is 2 inches per minute.
 - c. Four of five specimens per sample must pass to confirm field results.
 - d. If independent tests do not pass, retests on two more samples will be performed at the **CONTRACTOR'S** expense.
8. The following procedures shall apply whenever a sample fails the field destructive test.
- a. Reconstruct the seam between the failed location and any passed test location.
 - b. Retrace the welding path to an intermediate location (at a minimum of 10 feet from the location of the failed test), at the **ENGINEER's** discretion, and take a small sample for an additional field test.
 - c. If this test passes, then the seam shall be reconstructed between that location and the original failed location. If the test fails, then the process is repeated.
 - d. Over the length of seam failure, the Installer shall either cut out the old seam, reposition the panel and reseam, or add a cap strip, as required by the **ENGINEER**.
 - e. After reseaming or placement of the cap strip, additional destructive field test(s) shall be taken within the reseamed area.

- f. The resealed sample shall be found acceptable if test results are approved by the **ENGINEER**.
- g. If test results are not acceptable, this process shall be repeated until the resealed length is judged satisfactory by the **ENGINEER**.
- h. In the event that a sample fails a laboratory destructive test, then the above procedures shall be followed, considering laboratory tests exclusively.
- i. The **ENGINEER** will document all actions taken in conjunction with destructive test failures.

M. Defects and Repairs

- 1. Seams and nonseam areas of the geomembrane will be inspected by the **ENGINEER** for defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter.
- 2. Because light reflected by the geomembrane helps to detect defects, the surface of the geomembrane shall be clean at the time of inspection.
- 3. The geomembrane surface shall be brushed, blown, or washed by the Installer if the amount of dust or mud inhibits inspection.
- 4. The **ENGINEER** will decide if cleaning of the geomembrane is needed to facilitate inspection.
- 5. Each suspect location in seam and nonseam areas shall be nondestructively tested as appropriate in the presence of the **ENGINEER**. Each location that fails the non-destructive testing will be marked by the **ENGINEER**, and repaired accordingly.
- 6. Repair Procedures:
 - a. Defective seams shall be restarted or resealed as described in these specifications.
 - b. Tears shall be repaired by patching. Where the tear is on a slope or an area of stress and has a sharp end, it must be rounded prior to patching.
 - c. Blisters, large holes, undispersed raw materials, and contamination by foreign matter shall be repaired by patches.
 - d. Surfaces of geomembrane that are to be patched shall be abraded and cleaned no more than 15 minutes prior to the repair. No more than 10 percent of the thickness shall be removed.
 - e. Patches shall be round or oval in shape, made of the same geomembrane, and extend a minimum of 6 inches beyond the edge of defects. All patches shall be of the same compound and thickness as the geomembrane specified. Patches shall be applied using approved methods only.
- 7. Restart and Reseaming Procedures:
 - a. The welding process shall restart by abrading the existing seam and rewelding a new seam.
 - b. Welding shall commence where the abrading started and must overlap the previous seam by at least 2 inches.
 - c. Reseaming over an existing seam without abrading shall not be permitted.
- 8. Verification of Repairs:
 - a. Each repair shall be nondestructively tested, except when the **ENGINEER** requires a destructive seam sample obtained from a repaired seam.
 - b. Repairs that pass the nondestructive test shall be taken as an indication of an adequate repair.
 - c. Failed tests indicate that the repair shall be repeated and retested until passing test results are achieved.

9. Recording of Results:
 - a. Daily documentation of all nondestructive and destructive testing shall be provided to the **ENGINEER** by the Installer.
 - b. This documentation shall identify all seams that initially failed the test and include evidence that these seams were repaired and successfully retested.
- N. Backfilling of Anchor Trench
 1. Dewater the anchor trench in accordance with Section 02140 to prevent ponding or otherwise softening of the adjacent soils while the trench is open.
 2. Place backfill in 8-inch-maximum loose lifts and compact in accordance with Section 02222.
 3. Care shall be taken when backfilling the trenches to prevent any damage to the geomembrane.
 4. At no time shall construction equipment come into direct contact with the geomembrane.
 5. If damage occurs, it shall be repaired by the Installer prior to the completion of backfilling.
- O. Geomembrane Acceptance
 1. The **CONTRACTOR** shall retain all ownership and responsibility for the geomembrane until acceptance by the **DEPARTMENT**.
 2. The geomembrane will be accepted by the **DEPARTMENT** when the following conditions are met:
 - a. Installation is finished.
 - b. Verification of the adequacy of all field seams and repairs.
 - c. Installation report, including "as-built" panel layout drawings(s), is provided by the **CONTRACTOR**.
 - d. Completion of physical work and final acceptance is attained in accordance with Section VI, Article 13.

3.04 GEOCOMPOSITE DRAINAGE LAYER

- A. Method of Placement
 1. Place in accordance with Manufacturer's recommendations and as specified.
- B. Care in Placement
 1. Geocomposite Drainage Netting shall be handled in such a manner as to ensure the components are not damaged in any way.
 2. The materials shall be weighted with sandbags until covering soils are installed.
 3. Care shall be taken to ensure that any underlying layers are not damaged during placement.
 4. Care shall be taken to ensure that stones, mud, and dirt are not entrapped in or under the geonet during placement and seaming operations.
- C. Joints
 1. Geonet shall be butt joined.
 2. Nylon cable ties shall be applied across net edges at 5-foot intervals along the edge.

D. Repairs**1. Bound Geotextile Fabric**

- a. Any holes or tears shall be repaired by patching with same material.
- b. Patch shall be a minimum of 12 inches larger in all directions than the area to be repaired and shall be spot bonded thermally.

2. Drainage Netting

- a. Any holes or tears shall be repaired by patching with same material.
- b. Patch shall be a minimum of 12 inches larger in all directions than the area to be repaired.
- c. The patch shall be tied in place using a minimum of four nylon cable ties.

3.05 BARRIER PROTECTION LAYER

- A. Place such that synthetic drainage layer and geomembrane is not damaged and as specified in Section 02222, "Backfill," except as specified here.
- B. Slippage of drainage layer and related tensile stress shall be avoided by placing the barrier layer from the base of the slope upward to the top of slope.
- C. Barrier layer shall be treated soils for the first 12 inches above the geonet.
- D. The first 12 inches of the layer above the geonet shall be placed in one lift.
- E. Do not place cover soils when temperature is below 35 degrees Fahrenheit or when rainfall or other weather conditions detrimentally affect the quality of the placement or compaction of the materials.

3.06 VEGETATIVE SOIL LAYER

- A. See Section 02911, "Topsoil."

3.07 VEGETATIVE COVER

- A. See Section 02920, "Seed and Mulch."

END OF SECTION

SECTION 02670 MONITORING WELLS

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes:
 - 1. The criteria for installing new monitoring wells.
 - 2. The criteria for decommissioning existing monitoring wells.
- B. Related sections:
 - 1. Section 02935, "Off-site Transportation."
 - 2. Section 02940, "Off-site Disposal."

1.02 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. American Petroleum Institute
 - a. API-13 A American Petroleum Institute Specification 13 A
 - 2. American Society for Testing and Materials
 - a. ASTM C 150 1992 Standard Specification for Portland Cement
 - 3. National Water Well Associations
 - a. NWWA-EPA "Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells"
 - 4. Codes, Rules, and Regulations of the State of New York
 - a. 6 NYCRR Part 360 Solid Waste Management Facilities
 - 5. New York State Department of Environmental Conservation
 - a. GW-MW-10/96 1996 Groundwater Monitoring Well Decommissioning Procedures

1.03 SUBMITTALS

- A. Records
 - 1. Submit the following in accordance with Section VIII, Articles 5.23 through 5.29.
 - a. New well construction diagrams.
 - b. New well boring logs.
 - c. Extend well construction diagrams.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Casing and screens shall arrive on site clean and in factory cartons.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Risers (inner casings):
 - 1. 2 inch internal diameter (ID), schedule 40, threaded, flush-joint, PVC pipe.
 - 2. The top of the PVC casing shall be equipped with a threaded vent cap.
- B. Screen sections:
 - 1. Manufactured slotted well screens with slot size of 0.010 inch (10-slot), 5 feet in length and equipped with threaded bottom plugs.
- C. Sand pack:
 - 1. Consisting of graded silica sand with an average grain size and grain-size distribution such that only minimal amounts of the sand may pass through slots in the screen.
- D. Finer-grained sand pack:
 - 1. 100% passing the No. 30 sieve and less than 2% passing the No. 200 sieve.
- E. Protective pipe casing:
 - 1. 4-inch I.D. (minimum) steel casing.
- F. Bentonite:
 - 1. Powdered, premium-grade sodium montmorillonite conforming to applicable standards set forth in API-13 A with a minimum barrel yield of 90 barrels/ton.
- G. Cement:
 - 1. Portland cement in accordance with ASTM C 150, Type II.

2.02 EQUIPMENT

- A. Locks:
 - 1. New plastic-coated, weather-resistant locks with O-ring seals around shackle and 3-inch-long shackle.
 - 2. Locks shall be American Lock Company Weatherbuilt Plus Series 72WCC, or equal.

2.03 MIXES

- A. Cement/Bentonite Grout:
 - 1. Water, cement, and bentonite mixed as follows:
 - a. 5 to 7 gallons of water
 - b. 94 pounds of cement
 - c. 1 to 4 pounds of bentonite.

PART 3 EXECUTION

3.01 PREPARATION

A. Protection

1. Protect existing monitoring wells to remain.
2. If integrity of wells to remain is compromised (casing becomes bent or loose or grout cracks) as a result of **CONTRACTOR**'s operations, the wells shall be replaced in kind at no additional cost to the **DEPARTMENT**.

B. Equipment and Material Preparation and Cleanup

1. All drilling equipment such as augers, casing, bits, and sampling equipment that may come in contact with subsurface materials shall be steam cleaned before being brought onto the site.
2. The drilling and sampling equipment shall be steam cleaned before leaving the site in accordance with Section 01160.
3. All PVC materials (screens and riser) shall be steam cleaned prior to well installation.
4. Drilling fluids, including development waters, shall be disposed of through the groundwater treatment system.
5. Drill cuttings shall be consolidated on site under or the landfill cover system the location is in uncontaminated soil.
6. Drill cutting shall be sent to the LTTD system if the well location is in contaminated soil.

3.02 INSTALLATION

A. General

1. The work shall be carried out in accordance with GW-MW-10/96, NWWA-EPA, and 6 NYCRR Part 360.
2. Provide new locks for all monitoring wells shown on the Drawings.
3. All locks shall be keyed alike.
4. Provide four sets of keys.

B. Overburden Monitoring Wells

1. New overburden monitoring wells shall be installed in 4-inch I.D. hollow-stem auger (ASA)-drilled boreholes and shall be screened entirely within overburden materials.
2. Figure 02670-1 shows the typical construction detail for new overburden monitoring wells.
3. Set top of screen approximately 2 feet above the water table.
4. The sand pack shall be introduced gradually inside the 4-inch-diameter augers, and shall fill the annular space between the screen and borehole adjacent to the screen, extending 1.5 feet above the screen.
5. Provide 6 inches of finer-grained sand pack directly on top of sand pack.
6. Prevent collapse of the native formation materials against the well casing or screen.

7. Frequent and precise measurements shall be provided to ensure the proper placement of all materials.
8. Provide a 2-foot-thick (minimum) bentonite pellet seal above the finer-grained sand pack.
9. Provide cement/bentonite grout above the bentonite seal to 4 feet of ground surface. No organic polymer additives are permitted.
10. The grout shall be mixed with a mud pump to a consistency acceptable to the **ENGINEER**.
11. The grout material shall be introduced via a tremie pipe lowered to just above the top of the bentonite layer. As the grout material is pumped into the borehole, the tremie pipe shall be removed, and the augers withdrawn.
12. Remove augers upon completion of grouting.
13. Provide an outer watertight protective steel casing cemented in place around the PVC riser pipe.
14. The top of the steel casing shall extend approximately 3 feet above the finished grade and 2 inches above the top of the PVC well casing. Three feet of steel casing shall be below ground.
15. The monitoring well shall have a vented and locking cap.
16. The cement collar shall be tapered away from the well to divert surface runoff from the well.
17. The cement collar around the base of the protective pipe shall be reinforced with nongalvanized wire mesh or polypropylene fibers.

C. **Bedrock Monitoring Wells**

1. Figure 02670-2 shows the typical construction detail for new bedrock monitoring wells.

D. **Placement**

1. Install new monitoring wells after placement of backfill and prior to placement of topsoil at locations shown on the plans.

3.03 NEW MONITORING WELL DEVELOPMENT

- A. Allow the wells to set a minimum of 48 hours prior to development.
- B. Develop until a turbidity of 50 nephelometric turbidity units (NTUs) and the pH and conductivity of the groundwater removed stabilize, or until 2 hours of development time have elapsed, whichever is less.
- C. A minimum of five well volumes shall be removed.

3.04 MONITORING WELL DECOMMISSIONING

A. **General**

1. Prevent cross-contamination between upper and lower confining layers during decommissioning.
2. Disposal of all removed components as fill material (see Section 02222) within the on-site landfill prior to installation of the cover system.
3. All excavated soils shall be handled like drill cuttings per 3.01 of this part.

B. Sequence of Operation

1. Break up, remove, and dispose of the surface concrete seal.
2. Excavate the ground surrounding the protective casing of each well scheduled for decommissioning.
3. Remove and dispose of the protective casing.
4. Remove riser and screen by pulling.
5. If pulling does not succeed, then drill by over-boring down the outside of the riser pipe with a hollow-stemmed auger then pull the riser and screen. Avoid overboring bottom of hole.
6. Use a rock bit if the riser and screen cannot be pulled after over-boring.
7. Remove all remaining material from the original annular space and dispose.
8. Remove sand pack from all overburden wells and dispose.
9. Place the cement/bentonite grout by tremie into the borehole using a 1-inch I.D. grout tube.
10. Remove the auger as grout is placed.
11. Allow 24 hours for the grout to cure prior to commencing work in the immediate area.

3.05 MONITORING WELL EXTENSION**A. Sequence of Operation**

1. Remove existing protective casing cap or cover as necessary to extend well.
2. If existing inner casing is PVC, install new PVC inner casing with slip-on coupling with hose clamps. If existing inner casing is stainless steel, install new stainless-steel inner casing by welding to existing casing.
3. Install new steel protective casing by welding to existing protective casing. Steel protective casing shall be welded on straight.
4. Fill annulus between casing sections with cement/bentonite grout.
5. Install 1-foot by 1-foot concrete drainage pad.

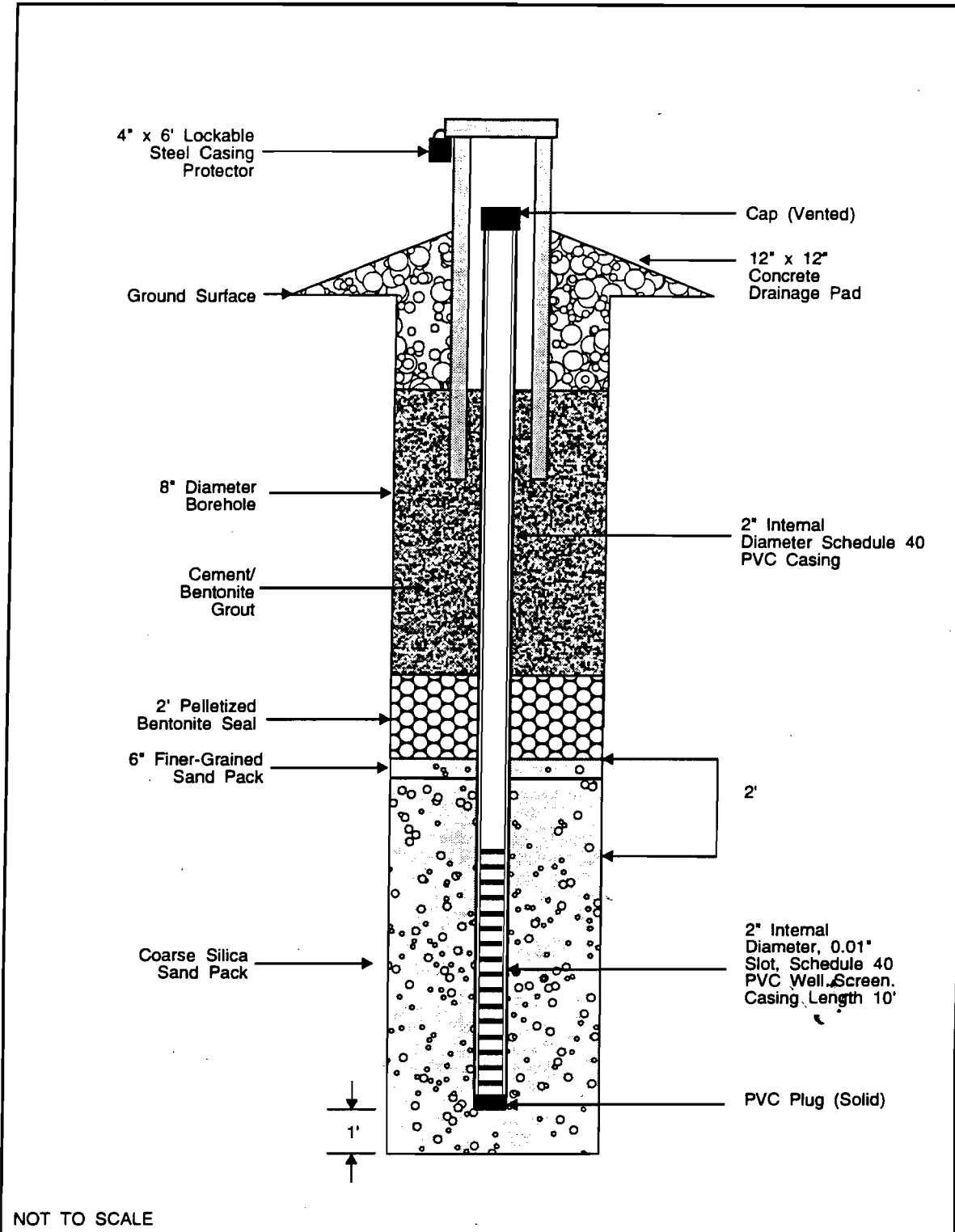
B. Tolerances

1. Extend protective well casing to 3 feet, plus or minus 3 inches, above proposed finish grade as shown on plans.
2. Extend inner casing to 2 inches below the top of the protective well casing.

C. Field Quality Control

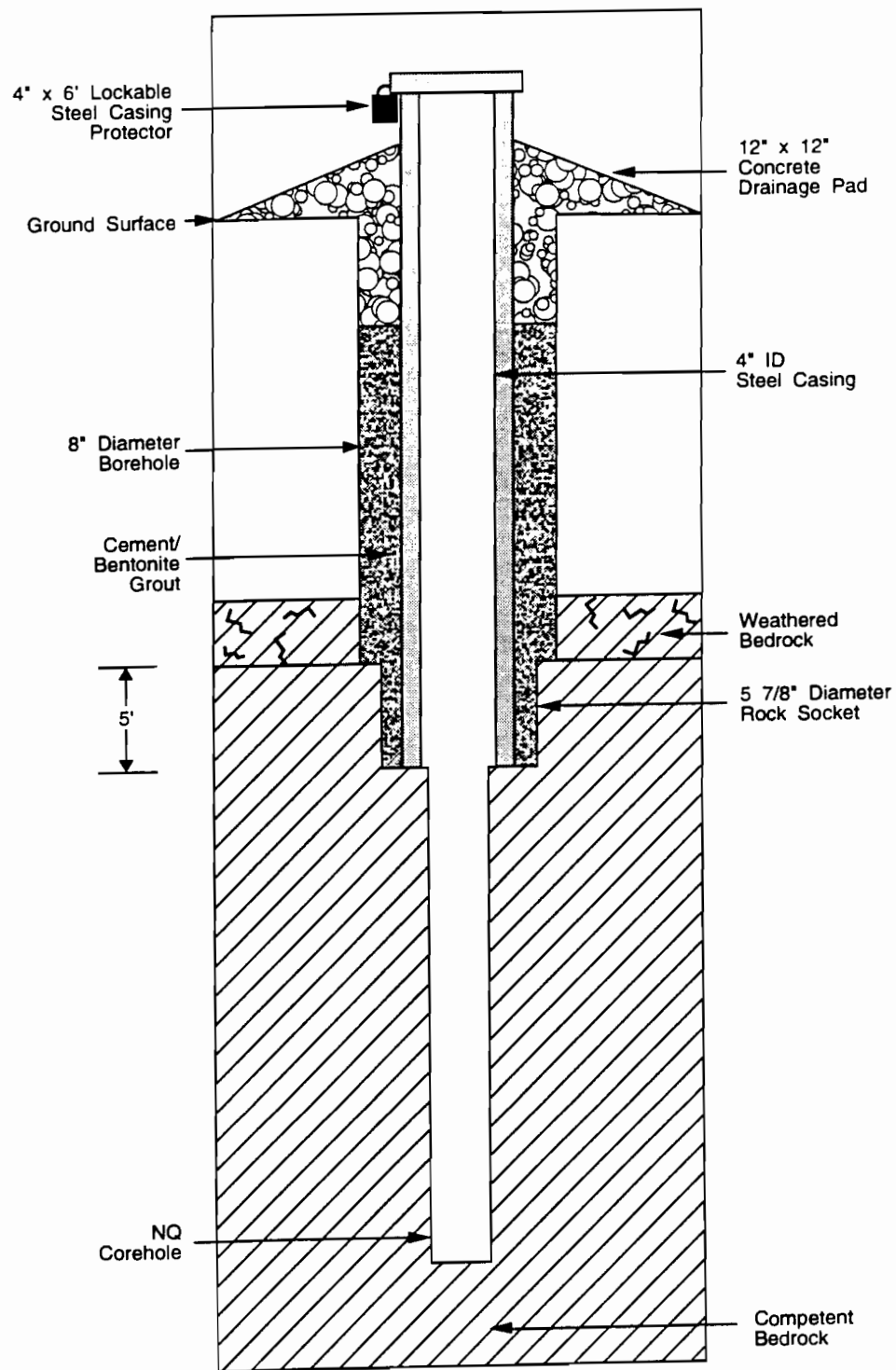
1. Ensure inner casing is straight between old and new sections by demonstrating that 4-foot-long bailer will pass freely through the full length of the well.

END OF SECTION



SOURCE: Ecology and Environment Engineering, P.C. 1996.

Figure 02670-1 TYPICAL OVERBURDEN MONITORING WELL CONSTRUCTION DETAIL

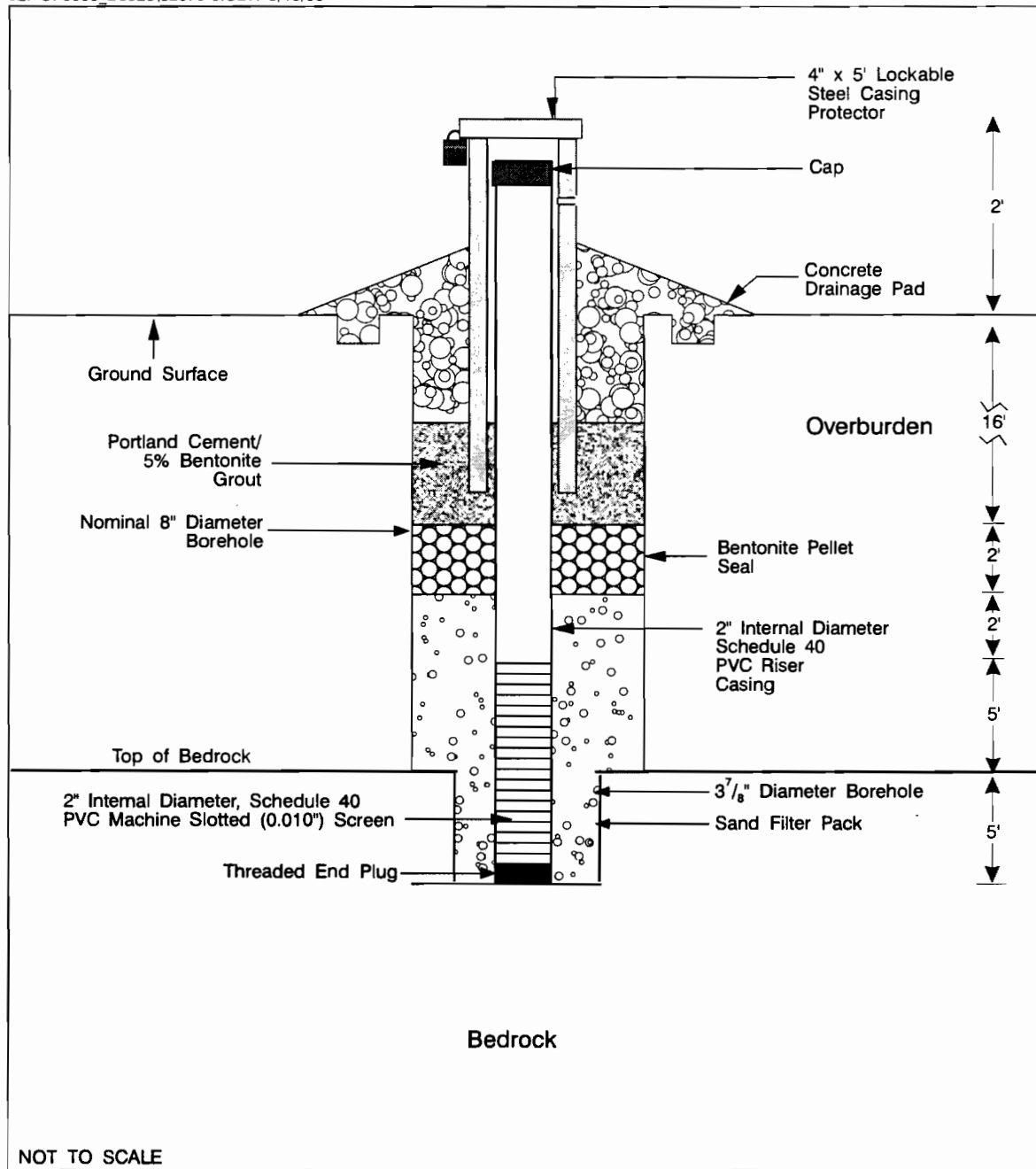


NOT TO SCALE

SOURCE: Ecology and Environment Engineering, P.C. 1996.

Figure 02670-2 TYPICAL BEDROCK MONITORING WELL CONSTRUCTION

-- END OF SECTION --



SOURCE: Ecology and Environment, Inc., 1998

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Figure 02670-3 TYPICAL OVERBURDEN/BEDROCK INTERFACE WELL

SECTION 02911 TOPSOIL

PART 1 GENERAL

1.01 SUMMARY

- A. The section includes:
 - 1. Criteria for use of on-site topsoil.
 - 2. Criteria for acquisition, storage, and use of off-site topsoil.
- B. Related sections
 - 1. Section 01425, "Sampling"
 - 2. Section 02221, "Excavation"
 - 3. Section 02222, "Backfill"

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Articles 5.23-5.29, "Shop Drawings and Samples."
 - 1. Off-site topsoil test results
 - 2. On-site topsoil analytical test results

1.03 QUALITY ASSURANCE

- A. Off-site topsoil used on this project shall be tested, and approved by the **ENGINEER** before placement.
- B. In the presence of the **ENGINEER**, take a 5 lb. Sample from each 1000 cubic yards of off-site topsoil to be used on the project.
- C. Complete testing needed to verify suitability as required in Part 2.

PART 2 PRODUCTS

2.01 MATERIALS

- A. On-site topsoil
 - 1. Provide topsoil from existing stock piles stripped from the project site and approved by the **ENGINEER**.
- B. Off-site topsoil
 - 1. Topsoil from areas from which no topsoil has been taken previously and from areas that are producing or have produced fair to good yield farm crops without unusual fertilization for a minimum period of 10 years or from arable or cultivable areas supplied with good normal drainage.

2. Original loam topsoil, well drained homogeneous texture and of uniform grade, without the admixture of subsoil materials and entirely free of vegetative debris, dense material, hardpan, sod, or any other objectionable foreign material.
3. Containing not less than 2 percent nor more than 20 percent organic matter in that portion of a sample passing a 1/4 inch sieve when determined by the wet combustion method on a sample dried at 105 degrees C.
4. Containing a pH value within the range of 4.5 to 7 on that portion of the sample which passes a 1/4 inch sieve.
5. Free of atrazine and other herbicides.
6. Containing the following gradations:

SIEVE DESIGNATION	PERCENT PASSING
1 inch	100
1/4 inch	97 - 100
No. 200	20 - 65 (of the 1/4 inch sieve)

C. Limestone

1. Provide ground limestone in the producer's standard bags containing not less than 90 percent of calcium and magnesium carbonates equivalent to not less than 45 percent of the mixed oxides of calcium and magnesium and conforming to the following gradations:

SIEVE DESIGNATION	PERCENT PASSING
No. 100	50 - 100
No. 20	100

D. Fertilizer

1. Fertilizer shall be commercial grade granular type that is free flowing and uniform in composition.
2. Fertilizer shall be 5-10-5 mix.

E. Sand

1. Clean, free of toxic materials; 95 percent by weight shall pass a 10-mesh sieve and 10 percent by weight shall pass a 16-mesh sieve.

F. Calcined Clay

1. Granular particles produced from montmorillonite clay calcined to minimum temperature of 1200 degrees F to the following gradation:
 - a. minimum 90 percent passing 8 mesh screen.
 - b. 99 percent retained on 60 mesh screen.
 - c. Maximum 2 percent passing 100 mesh screen.

2. Bulk density: maximum 40 pounds per cubic foot.
- G. Wood Cellulose Fiber
 1. Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate visual metering during application.
 2. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

PART 3 EXECUTION

3.01 PREPARATION

- A. Amend off-site topsoil as needed to meet the pH and percent organic matter prior to placement.
- B. Verify subsurface has no standing water and is not muddy prior to placement.

3.02 SPREADING TOPSOIL

- A. Perform topsoil spreading operations only during dry weather.
- B. To insure a proper bond with the topsoil, harrow or otherwise loosen the subgrade to a depth of 3 inches before spreading topsoil.
- C. Spread topsoil directly upon prepared subgrade to a minimum depth measuring 6 inches after natural settlement in areas to be seeded.
- D. Smooth out unsightly variations, bumps, ridges, and depressions that will hold water.
- E. Remove stones, litter, or other objectionable material.
- F. Finished surfaces shall conform to the contour lines and elevations indicated on the drawings or fixed by the **ENGINEER**.

3.03 SPREADING LIMESTONE

- A. Spread ground limestone evenly over the topsoiled surface.
- B. Incorporate limestone within the top 2 inches of soil prior to finish raking.
- C. Apply limestone at the following rate per 1000 sq. Ft. of topsoil area, corresponding to the hydrogen ion concentration (pH) shown by the soil chemical analysis:

pH	RATE (lb)
4.5 to 5.0	150
5.0 to 5.5	100
5.5 to 6.0	50
6.0 to 6.8	25
over 6.8	0

3.04 FINISHED GRADING

- A. Preparation for seeding
1. Seed areas shall be filled as needed or have surplus soil removed to attain the finished grade.
 2. Drainage patterns shall be maintained as indicated on drawings.
 3. Seeding areas compacted by construction operations shall be completely pulverized by tillage.
 4. Soil used for repair of erosion or grade deficiencies shall conform to requirements specified.
 5. Finished grade shall be 1 inch below the adjoining grade of any surfaced area.
 6. New surfaces shall be blended to existing areas and promote positive drainage.

END OF SECTION

**SECTION 02920
SEED AND MULCH**

PART 1 GENERAL**1.01 SUMMARY**

- A. This section includes:
 - 1. Criteria for establishing vegetation at the work site.
- B. Related Sections
 - 1. Section 02911, "Topsoil."

1.02 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. Agricultural Marketing Service (AMS)
 - a. AMS-01 (Amended thru: Aug 1988) Federal Seed Act Regulations (Part 201-202)
 - 2. American Society for Testing and Materials (ASTM)
 - a. ASTM C 602 (1990) Agricultural Liming Materials
 - 3. New York State Dept. of Transportation (NYSDOT)
 - a. NYSDOT Spec. 1990 (or latest edition) Standard Specifications - Construction and Materials

1.03 SUBMITTALS

The following shall be submitted in accordance with Section VIII, Article 5.23 - 5.29, "Shop Drawings and Samples."

- A. Schedules and Records
 - 1. Delivery schedule of all materials of this section.
 - 2. Written record of maintenance work performed within 10 days of conclusion of the maintenance period.
 - 3. Written calendar time period for the turf establishment period. When there is more than one turf establishment period, describe the boundaries of the turfed area covered for each period.
- B. Certifications
 - 1. Prior to the delivery of materials, certificates of compliance certifying that materials meet the requirements specified.
 - 2. Certified copies of the reports for the following materials shall be included.
 - a. Seed
 - i. Mixture, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, date tested and state certification.

- b. Fertilizer
 - i. Chemical analysis, composition percent.
 - c. Mulch
 - i. Chemical analysis, composition percent.
 - d. Hydro mulch
- C. Catalog Data
- 1. Product data, manufacturer's specifications and recommended application rates shall be submitted and approved prior to scheduling delivery.

1.04 DELIVERY, INSPECTION, STORAGE, AND HANDLING

- A. Delivery schedule shall be prepared for all materials of this section and submitted to the **ENGINEER** at least 10 days prior to the first scheduled delivery.
- B. Materials will be inspected upon arrival at the job site by the **ENGINEER** for conformity to specifications.
- C. Materials shall be stored in areas approved by the **ENGINEER**.
- D. Seed, lime and fertilizer shall be stored in cool, dry locations away from contaminants.
- E. Chemical treatment materials shall not be stored with other landscape materials.
- F. Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

1.05 GUARANTEE

- A. The acceptably established vegetative growth shall be guaranteed for one calendar year from the date of Final Completion.
- B. At the end of the guarantee period, any dead, unhealthy, or badly impaired areas shall be replaced.
- C. All replacements shall be with the same kind of approved materials as the originals and at no additional cost to the **DEPARTMENT**.

1.06 SCHEDULING

- A. Time for Seeding:
 - 1. Sow grass seed between March 15th and May 15th or between August 15th and October 1st, except as otherwise approved in writing by the **ENGINEER**.

PART 2 PRODUCTS**2.01 SEED****A. Seed Classification**

1. State-approved seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material.
2. Labels shall be in conformance with AMS-01 and applicable state seed laws.

B. Seed Mixtures

1. Provide the following seed mixture, or equal:

SEED MIXTURE*			
AMOUNT BY WEIGHT IN MIXTURE	SPECIES OR VARIETY	PERCENTAGE	
		PURITY	GERMINATION
10 percent	Big Blue Stem	85 percent	90 percent
10 percent	Little Blue Stem	85 percent	90 percent
10 percent	Fox Sedge	85 percent	90 percent
10 percent	Canadian Wild Rye	85 percent	90 percent
10 percent	Coastal Panic Grass	85 percent	90 percent
10 percent	Switch Grass	85 percent	90 percent
10 percent	Cup Plant	85 percent	90 percent
10 percent	Indian Grass	85 percent	90 percent
20 percent	Eastern Gama Grass	85 percent	90 percent
100 PERCENT			

*Mixture is available from Ernst Conservation Seeds, 9006 Mercer Pike, Meadville, PA, 16335.

2. Seed annual ryegrass as a companion crop for erosion control during establishment period.

C. Quality

1. Weed seed shall not exceed 1 percent by weight of the total mixture.
2. Wet, moldy, or otherwise damaged seed shall be rejected.

2.02 MULCH

- A. Dry Application, Straw:
 - 1. Stalks of oats, wheat, rye or other approved crops which are free of noxious weed seeds.
 - 2. Weight shall be based on a 15 percent moisture content.
- B. Hydro Application:
 - 1. Colored wood cellulose fiber product specifically designed for use as a hydro-mechanical applied mulch.
 - 2. Acceptable Product is Conwed Hydro Mulch, Conwed Fibers, 231 4th Street SW, Hickory, NC or equal

2.03 FERTILIZER

- A. Provide in accordance with Section 02911.

PART 3 EXECUTION

3.01 SEEDING CONDITIONS

- A. Seed operations shall be performed only during periods when beneficial results can be obtained.
- B. When drought, excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped when directed by **ENGINEER**.
- C. When special conditions warrant a variance to the seeding operations, proposed times shall be submitted to and approved by the **ENGINEER**.

3.02 SITE PREPARATION

- A. Fertilization
 - 1. A 5-10-5 fertilizer shall be applied at a rate of 600 lbs per acre (14 lbs/1000 sf).
 - 2. Fertilizer shall be incorporated as part of the seeding operation.
- B. Tillage
 - 1. Soil on slopes gentler than 3-horizontal-to-1-vertical shall be tilled to a minimum depth of 4 inches.
 - 2. On slopes between 3-horizontal to 1-vertical and 1-horizontal to 1-vertical, the soil shall be tilled to a minimum depth of 2 inches by scarifying with heavy york rakes or other method.
 - 3. Rototillers shall be used where soil conditions and length of slope permit.
 - 4. On slopes 1-horizontal to 1-vertical and steeper, no tillage is required.

3.03 SEEDING

- A. Do not seed when the wind velocity exceeds 5 miles per hour.
- B. Application Rate:
 - 1. Seed Mixture: ½ pound per 1,000 sq ft.
 - 2. Annual Ryegrass : ½ pound per 1,000 sq ft.
 - 3. Reed Canary Grass (wetland areas indicated on drawing only): ½ pound per 1,000 sq ft.
- C. Dry Application: Sow seed evenly by hand or seed spreader on dry or moderately dry soil.
- D. Hydroseeding:
 - 1. Apply seeding materials with an approved hydroseeder.
 - 2. Fill tank with water and agitate while adding seeding materials.
 - 3. Use sufficient fertilizer, mulch, and seed to obtain the specified application rate.
 - 4. Add seed to the tank after the fertilizer and mulch have been added.
 - 5. Maintain constant agitation to keep contents in homogeneous suspension.
 - 6. Prolonged delays in application or agitation that may be injurious to the seed will be the basis of rejection of material remaining in tank.
 - 7. Distribute uniformly a slurry mixture of water, seed, fertilizer, and mulch at a minimum rate of 57 gallons per 1000 sq ft (2500 gallons per acre).
 - 8. The **DEPARTMENT** may order the amount of water increased if distribution of seeding materials is not uniform.

3.04 MULCHING

- A. Dry Application:
 - 1. Within 3 days after seeding, cover the seeded areas with a uniform blanket of straw mulch at the rate of 100 pounds per 1,000 sq. ft. of seeded area.
- B. Hydro Application:
 - 1. Apply approved mulch in accordance with the manufacturer's written instructions and recommended rates of application.

3.05 RESTORATION AND CLEANUP

- A. Restoration
 - 1. Existing seeded areas, pavements and facilities that have been damaged from the seeding and mulching operation shall be restored to original condition at **CONTRACTOR**'s expense.
- B. Cleanup
 - 1. Excess and waste material shall be removed from the planting operation and shall be disposed of off the site.

2. Adjacent paved areas shall be cleaned.
3. Debris removed from the soil surface during finished grading operations shall be disposed on-site as directed by the **ENGINEER**.

3.06 PROTECTION OF TURFED AREAS

- A. Immediately after seeding, the area shall be protected against traffic or other use by erecting barricades and providing signage as required.

3.07 SATISFACTORY STAND OF VEGETATIVE COVER

- A. A satisfactory stand of vegetative cover from the seeding operation is defined as a minimum of 10 grass plants per square foot.
- B. The total bare spots shall not exceed 2 percent of the total seeded area within 3 months of seeding.

3.08 MAINTENANCE DURING ESTABLISHMENT AND GUARANTEE PERIOD

A. General

1. Maintenance of the seeded areas shall include:
 - a. Eradicating weeds,
 - b. Eradicating insects and diseases,
 - c. Protecting embankments and ditches from erosion,
 - d. Maintaining erosion control materials and mulch until growth is satisfactorily established,
 - e. Protecting turfed areas from traffic,
 - f. Mowing to maintain turf stand, watering, and post-fertilization.

B. Mowing

1. Mow entire seeded area once after final completion during the guarantee period when the stand of grass is between 12 and 24 inches in height.
2. Mow to a height of 6 inches.

C. Watering

1. Watering shall be at intervals to obtain a moist soil condition to a minimum depth of 1 inch.
2. Frequency of watering and quantity of water shall be adjusted in accordance with the growth of the vegetative cover.
3. Run-off, puddling and wilting shall be prevented.

D. Post-Fertilization

1. Nitrogen carrier fertilizer shall be applied at the rate of no more than 0.5 pounds per 1000 square feet after the first month and again prior to the final acceptance.
2. The application shall be timed prior to the advent of winter dormancy and shall avoid excessively high nitrogen levels.
3. Notify **ENGINEER** at least one week prior to application.

E. Repair

1. The **CONTRACTOR** shall re-establish as specified herein, eroded, damaged or barren areas.
2. Mulch shall also be repaired or replaced as required.

END OF SECTION

**SECTION 02935
OFF-SITE TRANSPORTATION**

PART 1 GENERAL**1.01 SUMMARY**

- A. This section includes procedures to transport all items specified for off-site disposal.
- B. Related Sections
 - 1. Section 01160, "Hazard Materials Health and Safety"
 - 2. Section 02940, "Off-site Disposal"

1.02 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
 - 1. Code of Federal Regulations (CFR)
 - a. 40 CFR 262 1993 Standards Applicable to Generators of Hazardous Waste
 - b. 49 CFR 172 Tables, Hazardous Material Communication Requirements, and Emergency Response Information Requirements
 - 2. Codes, Rules, and Regulations of the State of New York (NYCRR)
 - a. 6 NYCRR Part 364 Waste Transportation Permits
 - b. 6 NYCRR Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities

1.03 SUBMITTALS

- A. Transportation Plan
 - 1. Submit five copies of a detailed Transportation Plan to the **ENGINEER**.
 - 2. The Transportation Plan must be approved before materials are transported off site.
- B. Records
 - 1. Hazardous Waste Manifests
 - 2. Decontamination Certificates

1.04 PERMITS AND REGULATIONS

- A. Comply with all municipal, county, state, and federal regulations regarding transportation of hazardous and nonhazardous materials. These include:
 - 1. Trucks used for transportation of material for disposal off site shall be permitted pursuant to 6 NYCRR Part 364.

2. Vehicle operator possession of a commercial driver's license with hazardous materials endorsement (if applicable).
3. Registration of vehicle as a hazardous waste carrier (if applicable).
4. Utilization of shipping papers or hazardous waste manifest (40 CFR 262 and 6 NYCRR Part 372).
5. Proper marking and placarding of vehicles in accordance with 49 CFR 172.
6. Placement of emergency response procedures and emergency telephone numbers in vehicle, and operator familiarity with emergency response procedures (see Section 01160).
7. Compliance with load, height, and weight regulations.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Equipment supplied shall be in good repair and good working condition.
- B. Haul trucks that have visible oil or hydraulic fluid leaks will not be allowed on site.
- C. Clean up oil or hydraulic fluid spills.
- D. Trucks used for transportation of hazardous materials for off site disposal shall be water tight and permitted pursuant to 6 NYCRR Part 364.

2.02 TRANSPORTATION PLAN

- A. The Transportation Plan shall include:
 1. Type, condition, and average daily number of vehicles to be used.
 2. Travel routes and times.
 3. Decontamination methods for vehicles, equipment, and containers (see Section 01450, "Health and Safety").
 4. Emergency response plans (see Section 01450, "Health and Safety").
 5. A list of all shippers and their federal and state transporter ID numbers.

PART 3 EXECUTION

3.01 VEHICLE LOADING AND DECONTAMINATION

- A. General
 1. The **CONTRACTOR** shall provide all equipment, personnel, and facilities necessary to load waste materials in accordance with the regulatory requirements listed herein, and in accordance with the regulations of those states through which the **CONTRACTOR** plans to transport materials.
 2. Vehicle operators shall be trained in conformance with federal and state regulations for waste haulers (hazardous, special, and nonhazardous).
 3. All vehicles hauling waste materials from the exclusion zone shall be decontaminated in the contamination reduction zone prior to leaving the site.

4. A written decontamination certification shall be provided to the **ENGINEER** for each subparagraph below stating that:
 - a. No soil from the exclusion zone or the contamination reduction zone adheres to the vehicle (including tires and undercarriage).
 - b. The vehicles are not leaking materials or dripping liquids in any amount.
 - c. Any waste materials, debris, and contaminated materials are covered with a tarpaulin, or are otherwise completely enclosed so as not to cause or permit discharge from the vehicle during transport.

3.02 MEASUREMENT

- A. Upon entering and leaving the site, the transport vehicle shall be weighed on a certified scale under the **ENGINEER's** supervision to determine the amount of material being removed from the site.
- B. A printed ticket with the time, date, and net weight of material being transported for disposal shall be obtained. A copy of this ticket shall be given directly to the **ENGINEER** as it is produced.
- C. Measured gross weight of the vehicle or calculated net weight of material outside the certified capacity of the scale will not be accepted by the **ENGINEER** and the **CONTRACTOR** shall not be reimbursed for the associated costs of material disposal above the certified capacity of scale.
- D. The **CONTRACTOR** shall off-load materials above the certified capacity of scale on site at no additional cost to the **DEPARTMENT**.
- E. Provide a Bureau of Weights and Measures certified weight scale on site. The scale shall have capacity and dimensions such that all vehicles to be used for transporting waste can weighed on the scale entirely.

3.03 MANIFESTING

- A. Complete all required manifest forms and bill of lading forms for the **DEPARTMENT** for proper transportation and disposal of all materials.
- B. Comply with 40 CFR 262 in completion and submittal of the Hazardous Waste Manifests. The Hazardous Waste Manifests for the transportation and disposal of waste removed from the site shall include all information in accordance with 49 CFR 172.101.
- C. Notify the **ENGINEER** in writing a minimum of two weeks prior to the date(s) the manifests are ready to be signed.
- D. The **DEPARTMENT's** hazardous waste generator identification number for use on the manifest (where required) is NYD #980780886 . The **ENGINEER** will sign the special waste or hazardous waste manifest for the **DEPARTMENT**, which is the generator.

- E. Place on the manifest all information and data required by both the waste generator and transporter. The **CONTRACTOR**'s hazardous waste specialist shall accompany each prepared manifest with written certification that the manifest has been filled out in compliance and accordance with all EPA, DOT, and state regulations.
- F. Provide the **ENGINEER** with two fully executed copies of each shipment manifested prior to shipping wastes off site.
- G. The **CONTRACTOR** is responsible for proper distribution of manifests and bills of lading.
- H. See Section 02940, "Off-site Disposal" for reporting procedures upon permanent disposal of the waste.

3.04 TRANSPORTATION

- A. Prior to shipment of hazardous wastes off the project area, the **CONTRACTOR** shall confirm by written communication from the designated transporter(s) that they are authorized to deliver the manifested waste to the designated TSDF or SWMF.
- B. The **CONTRACTOR** shall be responsible for obtaining permits and authorizations necessary to use the selected shipping routes. Comply with restrictions imposed by local governmental agencies regarding use of the routes.
- C. Materials shall be transported only at the times and by the routes indicated in the approved Transportation Plan, unless written permission is received from the **ENGINEER** to do otherwise.
- D. Cleanup
 - 1. Do not allow soil to be tracked off site at any time during the project.
 - 2. Visible soil tracks on streets will not be allowed.
 - 3. Take sufficient precautions to prevent loose soils from adhering to tire treads, wheel wells, and undercarriages of vehicles leaving the site.
 - 4. Remove visible soil tracks from streets caused by vehicles entering and leaving the site.
 - 5. The **CONTRACTOR** shall be responsible for any and all actions to remediate spills in transit.

END OF SECTION

SECTION 02940 OFF-SITE DISPOSAL

PART 1 GENERAL

1.01 SUMMARY

This section includes procedures for off-site disposal of wastes.

1.02 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
 - 1. Code of Federal Regulations (CFR)
 - a. 40 CFR 262 1993 Standards Applicable to Generators of Hazardous Waste
 - 2. Codes, Rules, and Regulations of the State of New York
 - a. 6 NYCRR Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities

1.03 SUBMITTALS

- A. Records
 - 1. Submit written confirmation from TSDF of acceptance of waste.
 - 2. Profile sampling results.
 - 3. Manifests after permanent disposal.
 - 4. Certificates of disposal for non-hazardous waste.
 - 5. Signed bills of lading for salvaged or recycled materials.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01 DISPOSAL REQUIREMENTS

- A. The disposal facilities designated by the **CONTRACTOR** must comply with policies adopted by the **DEPARTMENT** with respect to the off-site disposal of waste.
- B. Prior to shipment of hazardous wastes off the site, the **CONTRACTOR** shall confirm by written communication from the designated TSDF that it is authorized, has the capacity, and will provide or assure that the ultimate disposal method is followed for the particular hazardous waste on the manifest.

3.02 ACCEPTABLE FACILITIES

A. RCRA Wastes

1. The facility must have an RCRA Permit or RCRA Interim Status for RCRA wastes.
2. The facility must not have any significant RCRA violations or other environmental conditions that could affect its satisfactory operation.
 - a. Significant violations include Class 1 RCRA violations as defined in EPA's RCRA Enforcement Response Policy dated December 1984, including but not limited to groundwater, closure, post closure, and financial violations.
 - b. Other environmental conditions include those conditions affecting the satisfactory operation of the facility and violations of state and/or federal laws other than RCRA.
 - c. Under limited circumstances, EPA Administrator may allow disposal of hazardous substances at a RCRA facility having significant RCRA violations or other environmental conditions affecting satisfactory operation, providing that the facility owner or operator has entered into a consent order or decree to correct the problems, and disposal only occurs within the facility at a new or existing unit that is in compliance with RCRA requirements.
3. Landfill disposal must be in a unit meeting applicable RCRA minimum technical requirements.
 - a. Current RCRA minimum technical requirements for land disposal include the use of a double liner system.
 - b. Under limited circumstances (low waste toxicity, mobility, and persistence), EPA may approve the use of a single-lined land disposal unit for RCRA wastes where use of such a unit adequately protects public health and the environment.

B. TSCA Wastes

1. The facility must have a current TSCA permit.
2. The facility must not have any significant violations, corrective actions, or other environmental conditions that could affect its satisfactory operation.

C. Non-hazardous Wastes

1. The facility must have a state permit, if applicable.
2. The facility must be permitted in good legal standing with applicable agency regulatory requirements.

3.03 SAMPLING

- A. Perform all sampling and analyses required by the disposal facility at no additional cost to the **DEPARTMENT**.
- B. Provide copies of these results to the **ENGINEER**.

3.04 REPORTING

A. Manifests

1. After the waste has been permanently disposed of, the Hazardous Waste Manifests shall be completed in accordance with 6 NYCRR Part 372 and submitted by the **CONTRACTOR** to the **ENGINEER** with a copy to be forwarded to the **DEPARTMENT**.
2. In accordance with 40 CFR 262.42, generator shall contact the transporter and TSD facility to determine the status of the HTW if the manifest is not returned to the generator within 35 days of the date waste was accepted by the initial transporter.
3. The generator shall file an exception report with EPA and NYSDEC if he has not received a completed copy of the manifest from the designated TSD facility within 45 days of the date the waste was accepted by the original transporter.
4. The **CONTRACTOR** shall be responsible for providing the generator with the information needed to complete the exception report.

B. Certificates of Disposal

1. Provide Certificates of Disposal for all wastes shipped off site.
2. The Certificates of Disposal shall be submitted to the **ENGINEER** within 180 days of the shipment of wastes off site.

C. Bill of Lading

1. Items and materials that have been recycled or salvaged shall only require a signed bill of lading or receipt of materials and quantity received.

END OF SECTION

**INDEX
DIVISION 13**

Section	Title
13560	THERMAL DESORPTION

SECTION 13560 THERMAL DESORPTION

PART 1 GENERAL

1.01 SUMMARY

This section includes the requirements for assembly, start-up, demonstration testing, material handling and treatment, operation and maintenance, and disassembly of an on-site LTDD system and feed preparation building (FPB).

1.02 REFERENCES

- A. Code of Federal Regulations (CFR)
 - 1. 40 CFR 264 Standards for Owners and Operators of Hazardous Waste Treatment, and Disposal Facilities
- B. New York State Department of Environmental Conservation (NYSDEC)
 - 1. NYSDEC Air Guide 1
- C. New York Codes, Rules, and Regulations (NYCRR)
 - 1. 6NYCRR Parts 373-2.15, 201, 212, 231, and 373-2.24
- D. United States Environmental Protection Agency (EPA)
 - 1. USEPA Proposed Test Methods 40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; and 40 CFR Part 63, Appendix A (see Federal Register August 27, 1997)
 - 2. USEPA Proposed Performance Specifications 40 CFR Part 60, Appendix B (see Federal Register August 27, 1997)
 - 3. USEPA 450/4-80/023R Guideline for Determination of Good Engineering Practice Stack Height
- E. National Fire Protection Association (NFPA)
 - 1. NFPA 30 Flammable and Combustible Liquids
 - 2. NFPA 31 Installation of Oil Burning Equipment
 - 3. NFPA 54 National Fuel Gas Code
 - 4. NFPA 58 Standard for the Storage and Handling of Liquefied Petroleum Gases
 - 5. NFPA 70 National Electric Code
 - 6. NFPA 82 Incinerators, Waste and Linen Handling Systems
 - 7. NFPA 211 Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances

1.03 RELATED SECTIONS

Section 01010 "Summary of Work"
Section 01050 "Surveys"
Section 01150 "Work Plan"
Section 01425 "Sampling"
Section 01160 "Health and Safety"
Section 02221 "Excavation"
Section 02222 "Backfill"
Section 02110 "Clearing and Grubbing"
Section 02050 "Demolition and Removal"

1.04 SUBMITTALS

Submit all items in accordance with Section VIII, Article 5.23 - 5.29, "Shop Drawings and Samples."

A. LTTD Work Plan

1. Include in the Work Plan a detailed description of the LTTD system process. Identify all treatment system components, their functions within the treatment system, operating parameters, computer controlling logic including alarms, interlocks, and set-points, continuous emissions monitoring devices, and operations monitoring devices.
2. Provide all manufacturer's data, site layout and material (soil) flow, construction procedures, foundation requirements, utility requirements, secondary containment of hazardous and non-hazardous materials, air and other environmental permit and substantive requirements, proposed air modeling procedures, demonstration test procedures, initial start-up and shake-down procedures, operation and maintenance procedures, start-up and shut-down procedures, emergency shut-down procedures, emergency/contingency procedures, material handling and pre-treatment, air pollutant emissions testing procedures, pre- and post-treatment materials testing, manpower and resource requirements, anticipated productivity and schedule, anticipated volumes of waste generated (liquid and solid), site LTTD specialists and operations personnel, and mechanism for implementing system modifications.
3. Provide a simplified process and instrumentation diagram including narrative description. Identify on the diagram locations of all major processes, controls, and instrumentation including: temperature, pressure, flow, interlocks, alarms, stacks, continuous emissions monitors, vents, dampers, drains, waste feed, treatment chamber, and treated material discharge.
4. Include in the Work Plan waste feed management. This section will include information on the Feed Preparation Building (FPB) that describes building type, operational layout, storage capacity. Waste feed handling procedures, including dewatering systems (if applicable). Fugitive emissions monitoring and controls and anticipated noise levels, vibrations, and odors.

5. Identify specific materials deleterious to or untreatable by the LTTD system which may be found in a C&D landfill. Include in the Work Plan detailed procedures for the identification, handling, and decontamination of untreatable materials.
6. Include in the Work Plan Demonstration Test Procedures. Summarize test procedures, designation of Principal Organic Hazardous Constituents (POHCs) used for DRE determination, sampling equipment and procedures, qualifications and experience of stack testing personnel, equipment calibrations, test chronology and schedule, process data, stack parameters, cleanup criteria and procedures, field data and calculations, analytical data, DRE calculations, regulatory requirements, and permit/substantive conditions. This outline will also be used as the format for the Demonstration Test Report.
7. Modified Shop Drawings must be submitted and approved prior to LTTD system mobilization.

B. Demonstration Test Report

The test report(s) at a minimum shall explain in detail the testing protocol, analytical parameters, and results for each tested parameter as well as define the operating conditions of the LTTD system, air pollution control device(s), and applicable auxiliary equipment and monitoring devices. The test report(s) shall provide the test results compared to **DEPARTMENT** relevant and applicable regulations/guidelines in an easily read and understandable format; comparing numbers that incorporate the same units (e.g., dry standard cubic feet per minute, inches of water column, etc.).

Follow the outline identified in the Demonstration Test Procedures. Summarize test procedures and variations in the work plan. Identify POHCs, analytical procedures, analytical laboratory, CPMs and CEMs, test results, and DRE calculations. Include a narrative of test performance identifying personnel, sequence of events, and results. Provide a detailed listing of LTTD operations parameters to be maintained during full-scale production, identified during the demonstration test.

C. Operation Summaries

LTTD system operations shall be documented on a spreadsheet and submitted weekly. A copy of the proposed submittal should be included in the Work Plan and include, at a minimum, all items and format depicted in Figure 1.4-1. LTTD system operations documentation shall include: all air; water; soil; and emissions sampling times; dates; analytical parameters; analytical results; summaries of treated material volumes/weights; retreated material volumes/weights; generated waste volume/weights; off-site disposal volume/weights and disposal rationale; CEM and CPM results; site perimeter air monitoring results; site perimeter noise monitoring results; outlet soil temperatures; primary unit and stack, outlet air temperatures; wet or dry air pollution control devices temperature and pressure drop (if applicable); afterburner temperature (if applicable); operational failures, modifications, and emergency shutdowns (with explanation of what caused the shutdown); and address impacts to relevant and applicable regulations.

In addition to the above, CEMs and CPMs data must be logged and submitted daily. Sample results should also identify what was sampled, where they were sampled (map location or treated pile designated), and when the samples were taken. Submit results daily to the **ENGINEER**.

D. Air Impact Analysis Modeling

Provide an ambient air impact analysis using EPA Screen 3 air dispersion model prior to system start-up and demonstration. The analysis should demonstrate that the treatment system proposed will comply with applicable emissions and ambient air quality standards, including applicable NYSDEC annual and short-term guidelines concentrations for hazardous air pollutants under conservative operating conditions. Conservative values based on existing site data will be used to develop the model. Procedures shall be standard EPA protocols and subject to approval by the **DEPARTMENT**. Exclusion zones shall be established to account to stack downwash.

PART 2 PRODUCTS

2.01 SYSTEM DESCRIPTION

A. LTTD Unit

1. The on-site LTTD system shall transfer organic compounds from contaminated materials (consisting primarily of soil and C&D debris) to a gaseous stream drawn through the negative pressure system. The system shall consist of a series of processes designed to remove organic contaminants from the contaminated materials by applying heat/energy either directly or indirectly to the materials being processed. Removal and or treatment of organic vapors shall be completed in one or more air pollution control systems.
2. The on-site LTTD system must properly treat a minimum of 20 tons of material/hr and operate at temperatures below 900°F (maximum exit soil temperature not to exceed 900°F).
3. The air discharge from the on-site LTTD system, including the air pollution control system(s), must be treated with Best Available Control Technology (BACT) and shall be capable of controlling gaseous, solid, and aerosol type emissions to meet all performance requirements. The use of an afterburner or contaminant recovery (as opposed to destruction) system are both acceptable. There are no resident time or temperature requirements for either air pollution control system. HCl emissions shall not exceed 4 lb/hr. The LTTD system must demonstrate a Destruction Removal Efficiency (DRE) of at least 99.99%. DRE is defined in 6NYCRR Part 373-2.15. Applicable emission regulations include 6NYCRR Part 212 and Part 373-2.24. The LTTD system must also provide an acceptable ambient air impact as described in the **DEPARTMENT's** Air Guide-1, Guidelines for the control of Toxic Ambient Air Contaminants.

4. Continuous emission monitors and stack design shall be in accordance with the appropriate Methods and Performance Specifications 40 CFR Part 60, Appendix A and B; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A; and EPA 450/4-80/023R.
5. The air pollution control system shall be designed to minimize water consumption and liquid waste generation. Liquids in the air pollution control system shall be recirculated to the maximum extent practicable.
6. Stack support shall be in accordance with NFPA 82 and NFPA 211, as applicable.

B. LTTD Control Room

A fully enclosed control room provided with system controls, instrument readouts, and data recording devices shall be maintained at the LTTD system. The control room shall have direct readout for all CEM and CPM requirements (see Section 3.3.3). The control room shall be manned by approved personnel, at all times during operations. The control room shall be heated and air conditioned, permitting year-round occupancy, and shall meet instrumentation and control equipment manufacturer's operating specifications. If the control room is located in the exclusion zone, provision shall be made for personnel using protective clothing and equipment. If the control room is located in the support zone, a hard-wired intercommunication system and two hard wire telephonic communication channels between the control room and LTTD system operating area shall be provided to allow control room operators to communicate with system operators. Closed-circuit television monitoring of operations not directly visible from the control room shall be provided in the control room.

C. Redundancy, Alarms, and Instrumentation

1. Fully redundant backup capability within each subsystem to safely terminate system operations at the control room and at the LTTD system shall be provided. Duplexing or redundancies within the instrumentation and control systems shall be adequate to provide uninterrupted continuous monitoring of the emissions and to demonstrate operation in accordance with the approved operating conditions.
2. Monitored parameters and excursion alarms shall be displayed locally and displayed and recorded in the control room. Process and emissions data shall be maintained in the control room and recorded electronically in an approved format (Lotus 1-2-3, Microsoft Excel, Corel Quatro) identified in the Work Plan. Flow information shall include rate monitoring, integration, and totalizing. Hard copies of recorded data and summaries of recorded data shall be maintained in the control room. The copies shall be available upon request.

3. Instrumentation and equipment including sensors, weigh bridges, local indicators, connecting devices, recorders, analyzers, and components necessary to monitor and control the safe and efficient operation of the system shall be provided.
4. Visible alarms shall consist of lights on the main control panel, flashing symbols on the screen of the microprocessor controller in the control room and, for each interlock that stops the contaminated material feed system, lights at the equipment location. Audible alarm activation shall be provided for each interlock that stops the feed to the LTTD system.

D. Material Handling Systems

1. Material handling and contaminated material feed systems provided shall be capable of processing, and conveying contaminated materials, separately or in combination, to the primary chamber. Pre-treatment shall include crushing, grinding, shredding, screening (sorting), and drying as required to produce material no larger than 2 inches in diameter and which is otherwise compatible with the LTTD system. Capacity of the contaminated material feed system shall be consistent with the capacity of the LTTD system.
2. The contaminated material feed system shall be capable of weighing the contaminated materials (solid only) introduced into the LTTD system. The flow rate of the feed stream will be computer controlled and continuously measured. The conveyor belt feed system will be equipped with a Ramsey Microtech II weight bridge indicator, or equal, the read out from which is displayed at 3-second intervals in the control center.
3. Every 15 minutes during each run, the weights will be read from the control room and logged in a bound notebook. The weights will be downloaded to an ASCII file at the end of each run. **CONTRACTOR** will provide copies of the logs and ASCII files to the **ENGINEER** at the end of each day.
4. Manufacturer's instructions for calibration shall be provided to the **ENGINEER**.
5. If liquids or solids containing free water are to be introduced into the LTTD system. Proper containment of the liquids as well as proper feed system(s) must be employed and approved by the **DEPARTMENT** including their use during the demonstration test.
6. Contaminated material feed conveyors shall be covered and vented to the air pollution control system.
7. Equipment and storage facilities shall be provided for removing, handling, and storing residues resulting from thermal treatment, including treated material and solids captured by the pollution control systems. Capacity for treated

material and solids captured by the pollution control system removal, handling, and storage systems shall be consistent with the capacity of the LTTD system.

8. Separate storage for treated material and solids captured by the pollution control systems handling systems shall be adequate for **CONTRACTOR**'s own operation to allow for results from sampling and analyses prior to additional treatment or disposal.
9. Treated material handling systems shall include provisions for rehydration of material leaving the LTTD system prior to storage and for confining the materials to the proper storage area or providing cover in order to prevent fugitive emissions.
10. Air pollution control equipment shall be grounded against static electricity as necessary to prevent flash and/or explosive situations.

E. Feed Preparation Building (FPB)

Provide a weather-tight enclosure for all LTTD feed materials processing including screening, shredding, crushing, dewatering (if applicable), and feed loading operations. The enclosure shall be designed and constructed to both protect operations from weather and capture VOC emissions from materials processing operations. The enclosure shall be under negative pressure to limit the direct release of VOCs to the atmosphere. All ventilation exhaust shall be treated in the LTTD or by other means as approved by the **ENGINEER**. The enclosure shall meet all applicable building code requirements and be sized to accommodate the **CONTRACTOR**'s operations. Submit a detailed description of the enclosure, including drawings, as part of the LTTD submittal package.

F. Foundations

Provide proper concrete footers and pads for all LTTD and WFB components. Foundations shall be designed to support all equipment and materials, and mitigated system failures due to vibration and anticipated loads.

PART 3 EXECUTION

3.01 START-UP AND DEMONSTRATION TEST

- A. Complete the appropriate NYSDEC Part 201 air permit application forms for review and approval by the **DEPARTMENT** prior to start-up operations.
- B. A maximum of 500 tons of soil and 3 workdays of treatment will be allowed for shakedown/start-up prior to demonstration testing. **CONTRACTOR** is responsible for operating the system the minimum duration necessary to establish operating conditions. **CONTRACTOR** is responsible for performing all routine startup and shakedown procedures on individual components of the system without treating soil as per manufacturer's recommendations. **CONTRACTOR** is responsible for

performing all continuous emission, continuous process monitoring, soil sampling, and health and safety air monitoring while treating soils prior to stack testing. The soil used for shakedown/start-up and demonstration testing will be determined by the **ENGINEER** and **DEPARTMENT**. The location and estimated quantities must be included in the **CONTRACTOR**'s work plan. Under no circumstances will soil spiking [artificially increasing the POHC(s) content] be allowed by the **DEPARTMENT**. The operation time prior to demonstration will be limited to the minimum duration necessary to establish operating conditions. Prior to and including demonstration testing, the LTTD system will be limited to 10 hours of operation per day. Perform all start-up and shakedown procedures on individual components of the system without treating soil and in accordance with manufacturer's recommendation. Perform all continuous emission monitoring, continuous process monitoring, and sampling while performing the shakedown/start-up and demonstration test.

- C. One successful demonstration test is required before the commencement of full-scale treatment operations. One demonstration test consists of a minimum three test runs (see Section 2.1.1 B,C & D). A "test run" may include multiple runs to account for volume requirements and stack testing protocols as appropriate. DRE will be calculated for each individual run. Test runs are to comply with USEPA stack testing protocols and must be of sufficient duration to meet air testing guidelines. The demonstration tests shall comply with USEPA proposed test methods and performance specifications. The demonstration test shall comply with USEPA proposed test methods 40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; and 40 CFR Part 63 Appendix A; and USEPA proposed performance specifications 40 CFR part 60, Appendix B (see Federal Register August 27, 1997).

The protocol must be approved by the **DEPARTMENT** prior to test execution.

- D. All emissions and soil testing must be performed and completed during the demonstration test. The demonstration test will be run on soils identified on the Drawings contained in the work plan and submitted by the **CONTRACTOR**. The soils to be used in the demonstration test will be representative of the most contaminated materials to be encountered at the site. Soils must be approved by the **ENGINEER** prior to test execution.
- E. Sampling procedures, reporting, and QA/QC are identified in Section 01425 "Sampling." The following sampling, monitoring, and testing will be performed during the demonstration test:

LTTD Demonstration Test Sampling			
Media	Contaminants and Analytical Parameters	Analytical Method	Frequency
Pretreatment Soil	VOCs (acetone, 2-Butanone, Trichloroethene, 4-methyl-2-pentanone, Tetrachloroethene, 1,2-DCE (total)	CLP95-1	1 grab per 100 cy
	Total metals pretreatment, when metals air emissions are tested	CLP	
Treated Soils	VOCs (acetone, 2-Butanone, Trichloroethene, 4-Methyl-2-Pentanone, Tetrachloroethene, 1,2-DCE (total)	CLP95-1	1 grab per 100 cy
	SVOCs, when SVOCs air emissions are tested	CLP95-2	
Air Emissions	VOCs	VOST Method 0030 of SW-846	Per method
	Semi-VOCs and PICs	Modified Method 5, Method 0010 of SW-846	Per method
	Metals	Method 29	Per method
	HCl	Method 26A	Per method
	Total Hydrocarbons	Method 25A	Per method
	O ₂ and CO ₂	Method 3	Per method
	CO	Method 10	Per method
	Moisture	Method 4	Per method
	Particulate	Method 5	Per method
	Opacity	Method 9	Per method

* Note: VOC soil samples to be collected as a grab sample directly from treatment discharge at the rate of 1 per 100 cy.

LTDD Demonstration Test Continuous Monitoring	
Operation	Parameters
Continuous Emissions	Stack gas velocity, O ₂ , CO, Total Hydrocarbons, CO ₂ .
Continuous Process	Waste feed rate, temperature in primary desorption chamber, exit soil temperature, air pollution control devices temperature and pressure drop, afterburner temperature (if applicable), and exit air temperature from desorption chamber.

- F. Based on the demonstration test analytical data, calculate the DRE for each and every demonstration test run.
- G. Due to the relatively low contaminant input rate, a 99.99% DRE may not be demonstratable. Process tests with DRE's less than 99.99% will be acceptable if all air and soil contaminants analyzed during the demonstration test are non-detect with sufficient process times and quantities and at detection limits approved by the **DEPARTMENT**. Additionally, all continuous emissions and process monitoring results obtained during the demonstration tests must be within the limits established in the **CONTRACTOR's** work plan and approved by the **DEPARTMENT**. The specified DRE test criteria is based on locating and using the most highly contaminated soil from the site. The process operating parameters recorded during the successful demonstration test shall become the operating limits for the equipment. The **CONTRACTOR** shall use TCE (trichloroethene) as the POHC to demonstrate DRE requirements.
- H. No spiking of contaminants into soils to be treated for purposes of demonstration testing shall be allowed.
- I. Provide Demonstration Test Report(s) to the **DEPARTMENT** within 7 calendar days after completion of test performance (see Section 1.4.2).
- J. The **CONTRACTOR** is responsible for demonstration test success. Additional testing required to demonstrate proper system operation, beyond the three test runs specified, will be performed by the **CONTRACTOR** at no additional cost to the **DEPARTMENT**.
- K. Personnel involved in the performance of demonstration testing must be trained in accordance with OSHA 1910.120.
- L. Review and approval of the demonstration test report will be accordance with Section VIII, Articles 5.23 through 5.29.

3.02 OPEN HOUSE

Following completion of the demonstration test, and prior to receipt of Notice to Proceed for Full-Scale Treatment, the **CONTRACTOR** will schedule and provide knowledgeable personnel for a One-Day Open House. At a minimum, the **CONTRACTOR** shall provide one representative, and the thermal subcontractor (if any) shall provide one representative. A 28" x 40" schematic of the LTTD operations shall also be provided. The Open House will be targeted towards the general public, and will be a part of the **DEPARTMENT's** citizen participation effort.

3.03 TREATMENT SYSTEM OPERATION

- A. Obtain all necessary State and Federal permits and approvals required to operate the treatment unit. Provide adequate documentation that all applicable or relevant and appropriate regulations/guidelines have been met. No formal air permit is required from the **DEPARTMENT**; however, the **CONTRACTOR** must complete Form 76-19-3, *Process, Exhaust or Ventilation System, Application for Permit to Construct or Certificate to Operate*, for review and approval by the **DEPARTMENT** and meet substantive requirements.
- B. The **CONTRACTOR** is solely and fully responsible for ensuring adequate quantities of contaminated soils are made available via excavation staging and processing to maintain treatment systems operations. The LTTD system may be operated 24 hours per day, 7 days a week (see nuisance noise, dust, vibrations, and odors, Section 3.3.3B).
- C. The **CONTRACTOR** is solely and fully responsible for the coordination of and any delays arising from the surveying, excavation, backfill, treatment, sampling, and analyses of treated soils.
- D. A full-time experienced treatment system operator(s) shall be on site at all times during treatment system operation. An experienced treatment system operator is defined as an individual with over 5 years experience in the field, and who has participated in two relevant thermal desorption projects.
- E. For 24-hour operation of the LTTD, during periods without any intrusive work (treatment only), an individual meeting the qualifications of the health and safety technician may be provided in lieu of the HSO.
- F. The thermal treatment system operator will be classified as a Power Equipment Operator, Class A (Heavy and Highway), for the purposes of determining wage rates.
- G. The **CONTRACTOR** is responsible for any and all necessary winterization.
- H. **CONTRACTOR** is responsible for any and all damage (cracked foundations, walls, flooring, etc.) to existing structures in the neighborhood which results from the operation of the treatment system.

- I. **CONTRACTOR** is responsible for any off-site materials (fill, stone, etc.) to place or stage the thermal treatment system.
- J. **CONTRACTOR** is responsible for routine and timely maintenance of all seals, filters, and controls related to fugitive emissions.
- K. Material Handling and Processing
 - 1. No demobilization or substitution of treatment units will be allowed between start-up and project completion, unless approved by the **DEPARTMENT**. In such an event, system start-up and demonstration testing will be repeated at no additional cost to the **DEPARTMENT**.
 - 2. The **CONTRACTOR** shall size the material to be treated to 2-inches or less, as appropriate for proper treatment, and as determined during system demonstration. Materials greater than 2 inches in size, materials deemed deleterious to the treatment system, or untreatable debris (such as metal debris) shall be stockpiled separately on a 40-mil minimum impermeable liner with a 1-foot high berm. Contaminated stockpile liners will be installed on a slope with a low point to allow leachate to be collected and treated. Metal debris shall be scrapped or disposed off site.
 - 3. Materials to be treated with high moisture content or free water will be subject to a paint filter test (SW 9095). Material which fail the paint filter test will require additional dewatering prior to LTTD treatment.
 - 4. Untreatable materials will be decontaminated on site, by methods approved by **DEPARTMENT**. Properly decontaminated material as identified by the **ENGINEER** backfilled on site as specified in Section 02232 "Backfill." Metal debris shall be scrapped or disposed off site. Operations involving the screening, pretreating, decontamination, and loading of material into the treatment system will be performed within the Feed Preparation Building.
 - 5. All treatment processes of the LTTD unit require secondary containment. The **CONTRACTOR** is responsible for all contamination that may result from any process unit. Remove captured materials from secondary containment to prevent migration of contaminants. All captured materials are to be treated as contaminated. Containerize and treat on site, or properly dispose of off site, any waters that collect on the treatment system pad. The **CONTRACTOR** may, at own option and cost, provide roofing to minimize the amount of water collecting on the treatment system pad. The roofing must provide ventilation and lighting at all work hours. In any circumstance, no solid material with free water will be allowed to be fed to the LTTD unit unless previously demonstrated [see 2.1.4(B)].

6. Material flow rates into the LTTD unit shall be displayed at three second intervals in the control. At fifteen minute intervals, weights will be read and logged in a bound notebook in the control room.
7. **CONTRACTOR** is responsible for containerizing and either treating on site or disposing off site any waters collected without the treatment system's secondary containment. **CONTRACTOR** may, at **CONTRACTOR's** own option and cost, provide suitable roofing over the treatment unit to minimize rainfall from being collected from within the secondary containment. The roofing must provide adequate ventilation and lighting at all times during work operations.
8. The material feed scale will be checked on a monthly basis and as directed by the **ENGINEER**. If, at any time throughout the project, system failure occurs or other evidence suggests the certified scale is out of calibration, **CONTRACTOR** shall recalibrate the instruments at no additional cost to the **DEPARTMENT**.

The Ramsey Microtech II Weigh Bridge will be calibrated by the following material calibration procedure:

- a. Run the empty conveyor belt/weigh bridge for a minimum of 30 minutes to warm up the conveyor belt.
- b. Determine the tare weight of an empty dump truck at a National Institute of Standards and Testing (NIST) certified weigh scale. The operator will provide a printed slip.
- c. Place the Ramsey Indicator into material calibration code. Run a quantity of material over the weigh bridge into the tared, empty truck.
- d. When approximately 5 tons materials has crossed the weigh bridge, discontinue feeding material over the weigh bridge.
- e. Re-weigh the dump truck at the NBS-traceable scale to determine the weight of material actually run over the weigh bridge. The operator will provide a printed slip.
- f. Compare the weight printed on the slip to the quantity displayed by the Ramsey Indicator. Adjust weigh indicator as required. The Ramsey Integrator then provides the percent accuracy of the weigh bridge.
- g. Re-run the material calibration test (minimum three runs) until measurements and reproducible within weigh indicator and scale tolerance.

L. Treated Soils and Verification Sampling

1. Treated soils shall be stockpiled on a 40-mil minimum impermeable liner with a 1-foot high berm. Treated soils shall be kept separate from pretreated, and verified clean materials. Treated soils will not be considered clean until review and acceptance of the verification sampling results by the **ENGINEER**. Water shall be added to treated soil to prevent dust.
2. Verification sampling shall be performed as specified in Section 01425, "Sampling," and as identified during the Demonstration test.

3. Treated soils will be considered clean when the **ENGINEER** reviews and accepts verification sample results showing that the soils meet the following levels:

LTTD Soil Clean-up Goals [parts per billion (ppb)]	
Indicator Chemical	Cleanup Objective
Acetone	198
2-Butanone	405
Trichloroethene	1,134
4-Methyl-2-Pentanone	1,710
Tetrachloroethene	3,276
1,2 DCE (total)	438

4. If treated soils fail to meet the specified treatment levels, the **CONTRACTOR** shall retreat the soil until treatment goals are achieved, at no additional cost to the **DEPARTMENT**. Treated soils that exhibit odors or staining as identified by the **ENGINEER**, shall be retreated by the **CONTRACTOR** at no additional cost to the **DEPARTMENT**.
5. Treated soils meeting the specified treatment levels as exhibited by verification sampling, and approved by the **ENGINEER**, may be backfilled on site, in accordance with Section 02300, "Backfill."
6. Any treated soils not meeting specified treatment levels as exhibited by verification sampling shall be re-treated by the **CONTRACTOR** at no additional cost to the **DEPARTMENT**.

M. Continuous Monitoring

1. Provide continuous LTTD system monitoring as follows:

LTTD Operation Continuous Emissions Monitoring	
Operation	Parameters
Continuous Emissions Monitoring (CEM)	Stack gas velocity, O, CO, Total Hydrocarbons, CO ₂ .

LTTD Operation Continuous Process Monitoring	
Operation	Parameters

LTTD Operation Continuous Process Monitoring	
Continuous Process Monitoring (CPM)	Waste feed rate, temperature in primary desorption chamber, exit soil temperature, air pollution control device temperature and pressure drop, afterburner temperature (if applicable), and exit air temperature from desorption chamber.

All CEM and CPM requirements for all parameters shall be continuous with readout directly available to operator (see Section 2.1.2).

Results of the CEM and CPM will be recorded and maintained on-site on an electronic spreadsheet. Running totals of treated, retreated, and rejected materials shall also be provided on this spreadsheet. Hard copy reports of the spreadsheet monitoring data will be provided to the **ENGINEER**.

2. The LTTD and associated equipment shall be subjected to thorough visual inspections for leaks, spills, fugitive emissions, and signs of tampering or mechanical failure. The frequency of inspection shall be once per 8-hour shift of the LTTD system during start-up and demonstration testing. Inspection shall be performed once daily during full-scale production operations. Inspections shall be logged on site. Inspection log shall identify the date and time of inspection, inspector, and findings. Report any problems encountered during inspection to the **ENGINEER** within 8 hours.
3. **CONTRACTOR** is responsible for operating the system in accordance with all applicable requirements. Consistent disregard for continuous emission requirements will result in prorated reduction in payment for soils treated and may result in work shutdowns at **CONTRACTOR**'s own cost. **CONTRACTOR** is responsible for determining there's a problem based on CEM readings, evaluating the situation and taking appropriate corrective actions to bring the system back into compliance. Timely corrective action requires a short term (i.e., less than 4 hours) response with complete disclosure to the **ENGINEER** of the nature of the problem and corrective action(s).
4. No treatment will occur (or be paid for) unless all contractually required air monitoring is being performed.

N. Automatic Shutdown Provisions

1. The following conditions shall trigger automatic shutdown of contaminated soil feed:

LTTD Shutdown Conditions	
Condition	Shutdown
Primary Burner Failure	Instantaneous.
Induced draft fan failure.	Instantaneous.

LTTD Shutdown Conditions	
Condition	Shutdown
Electrical Power Failure	Instantaneous.
External fire or internal fire where not appropriate	Instantaneous.
Air Pollution Control Device(s) Temperature and Pressure Drop (if applicable) outside the operating envelope identified in the demonstration test.	2-minute Delay System Shutdown
Afterburner Temperature (if applicable) below set point identified in the demonstration test.	2-minute Delay
Primary Treatment Chamber Temperature outside the operating envelope identified in the demonstration test.	2-minute Delay for Feed System Shutdown
Puffing or sudden fugitive emissions, excess opacity of stack plume	2-minute Delay for Feed System Shutdown
Carbon monoxide or hydrocarbon CEMs above limits identified in the demonstration test.	5-minute Delay for Feed System Shutdown
Outlet Soil Temperature below set point which is based on type and amount of contamination, soil type, and demonstration test.	10-minute Delay for Feed System Shutdown

Note: Instantaneous is defined as an immediate safe emergency shutdown of the LTTD system.

Other appropriate shutdown measures may be added as required based on the specific equipment and methods used in the treatment process. The **CONTRACTOR** is wholly and solely responsible for the remediation of on- and off-site contamination and mitigation of damage as a result of the system failure.

2. Maintain sound impacts below 35 decibels above background at all site fence lines or 150 feet from the treatment units (whichever is more restrictive). Address all nuisance noise (determined by one or more complaints from local residents), dust, vibrations, and odors in compliance with 6NYCRR Part 211. Address all complaints from local residents. **CONTRACTOR** shall supply odor masking or suppressant agents, sound barriers, and vibration-absorbing pads as necessary. **CONTRACTOR** shall maintain process equipment

properly adjusted to minimize noise and vibration impacts. All costs related to manufacturer's representatives, subcontractors, and consultants who specialize in mitigation of the aforementioned nuisances are the responsibility of the **CONTRACTOR**. Non-compliance will be cause for system shutdown at no additional cost to the **DEPARTMENT**.

3. The system must utilize appropriate odor and dust controls such as baghouses, quenchers, appropriately sized condensers, and/or HEPA filters to appropriately handle volatilized contaminants, vaporized water, and entrained particulates exiting from the system.

3.04 DEMOBILIZATION

- A. Decon unit and related systems, feed material building and concrete pads; properly dispose of all decon related wastes, sludge and other residues. There will be no measurement payment for these items.
- B. Take unit feed material building off site.
- C. Demolish concrete foundations, pads, containment installed on site and dispose on site in landfill. Properly size demolition debris as specified in Section 02222, "Backfill."
- D. The **CONTRACTOR** is responsible for all costs to remove and cleanup residual contamination in and around the treatment system, including contaminated materials related to handling and feed operations.

END OF SECTION

Primary Treatment Unit							Secondary Treatment Unit (if applicable)		Heat Exchange/Cooler (if applicable)		Air Pollution Control Device(s)						ID Fan	Stack CEM			
Time	PTU Temp	PTU Press	PTU Burner Position	Soil Temp	Hourly Feed Rate (Tons)	Accumulated Soil Processed (Tons)	STU Exit Temp	Burner Position	HE/C Exit Temp	Other Applicable	Device 1				Device 2	etc.	Damper Position (if applicable)	O ₂	CO	Gas Velocity	Other Applicable
											△ Press	Temp In	Exit Temp	Other Applicable (eg. Damper Position)	Same	Amps					

Figure 1.4-1

SECTION XII

MEASUREMENT FOR PAYMENT

SECTION XII

MEASUREMENT FOR PAYMENT

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes the methods of measurement used for establishing payment and description of the items to be paid.
- B. Related Sections
 - 1. Section 01010, "Summary of Work."

1.02 SUBMITTALS

- A. Preliminary items to be submitted in response to Notice of Intent:
 - 1. Bid breakdowns.
- B. Pay Requests
 - 1. Submit in accordance with the General Conditions Article 13.

1.03 PAYMENT PROCEDURES

- A. Measurement for payment will be made only for work that has been acceptably performed within the limits shown on the Plans, or ordered by the **ENGINEER**.
- B. The work of the contract is to be paid in separate items as described below.
 - 1. Bid Item 1 - Mobilization and Demobilization, Site Preparation
 - a. Item 1 shall be a lump-sum amount for mobilization and demobilization as specified and directed herein.
 - b. Submit a separate bid breakdown (see Section III, Article 12, "Bid Breakdown") for this item that shows individual cost of providing items in the scope of work for this bid item as described below plus mobilization, demobilization, and miscellaneous items on site and off site not specified elsewhere but necessary for a complete and proper remediation.
 - i. Mobilization and demobilization of personnel, equipment, project facilities.
 - ii. Clearing and grubbing.
 - iii. Site preparation for setup and removal of temporary access roads.
 - iv. Site preparation for setup and removal of staging areas. Pre- and post-sampling of contaminated soil stockpile areas, LTDD area, FPB area, and dewatering collection/treatment area.
 - v. Site preparation for setup and removal of temporary utilities and sanitary facilities.

- vi. All Health and Safety Equipment Required by the HASP, Including Decontamination Trailer and Personal Hygiene Facility
- vii. Field Offices, Support Areas, and Weather Station
- viii. Control, Layout, and As-built Surveys
- ix. Project Signs
- x. Surface and Storm Water Controls
- xi. Erosion and Sedimentation Controls
- xii. Decontamination Stations
- xiii. Permits and Fees
- xiv. Traffic Controls
- xv. Demolition and removal of existing site facilities.
- xvi. Mobilization and demobilization of LTTD unit and FPB.
- xvii. Procurement of source materials, and all subsequent handling, processing, and stockpiling, to demonstrate LTTD treatment.
- xviii. All analytical testing and reporting to demonstrate required DRE.
- xix. All analytical testing of ambient air, LTTD air discharge (stack testing), continuous emission monitoring, and continuous process monitoring to ensure proper operation, compliance with applicable regulations, and demonstrate conformance with NYSDEC's Air Guide-1.
- xx. Demonstration Test Summary Report including test results proving that the **CONTRACTOR** has met the soil cleanup objectives and air emission requirements, operating parameters, and proposed operations plan.
- xxi. Completion and approval of Form 76-19-3, Process, Exhaust or Ventilation System, Application for Permit to Construct or Certificate to Operate.
- xxii. Conduct a one-day "Open House" for the general public.
- xxiii. Conduct additional demonstration test(s) as needed or as directed by the **ENGINEER** to successfully demonstrate required DRE.
- xxix. Stone access road.
- xxx. Demolition and removal of LTTD concrete footers/pads and stockpile pads.
- xxxi. Drum disposal.
- c. Measurement for payment shall be 70% of the lump sum for items installed and properly functioning. Following substantial completion, measurement for payment shall be up to a maximum of 100% based on actual completion of the bid item. Demobilization of LTTD unit will be paid upon completion of project. Payment shall be lump-sum bid for each individual item described above, including mobilization, demobilization, and miscellaneous, as submitted in the **CONTRACTOR's** Bid Breakdown.

2. Bid Item 2 - Site Services

- a. Bid Item 2 shall be bid unit price per calendar day for on-site and off-site services as specified and directed herein.
- b. Submit a separate bid breakdown (see Section III, Article 12, "Bid Breakdown") for this item that shows individual cost per day for providing,

operating, and maintaining items in the scope of work for this bid item as described below.

- i. Site Security
 - ii. Access Roads and Stone Driveway
 - iii. Fencing and Traffic Controls
 - iv. Surface and Storm Water Controls
 - v. Erosion and Sedimentation Controls
 - vi. Field Offices, Project Signs, and Weather Station including Reports
 - vii. Staging and Support Areas
 - viii. Handling and Disposal of Contractor-generated Wastes
 - ix. Maintenance of Survey Controls and Verification of Grades and Elevations
 - x. Temporary Utilities and Sanitary Facilities
- c. Measurement for payment of this bid item shall be by calendar day beginning after satisfactory installation of site facilities and ending when the work is substantially complete or at the end of the Contract Time specified in Section VI, Article 6.1, whichever is sooner. Payment shall be unit price bid for each individual item described above as submitted in the **CONTRACTOR's** Bid Breakdown. A pro-rated daily reduction will occur for each calendar day that operation and maintenance of any item included in this bid item was unsatisfactory as determined by the **ENGINEER**.

3. Bid Item 3 - Health and Safety

- a. Bid Item 3 shall be bid unit price per calendar day for health and safety as specified and directed herein.
- b. Submit a separate bid breakdown (see Section III, Article 12, "Bid Breakdown") for this item that shows individual cost per day for providing, operating, and maintaining items in the scope of work for this bid item as described below.
 - i. Providing a full-time Health and Safety Officer (HSO) at the site.
 - ii. Air monitoring and reporting during the project period.
 - iii. Dust, odor, and noise control.
 - iv. O & M of health and safety equipment, decontamination station, decontamination trailer, and personal hygiene facility.
 - v. Sampling, analyses, handling, transportation, and disposal of personal protective equipment (PPE) and decontamination wastes not specifically included in another bid item.
- c. Measurement for payment shall be for each day the Health and Safety Plan (HASP) has been adhered to in the opinion of the **ENGINEER** beginning after satisfactory establishment of an exclusion zone and shall be considered completed when there is no longer an exclusion zone in the project area or at the end of the Contract Time specified in Section VI, Article 6.1, whichever is sooner. All daily maintenance costs for health and safety are part of this bid item including all requirements of the HASP. A (100%) reduction in the payment for this item will occur for each day the **CONTRACTOR** fails to adhere (in the opinion of the **ENGINEER**) to the HASP. There will be no

payment for the bid item for days when no remediation work occurs in the exclusion zone.

4. Bid Item 4 - Excavation and Backfill in Contaminated Soil/Material

- a. Provide all materials, equipment, incidentals, and labor necessary to completely and properly conduct excavation, transportation, and staging of contaminated soil/material.
- b. Bid Item 4 shall be bid unit price per cubic yard (in-place) for the excavation of contaminated soils/materials (source area removal) as specified and directed herein. Submit a bid breakdown (see Section III, Article 12, "Bid Breakdown") for this item that shows individual cost for performing the work as desired below.
 - i. Excavation
 - ii. Transportation of backfill.
 - iii. Placement of backfill.
 - iv. Compaction testing and reports.
 - v. Survey checks to verify proper grades.
 - vi. Surface water controls.
 - vii. Backfill protection.
 - viii. Pipe/sump bedding and grading.
 - ix. Pipe and connections.
 - x. Coarse aggregate pipe protection.
 - xi. Filter fabric.
 - xii. Maintenance of pipe and sump during construction and cleaning.
 - xiii. Collection sump, cover, and bottom.
 - xiv. Concrete pad.
- c. Measurement for payment for Bid Item 4 shall only be for quantities of material properly excavated within payment lines or as directed by the **ENGINEER**. Payment shall be made at the unit price bid for each cubic yard of material excavated, transported, properly staged prior to on-site treatment, and properly backfilled.

5. Bid Item 5 - Excavation and Backfill in Clean Soils

- a. Provide all materials, equipment, incidentals, and labor necessary to completely and properly conduct excavation, transportation, and staging of clean soils.
- b. Bid Item 5 shall be bid unit price per cubic yard (in-place) for the excavation and backfilling of clean soils/materials (clean soils in source removal area) as specified and directed herein. Submit a bid breakdown (see Section III, Article 12, "Bid Breakdown") for this item that shows individual cost for performing the work as desired below.
 - i. Sampling, analysis, and reporting analytical results of clean soil excavation, and existing clean stockpile.
 - ii. Excavation.
 - iii. Transportation of backfill.
 - iv. Placement of backfill.

- v. Compaction testing and reports.
- vi. Survey checks to verify proper grades.
- vii. Surface water controls.
- viii. Backfill protection.
- c. Measurement for payment for Bid Item 5 shall only be for quantities of material properly excavated within payment lines or as directed by the **ENGINEER**. Payment shall be made at the unit price bid for each cubic yard of material excavated, transported, sampled, properly staged prior to on-site disposition, and properly backfilled.

6. Bid Item 6 - Stripping Topsoil

- a. Provide all materials, equipment, incidentals, and labor necessary to completely and properly conduct stripping, transportation, and staging of on-site topsoil.
- b. Bid Item 6 shall be bid unit price per square yard for stripping 6-inches of topsoil from areas specified and directed herein. Bid Item 6 includes:
 - i. Sampling, analysis, and reporting analytical results of on-site topsoil.
 - ii. Stripping, transportation, stockpiling, and protecting.
- c. Measurement for payment for bid item 6 shall only be for quantities of material properly stripped within the payment lines or as directed by the **ENGINEER**. Payment shall be made at the unit price bid for each square yard of material stripped, transported, and properly staged and protected prior to re-use on-site.

7. Bid Item 7 - Soil Treatment, On-Site LTDD

- a. Provide all material, equipment, incidentals, and labor necessary to completely and properly perform on-site LTDD of materials excavated.
- b. Bid Item 7 shall be bid unit price per ton for the on-site LTDD treatment of contaminated soils as specified and directed herein. Bid Item 7 includes:
 - i. Staging, processing, and handling of all soils and debris for treatment and/or decontamination.
 - ii. Feed Preparation Building.
 - iii. On-site treatment of soils and debris, including any pretreatment and processing.
 - iv. Decontamination of debris unsuitable for LTDD.
 - v. Decontamination of treatment unit and related systems, and disposal of all generated decontamination waters, sludges, and residues.
 - vi. LTDD operation and maintenance and reporting.
 - vii. Emission and process monitoring and reporting.
 - viii. Post-treatment sampling, analysis, and reporting including maintenance of QA/QC protocols.
 - ix. Administration and reporting of production rates, feed rates, emission levels, exit soil temperatures, and monitoring.
 - x. Staging, handling, processing and rehydration of treated soils.
 - xi. Management and/or disposal of all cleared and grubbed materials, sludges, spent carbon, and oversized materials.

- xii. Address all community concerns and/or complaints presented related to site activities.
 - c. Measurement and payment for Bid Item 7 shall be for actual quantity of material which is properly handled, pretreated, treated, stockpiled, sampled, and reported upon as measured by treatment system scale.
- 8. Bid Item 8 - Landfill Cover System
 - a. Provide all materials, equipment, incidentals, and labor necessary for complete and proper installation of the landfill cover system.
 - b. Bid Item 8 shall be paid unit price per square yard for installation of a landfill cover system as specified and directed herein. Bid Item 8 includes:
 - i. Grade and compact landfill to receive cover.
 - ii. Provide and place landfill cover system (geomembrane, geocomposite drainage layer fabric, anchor trench, soils/gravel)
 - iii. Grade, compact, test, and provide reports.
 - iv. Transportation and placement of topsoil.
 - v. Shredding and pretreatment of topsoil to provide for proper placement.
 - vi. Grading and or rolling.
 - vii. Protection.
 - viii. Establish and maintain vegetation on all disturbed areas until final acceptance.
 - ix. Provide a 1-year guarantee for the vegetation.
 - c. Measurement for payment for Bid Item 8 shall only be for quantities of completely and properly installed landfill cover system inside the top of the anchor trench surrounding the area to be covered. Payment shall be made at the unit price bid for each square yard of landfill cover system installed.
- 9. Bid Item 9 - Dewatering
 - a. Provide all materials, equipment, incidentals, and labor necessary for proper performance of construction dewatering, and complete and proper treatment and/or disposal of dewatering water.
 - b. Bid Item 9 shall be bid unit price per gallon of properly treated and discharged or disposed dewatering water encountered during excavation and backfilling or source removal areas. Bid Item 9 includes:
 - i. Sampling, analysis, and reporting of water influent and effluent (if applicable) and air discharge (if applicable).
 - ii. Transportation and disposal of water.
 - iii. Construction and operation of dewatering treatment system.
 - iv. Disposal characterization and permits.
 - v. Pumps and intake/collection hoses.
 - vi. Discharge hoses and structures.
 - vii. Maintenance and supplies for treatment system (if applicable).
 - viii. Utilities for treatment system (if applicable).
 - ix. Start-up, shake-down, and system demonstration (if applicable).
 - x. Temporary treated water storage (if applicable).

- xi. Off-site disposal of treatment residues including transportation and characterization.
 - c. Measurement for payment for Bid Item 9 shall only be for quantities of properly treated or disposed dewatering water collected during source removal, within the time frame specified in Section 01100 "Special Project Procedures" and as directed by the **ENGINEER**. Payment will be made at the unit price per gallon bid.
10. Bid Item 10 - Dewatering Treatment System
- a. Provide all materials, equipment, incidentals, and labor necessary for the installation of an on-site dewatering treatment system.
 - b. Bid Item 10 shall be bid lump sum for a properly installed system.
 - c. Provide a fully operational on-site dewatering system for recovery and treatment of hazardous aqueous wastes or nonhazardous aqueous wastes, or both, from source removal areas. This item includes only the operational physical plant; provisions for treatment and discharge of hazardous aqueous wastes and nonhazardous aqueous wastes are to be included in Item 9. The dewatering treatment system will remain the property of the **CONTRACTOR**.
 - d. Measurement for payment for Bid Item 10 shall only be for a fully operational on-site dewatering treatment system capable of treating waters so they meet the site discharge criteria. Payment shall be made at the lump sum price bid.
11. Bid Item 11 - Decommission of Monitoring Wells
- a. Provide all materials, equipment, incidentals, and labor necessary for decommissioning of monitoring wells.
 - b. Bid Item 11 shall be paid unit price for each linear foot of decommissioned monitoring well as directed and specified herein.
 - c. Measurement for payment for Bid Item 11 shall only be for quantities of monitoring wells properly decommissioned as directed by the **ENGINEER**. Payment shall be made at the unit price bid for each linear foot properly decommissioned.
12. Bid Item 12 - Monitoring Well Installation
- a. Provide all materials, equipment, incidentals, and labor necessary for complete and proper installation of monitoring wells.
 - b. Bid Item 12 shall be bid unit price per linear foot for installation of new monitoring wells as specified and directed herein.
 - c. Measurement for payment for Bid Item 12 shall only be for quantities of properly installed monitoring wells. Payment shall be made at the unit price bid for each linear foot of monitoring well installed.

PART 2 PRODUCTS

Not used.

SWEDEN 3; CHAPMAN SITE

OF9000

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION XIII

WAGE RATE AND ASSOCIATE CONTRACT REQUIREMENTS

See Section VII Article 6, Wage and Hours Provisions

CONTRACT REQUIREMENTS

Each public work contract to which the State, a public benefit corporation, a municipal corporation or a commission appointed pursuant to law is a party, and which may involve the employment of laborers, workers or mechanics, shall comply with the requirements of Article 8 (Sections 220-223) of the New York State Labor Law:

1. No laborer, worker or mechanic in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week except in the extraordinary emergencies set forth in the Labor Law or where a dispensation is granted by the Commissioner of Labor.
2. Each laborer, worker or mechanic employed by the contractor or subcontractor shall be paid not less than the prevailing rate of wages as indicated on the wage schedule provided by the Department, Bureau of Public Work. The prevailing rate of wage shall be annually determined no later than thirty days prior to July 1st of each year. The prevailing rate of wage for the period commencing July first of such year through June thirtieth, inclusive of the following year shall be the rate of wage set forth in collective bargaining agreements for the same period, including those increases for such period which are directly ascertainable from such collective bargaining agreements.
(See Sections 220.3, 220.5)
3. It shall be the duty of the department of jurisdiction to file with the fiscal officer, the classification of workers mechanics and laborers to be employed on a public work project, together with a statement of the work to be performed by each classification. (See Section 220.3-a)
4. The contractor and every subcontractor shall post in a prominent and accessible place at the work site a statement of all wage rates and supplements to be paid or provided for the various classes of mechanics, workers or laborers. (See Section 220.3-a)
5. No employee shall be deemed to be an apprentice unless individually registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the contractor as to its work force on any job under the registered program. Any employee who is not registered as above, shall be paid or provided the prevailing wage and supplement rate for the journey level classification of work actually performed. The contractor or subcontractor will be required to furnish written evidence of registration of its program and apprentices as well as of the appropriate ratios and wage and supplement rates for the area of construction, prior to using any apprentices on the contract work. (See Section 220.3-e)
6. (a) No contractor, subcontractor, nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates. (See Section 220-e(a))

(b) No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex or national origin. (See Section 220-e(b))
Note: The Human Rights Law also prohibits discrimination in employment because of age, marital status or religion.

(c) There may be deducted from the amount payable to the contractor under the contract a penalty of fifty dollars for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract. (Section 220-e(c))

- (d) The contract may be cancelled or terminated by the State or municipality, and all moneys due or to become due thereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of the antidiscrimination sections of the contract. (See Section 220-e(d))
- 7. (a) All contractors or their subcontractors shall provide to their subcontractors a copy of the prevailing wage rate schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8 or the Labor Law. (See Section 220-e(d))
- (b) All subcontractors engaged by a public improvement contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the wage schedule and will pay or provide the applicable rate of wages and supplements specified therein. (See Section 220-a)

ATTENTION: ALL CONTRACTORS AND SUBCONTRACTORS
ENGAGED ON PUBLIC WORK PROJECTS IN NEW YORK STATE

INTRODUCTION: Below are the major provisions of the Labor Law covering workers on public work projects.

HOURS: A laborer, worker or mechanic is permitted to work on a public work project no more than eight hours a day and no more than five days in a week, except in case of extraordinary emergency such as a fire, flood or danger to life or property. You may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

WAGES AND SUPPLEMENTS: The wages and supplements to be paid and provided for laborers, workers and mechanics employed on a public work project shall be not less than those listed in the current prevailing rate schedule for the locality where the work is performed. If a prevailing rate schedule for the project has not been provided to the prime contractor by the department of jurisdiction (i.e., the governmental entity awarding the public work contract), or to a subcontractor by the prime contractor, the applicable schedule must be obtained from the Department of Jurisdiction, who must make written application to the Bureau of Public Work, Labor Department, Building No. 12, State Office Building Campus, Albany, New York 12240.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by its subcontractors.

PAYROLL RECORDS: Every contractor and subcontractor must keep originals or transcripts of payroll records, showing for each person employed on public work, the following:

1. Name 2. Address and phone number 3. Social Security Number, 4. Occupational classification in which worked, 5. Hourly wage rate paid 6. Supplements provided 7. Daily and weekly number of hours worked in each classification 8. Deductions made 9. Actual wages paid. When payroll records are requested by the Commissioner, each payroll record must be affirmed as true under the penalties of perjury which means a notarized signature to that effect. Such records must be kept on the site of the work when the contractor or subcontractor does not maintain a regular place of business in New York State and the amount of the contract exceeds \$25,000 All other contractors and subcontractors must, within 5 days after a request, produce at the work site the original payrolls or transcripts.

The original payrolls or transcripts must be preserved for three years from the date of completion of the project.

POSTING: The current prevailing rate schedule must be posted in a prominent and accessible place on the site of the public work project.

APPRENTICES: Employees cannot be paid apprentice rates if they are not individually registered under a program or agreement registered with the Commissioner of Labor. The contractor or subcontractor will be required to furnish written evidence of the registration of its program and apprentices and of the appropriate ratio. The allowable ratio of apprentices to journeymen in any craft classification can be no greater than the ratio permitted to the contractor or subcontractor as to its work force on any job under the registered program. An employee listed on a payroll as an apprentice, who is not registered as above, must be paid the prevailing journeyman's wage rate for that classification of work.

WITHHOLDING OF PAYMENTS: When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract may be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

INTEREST AND PENALTIES: If an underpayment of wages or supplements is found, interest must be added at the rate then in effect prescribed by the Superintendent of Banks pursuant to section 14-a of the banking law per annum from the date of underpayment to the date of the new payment, and may also include the imposition of a civil penalty not to exceed 25% of the amount due.

DEBARMENT: When final determinations have been made against a contractor or subcontractor in two instances within a six-year period determining that it willfully failed to pay or provide the prevailing rate of wages or supplements, or if there is one wilful violation that involves falsification of payroll records or kickback of wages, such contractor or subcontractor will be ineligible to bid on or be awarded a public work contract for a period of five years from the second final determination.

CRIMINAL SANCTIONS: Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) constitute a misdemeanor punishable by fine or imprisonment, or both.

DISCRIMINATION: No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status. Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment or employment training centers, notices furnished by the State Division of Human Rights.

POSTING OF OTHER NOTICES: Every employer providing worker's compensation insurance and disability benefits must post in a conspicuous place notices of such coverage in a form prescribed by the Workers' Compensation Board.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post notices furnished by the State Department of Labor.

PW 19 (4-95)

docm: letter2b

NOTICE OF NEW PREVAILING WAGE RATE PUBLICATIONS

APPLICABLE TO ALL COUNTIES

(*) AS NOTED ON PREVAILING RATE SCHEDULES PAGES.

The annual determination of the prevailing rates of wages and supplements for workers employed on public work projects throughout the state will be published on May 31st of each year. These new rates will be in effect July 1st thru June 30th. This new determination will supersede the original schedule or any prior issued annual determination.

It is the responsibility of the contracting agency or its agents to provide all prevailing rate schedules to contractors immediately upon receipt. Any rate change from a previously issued determination becomes effective July 1st, regardless of whether the new determination has been received by the contractor.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates that additional adjustments become effective.

PW-202 (4-95)

docm: letterd

VERIFYING THE REGISTRATION APPRENTICES

Certain State and Federal Laws require that apprentices must be individually registered as such in order to be paid apprenticeship rates on Public Work.

The New York Labor Department is the official registration agency for apprentices in New York State. No other Federal or State Agency or office registers apprentices in New York State.

Each year the apprentice training central office in Albany receives hundreds of requests from Federal and State Agencies, Contractors, and other interested parties requesting verification of individual apprentice registrations.

The following information is provided in order to clarify New York State procedures.

All registered apprentices in New York State are individually registered by name, address, social security number, starting date of training, and other related data.

This information is computerized and is available ONLY through the Albany Apprentice Training Central Office.

Persons wishing to verify the apprentice registration of any individual should write to the Senior Employment Consultant, New York State Department of Labor, Job Service and Training Division, Building 12, Room 223, State Office Building Campus, Albany, New York 12240.

All inquiries MUST include name and social security number and will be answered in writing. The response will indicate whether or not the individual is registered, and if so, will provide other pertinent information regarding the registration.

The only conclusive proof of individual apprentice registration is written verification from the Albany Apprentice Training Central Office. Neither Federal nor State Apprentice Training Offices outside Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any individual is registered in that program.

Furthermore, the existence or possession of wallet cards, identification cards or copies of state forms are not conclusive proof of the registration of any individual as an apprentice.

Prevailing Rate Schedule

New York State

Department of Labor

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MONROE1997B
-----INSTRUCTIONSPREVAILING RATE SCHEDULE INFORMATION

The information listed below is provided to assist you in the interpretation of particular requirements, for each classification of worker, contained in the attached Schedule of Prevailing Rates.

HOLIDAYSPAID

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work.

Note: If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is for each hour worked, some classifications require the payment or provision of supplements for each hour paid (this may include paid holidays on which no work is performed) and/or may require supplements to be paid or provided at a premium rate for premium hours worked.

Effective Dates

When you review the schedule for a particular trade or occupation, your attention should be directed to the dates above the column(s) of rates. These are the dates that any adjustments become effective. However, if the last date listed in a particular occupation is prior to June 30 of the current year, the rate listed for that time period is valid until the new annual determination takes effect on July 1 of that year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements and, if the department of jurisdiction does not provide a copy of the current annual determination on or before July 1, you should contact the Bureau of Public Work for the correct information.

Workers Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage under the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

-Contractor to be awarded contract must provide proof of Workers' Compensation coverage prior to being allowed to begin work.

-The policy of insurance must be issued by a company authorized to provide Workers' Compensation coverage in this state.

-Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

-If New York State coverage is added to an existing out of state policy, it can only be added to a policy of a company authorized to write Workers' Compensation coverage in this state, and the coverage must be listed under item 3A of the information page.

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-The contract must maintain proof that subcontractors doing work covered under this contract secure and maintain a Workers' Compensation policy for all employees working in New York State.

If you have any questions concerning the attached schedule or would like additional information, please contact the BUREAU of PUBLIC WORK at (518) 457-5589 or write to the NEW YORK STATE DEPARTMENT of LABOR, BUREAU of PUBLIC WORK, BUILDING 12, STATE OFFICE BUILDING CAMPUS, ALBANY, NEW YORK 12240.
(7/01/93)

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OVERTIME

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule.

Additional requirements may also be listed in the OVERTIME section.

- (A) Time and one half of the hourly rate after 7 hours per day.
- (AA) Time and one half of the hourly rate after 7 and one half hours per day.
- (B) Time and one half of the hourly rate after 8 hours per day.
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours.
- (C) Double the hourly rate after 7 hours per day.
- (C1) Double the hourly rate after 7 and one half hours per day.
- (D) Double the hourly rate after 8 hours per day.
- (D1) Double the hourly rate after 9 hours per day.
- (E) Time and one half of the hourly rate on Saturday.
- (E1) Time and one half 1st 4 hours on Saturday. Double the hourly rate all additional Saturday hours.
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather.
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week.
- (E4) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather.
- (F) Time and one half of the hourly rate on Saturday and Sunday.
- (G) Time and one half of the hourly rate on Saturday and Holidays.
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays.
- (I) Time and one half of the hourly rate on Sunday.
- (J) Time and one half of the hourly rate on Sunday and Holidays.
- (K) Time and one half of the hourly rate on Holidays.
- (L) Double the hourly rate on Saturday.
- (M) Double the hourly rate on Saturday and Sunday.
- (N) Double the hourly rate on Saturday and Holidays.
- (O) Double the hourly rate on Saturday, Sunday, and Holidays.
- (P) Double the hourly rate on Sunday.
- (Q) Double the hourly rate on Sunday and Holidays.
- (R) Double the hourly rate on Holidays.
- (S) Two and one half times the hourly rate for Holidays, if worked.
- (T) Triple the hourly rate for Holidays, if worked.
- (U) Four times the hourly rate for Holidays, if worked.
- (V) Including benefits at SAME PREMIUM as shown for overtime.
- (W) Time and one half for benefits on all overtime hours.

NOTE: BENEFITS are PER HOUR WORKED, for each hour worked, unless otherwise noted

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HOLIDAYS

PAID

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work.

Note: If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None.
- (2) Labor Day.
- (3) Memorial Day and Labor Day.
- (4) Memorial Day and July 4th.
- (5) Memorial Day, July 4th, and Labor Day.
- (6) New Year's Day, Thanksgiving Day, and Christmas Day.
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day.
- (8) Good Friday.
- (9) Lincoln's Birthday.
- (10) Washington's Birthday.
- (11) Columbus Day.
- (12) Election Day.
- (13) Presidential Election Day.
- (14) 1/2 Day on Presidential Election Day.
- (15) Veterans Day.
- (16) Day after Thanksgiving Day.
- (17) July 4th.
- (18) 1/2 Day before Christmas Day.
- (19) 1/2 Day before New Years Day.
- (20) Thanksgiving Day.
- (21) New Year's Day.
- (22) Christmas Day.
- (23) Day before Christmas.
- (24) Day before New Year's Day.
- (25) Presidents' Day.
- (26) Martin Luther King, Jr. Day.

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 -----19978-----

ASBESTOS WORKER

WAGES(per hour) 6/01/97-
 5/31/98

Asbestos Worker..... \$ 19.27

OVERTIME PAY: See (B, E, Q*Note) on OVERTIME PAGE. This code is T for Labor Day only.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following wage rates.

1st.....\$	8.43
2nd.....\$	8.65
3rd.....\$	10.87
4th.....\$	13.13
5th.....\$	15.32

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$	9.83
Appr. 1st. year	\$	4.49
All other Apprs.	\$	9.83

5-26

ASBESTOS WORKER

WAGES(per hour) 5/31/97-
 5/31/98

Asbestos Worker

Removal &

Abatement Only *..... \$16.82

* On Mechanical Devices NOT to be scrapped.

OVERTIME PAY: See (B, E2, H) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hour worked)

\$3.70 *

* After 1000 hours and
 1 year of service ADD
 \$3.90

5-202.1A

BOILERMAKER

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WAGES(per hour)	5/16/97- 5/15/98	5/16/98- 5/15/99	5/16/99- 5/15/2000
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Boilermaker.....	\$ 22.30	aditt .90 per hr	aditt .90 per hr
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OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of Journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
60%	65%	70%	75%	80%	85%	90%	95%

SUPPLEMENTAL BENEFITS:(per hour worked)

9.81*Note

Note- For overtime hours \$6.00 of the listed supplement amount is to be paid at the required premium rate.

3-7

ELEVATOR

WAGES(per hour)	5/28/97- 7/08/98
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Elevator Constructor.....	\$ 24.35
" Helper.....	17.045

OVERTIME PAY: See (D, L, P, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (5, 6, 16) on HOLIDAY PAGE.

Overtime: See (5, 6, 16) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hour worked)\$ 6.12 plus
6 % of wage

5-27

CARPENTER

WAGES(per hour)	5/01/97- 7/13/97	7/14/97- 4/30/98	5/01/98- 4/30/99	5/01/99- 4/30/00
Building:			Addit.	Addit.
Carpenter.....	\$ 20.31	20.31	\$.70 per hr	\$.70 per hr
Draper.....	20.31	20.31		
Dry-wall Applicator..	20.31	20.31		
Lather.....	20.31	20.31		

Maintenance, repair and renovation work on Nuclear Power plants receive 90% of above rate plus full benefits.

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OVERTIME PAY: See (B, E*Note, E2,Q) on OVERTIME PAGE.

*Note: Double Time after 8 hours work on Saturday.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.
50%	60%	70%	85%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$8.54	8.62
Appr. 1st & 2nd yr.	\$3.17	3.25
Appr. 3rd year	\$4.48	4.56
Appr. 4th year	\$6.31	6.39

5-85

CARPENTER

WAGES(per hour)	7/01/97- 4/30/98	5/01/98- 4/30/99	5/01/99- 4/30/00
Building:			Addit.
Floor Layer.....\$	17.70	18.15	\$.75 per hr.

OVERTIME PAY: See (B, E*Note, Q) on OVERTIME PAGE.

*Saturday may be used as a make-up day at straight time for a day lost during that week.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6, 8) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$6.91	\$7.06
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5-732F

CARPENTER

WAGES(per hour)	5/01/97- 4/30/98	5/01/98- 4/30/99	5/01/99- 4/30/00
Building:		Addit.	Addit.
Millwright.....\$	19.07	\$.75	\$.75
" Certified Welder..	19.57	per hr.	per hr.
" Hazardous Work ...	20.07		

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (2) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1)year terms at the following percentage of journeyman's

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wage.

1st.	2nd.	3rd.	4th.
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 9.15
Appr. 1st year	\$ 3.22
Appr. 2nd year	\$ 3.72
Appr. 3rd year	\$ 5.37
Appr. 4th year	\$ 6.37

5-1163B

CARPENTER

<u>WAGES</u> (per hour)	5/01/97- 4/30/98	5/01/98- 4/30/99	5/01/99- 4/30/00
Marine Diver (Bldg):			
Diver-Scuba & Hardhat		Addit.	Addit.
" (Wet Day)....\$	40.00	\$.75	\$.75
" (Dry Day).....	20.07	per hr.	per hr.
" Tender.....	20.07		

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (2) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 9.15
Appr. 1st year	\$ 3.22
Appr. 2nd year	\$ 3.72
Appr. 3rd year	\$ 5.37
Appr. 4th year	\$ 6.37

5-1163DB

GLAZIER

<u>WAGES</u> (per hour)	6/01/97- 5/31/98
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Glazier.....\$ 19.59

Additional \$.50 per hr for all swing stagework, belt work, open steel or scaffolding over 25' or more from ground, floor or roof levels.

OVERTIME PAY: See (B, E, E2, Q, *Note) on OVERTIME PAGE.

*Note: For emergency work on Sunday 1 1/2 times the hourly rate.

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HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES (1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
40%	45%	50%	55%	60%	65%	70%	80%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 6.52
Appr. 1st & 2nd term	\$ 4.44
Appr. 3rd term	\$ 5.485
Appr. 4th term	\$ 5.58
Appr. 5th term	\$ 5.69
Appr. 6th term	\$ 5.79
Appr. 7th term	\$ 5.90
Appr. 8th term	\$ 6.11

5-677.A

LABORER

Building Laborer:

Group #1: Basic.

Group #2: Chuck tender, Swinging scaffold.

Group #3: Pipe layers, Burners and cutters, Demolition, Jackhammers, Mortar mixers, Pav. breaker, Power tools, Barco tamper, and Jumping jack.

Group #4: Air track drill, Wagon drill, Asphalt raker.

Group #5: Concrete vibrators for arch. concrete.

Group #6: Powder monkey.

Group #7: (*) Chimney work.

Group #8: Blaster.

Group #9: Asbestos removal.

WAGES(per hour)	5/01/96- 4/30/97	5/01/97- 4/30/98
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Building Laborer:

Group # 1.....\$	15.55	15.75
Group # 2.....	15.75	15.95
Group # 3.....	15.85	16.05
Group # 4.....	15.95	16.15
Group # 5.....	15.99	16.19
Group # 6.....	16.42	16.62
Group # 7.....	16.55*	16.75*
Group # 8.....	16.92	17.12
Group # 9.....	16.55	16.75

* 100/150'-add .25¢ to 200'-add .50¢ to 250'-add .75¢ over 250'-add \$1.00

Maintenance, repair and renovation work on nuclear power plants receive 90 % of wage rate plus full supplements.

There shall be a 12 month carryover from the bid date of the posted wage and fringe benefit rates. For hazardous waste work see Heavy/Highway rates.

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

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19978

APPRENTICES: (1/2) year terms at the following wage rates.

1st term	\$10.42	10.46
2nd term	\$12.67	12.75
3rd term	\$12.92	13.04
4th term	\$13.14	13.30

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$7.37	7.57
Appr. 1st term	\$3.09	3.29
Appr. 2nd term	\$3.09	3.29
Appr. 3rd term	\$5.09	5.29
Appr. 4th term	\$7.12	7.32

5-435

MASON-Building

<u>WAGES</u> (per hour)	5/01/97- 4/30/98	5/01/98 4/30/99 Addit. \$.70 per hr.	5/01/99 4/30/00 Addit. \$.75 per hr.
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Building:

Bricklayer.....	\$ 19.46
Cement Finish (Bldg) ..	19.46
Plasterer.....	19.46
Tuck Pointer.....	19.46
Stone Mason.....	19.46

Additional \$.20 per hr for using asphalt or tar base material.

Additional \$.35 per hr for swing scaffold(two man) and bosum chair work.

Maintenance, repair & renovation work performed on nuclear power plants paid at 90% of rate plus full supplements.

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentages of journeyman's wage.

1st.	2nd.	3rd.	4th.
45%	55%	65%	80%

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$10.35
Appr. 1st. year	\$ 2.86
Appr. 2nd. year	\$ 5.36
Appr. 3rd. year	\$ 6.26
Appr. 4th. year	\$ 6.66

5-11

MASON-Building

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The following rates apply to work performed in existing structures (plants, factories, occupied buildings) for purposes of remodeling, repair, replacement or rehabilitation of facilities. "Existing facilities" is limited to a constructed unit already completed and shall not apply to any new unit to be constructed. This further excludes new contract work outside the confines of the buildings described above and refractory work for purposes of relining furnaces and/or kilns.

WAGES(per hour) 5/01/97-
4/30/98

Building Maintenance:

Bricklayer.....	\$ 16.81
Cement Finish (Bldg)..	16.81
Plasterer.....	16.81
Tuck Pointer.....	16.81
Stone Mason.....	16.81

Additional \$.20 per hr for using asphalt or tar base material.

Additional \$.35 per hr for swing scaffold(two man) and bosum chair work.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentages of journeyman's wage.

1st.	2nd.	3rd.	4th.
45%	55%	65%	80%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 8.52
Appr.1st year	\$ 2.86
Appr.2nd year	\$ 5.36
Appr.3rd year	\$ 6.26
Appr.4th year	\$ 6.66

5-11Maint

MASON-Building

WAGES(per hour) 6/01/97-
5/31/98

Building:

Tile/Marble/	
Terrazzo Setter....	\$ 20.43
"Finisher".....	\$ 11.59
(After 1200 hours)\$. \$	13.10

OVERTIME PAY: See (B, E*Note, Q) on OVERTIME PAGE.

Saturday may be used as a make-up day at straight time for a day lost during that week, due to inclement weather.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) years terms at the following percentage of journeyman's wage.

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1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
50%	55%	60%	65%	70%	75%	85%	95%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 9.41	"Finisher"	\$2.60
		"After 1200 hours"	\$4.00
Appr.1st & 2nd terms	\$ 5.25		
Appr.3rd term	\$ 5.70		
Appr.4th term	\$ 6.15		
Appr.5th term	\$ 6.62		
Appr.6th term	\$ 7.07		
Appr.7th term	\$ 7.57		
Appr.8th term	\$ 8.48		
Appr.9th term	\$ 9.25		

5-11T

ROOFER

<u>WAGES</u> (per hour)	6/01/97- 5/31/98	6/01/98- 5/31/99 Addit.
Rofer.....\$	19.69*	\$.60
Waterproofer.....	19.69*	per hr.

*Additional \$.25 per hour for Asbestos Work.

Maintenance, repair and renovation work on nuclear power plant paid at 90% of above wage plus full benefits.

OVERTIME PAY: See (B,E*Note,E2,Q) on OVERTIME PAGE. *Note Doubletime for new work on Saturdays.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5,6,16,) on HOLIDAY PAGE.

APPRENTICES:(1/2) year terms at the following percentage of journeyman's wage.

Indentured before 6/01/93

1st.	2nd.	3rd.	4th.	5th.	6th.
50%	55%	60%	65%	75%	80%

Indentured 6/01/93 or after

1st.	2nd.	3rd.	4th.	5th.	6th.
45%	50%	55%	60%	70%	75%

SUPPLEMENTAL BENEFITS:(per hour worked)*

Journeyman	\$6.15	*Additional .25¢ for asbestos work.
Appr. before 6/01/93		
All terms	\$6.15	
Appr. after 6/01/93		
1st & 2nd terms	\$3.00	
All other terms	\$6.15	

5-22

SHEETMETAL WORKER

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WAGES(per hour)	5/01/97- 12/31/97	1/01/98- 4/30/98	5/01/98- 4/30/99 Addit.
Sheetmetal Worker....\$	21.70	21.71	\$.60 per hr.

Maintenance, repair and renovation work on nuclear power plant paid at 90% of above wage plus full benefits.

OVERTIME PAY: See (B,E*Note,Q) on OVERTIME PAGE.

*Note: Doubletime after 8 hours on Saturday.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
35%	39%	44%	47%	54%	58%	62%	66%	76%	86%

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$8.98	9.05
Appr. 1st term	\$3.68	3.69
Appr. 2nd term	\$4.05	4.07
Appr. 3rd term	\$4.65	4.68
Appr. 4th term	\$4.69	4.72
Appr. 5th term	\$5.31	5.35
Appr. 6th term	\$5.36	5.40
Appr. 7th term	\$5.95	5.99
Appr. 8th term	\$6.00	6.05
Appr. 9th term	\$6.66	6.71
Appr. 10th term	\$6.77	6.83

5-46

SPRINKLER FITTER

WAGES(per hour)	4/01/96- 3/31/97
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Sprinkler Fitter.....\$	20.55
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OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.

HOLIDAY:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of Journeyman;s wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
38%	41%	45%	50%	56%	62%	68%	74%	80%	85%

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$6.28
Apprs. 1st thru 4th term	3.93
All other terms	6.28

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TEAMSTER-Building

Truck Driver (Building):

Group # A: Partsroom men, Fuel, Warehousemen, Yardmen, Pick-ups, Panel trucks, (Straight jobs), Flatboy material trucks, Single Axle dump, Material checkers and receivers, Partschasers, Rubber tired tractors(towing or pushing Flatbed), Formtrucks and Boom truck.
Group # B: Semi-trailers.

WAGES(per hour) 5/01/97-
4/30/98

Building

Group # A.....\$ 18.30

Group # B..... 18.20

Maintenance, repair and renovation work on nuclear power plant paid at 90% of above wages plus full benefits.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (5, 6, 16) on HOLIDAY PAGE.

Overtime: See (5, 6, 16) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS: (per hour worked)

\$5.53

5-398B

SURVEY CREW - Building

SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party.

Instrumentman- One who runs the instrument and assists the Party Chief.

Rodman- One who holds the rods and in general, assists the survey party.

WAGES: (per hour)	6/01/97	6/01/98	6/01/99
	5/31/98	5/31/99	5/31/2000

Survey Rates-Building:

Party Chief.....	\$20.53	\$20.93	\$21.33
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Instrument/Rodperson	18.04	18.44	18.44
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Additional \$3.00 per hour for work in a tunnel.

In Allegany, Chemung, Erie, Eastern part of Genesee, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne & Yates Counties an additional 2.50 per hour for work in hazardous waste area. In all other locations an added 2.00 per hr for this work.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE

HOLIDAYS:

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

APPRENTICES: (1000) hour terms at the following wage rates.

	1st	2nd	3rd
6/01/97	\$ 9.00	11.29	13.54
6/01/98	9.20	11.54	13.84

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6/01/99 9.40 11.74 14.14

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$ 9.95	\$10.35	\$10.85
Appr 1st	5.00	5.20	5.40
Appr 2nd	6.20	6.45	6.70
Appr 3rd	7.45	7.75	8.05

6-545D-b/west

POWER EQUIPMENT OPERATOR - Building

Building:

CRANES: Cable and Hydraulic, Climbing and Tower.

Cranes 1 - 121 ft. and under Cranes 5 - Between 251 and 301 ft.

Cranes 2 - Between 121 and 151 ft. Cranes 6 - Between 301 and 351 ft.

Cranes 3 - Between 151 and 201 ft. Cranes 7 - Between 351 and 401 ft.

Cranes 4 - Between 201 and 251 ft. Cranes 8 - Between 401 and 451 ft.

CLASS 1: Air Tugger, Derrick, Dredge, Big Generator Plant,

Cableway, Backhoe-Clamshell, Carrier Mounted Backhoe with 360 degree swing.

Dragline, Shovel and Similar machines over three-eighths

cu. yd. capacity (Fact. rating), Bridge Crane (all types), Caisson auger and similar

type machine, Forklift (with Factory Rating of fifteen ft. or more lift), Hoist (on

steel erection), Mucking Machines, Ross Carrier (and similar types), Three-Drum

Hoist (when all three drums are in use)

CLASS 2: A-Frame Truck, Backfilling Machine, Hoist (1 or 2 drums), Barber Green

and similar type machines, Maintenance engineer (mechanic), Post Hole Digger,

Bulldozer, Carry-all type scraper, Core Drill, Pumps (regardless of motive power)

no more than four (4) in number not to exceed twenty (20) inches in total

capacity, Fine Grade and Finish Rollers, Side Boom Tractor, Stone Crusher,

Compressors: Four (4) not to exceed 2000 CFM combined capacity; or three (3) or

less with more than 1200 CFM, but not to exceed 2000 CFM, Concrete Mixer, Bobcat,

Concrete Pump, Concrete Placer, Tournadozer and similar types, Crane-Hoe-Shovel,

Mechanical Slurry Machine (all kinds), Motor Grader, Belt Crete and similar type

machines, Bituminous spreading machine, 3/8 yd. capacity or less (Factory Rating),

Tournapull and similar types, Dinky Locomotives (all types), Tower-mobile and

similar types, Elevating Grader, Elevator, Trenching Machines, Mega Mixers &

Similar Type Mach., Shot Crete Pump Mach., Guniting Pump Mach. Fine Grade

Machines (all kinds), Welder, Front End Loader, Forklift with Factory rating of

less than fifteen (15) feet lift, Well Drill, Well Point System, High Pressure

Boiler EXCEPTION: Single electric pumps up to and incl. four (4) inches need not

be manned.

CLASS 3: Any combination (Not to exceed three (3) pieces of equipment), Welding,

Machine or Mechanical Conveyor (over 12 ft. in length), Fireman, Belt Crete

Generator, Mechanical Heater, Roller (Fill and Grade), Pumps (regardless of

motive power), No more than three (3) in number, not to exceed twelve (12) inches

total capacity, Rubber Tired Tractor, Compressors--three (3) or less not to

exceed 1200 CFM combined capacity, Longitudinal Float. EXCEPTION: Single

gasoline driven welding machine to 300 amps need not be manned.

CLASS 4: Junior Engineers on Truck Cranes.

CLASS 5: Junior Engineers.

WAGES (per hour)

7/01/97-

6/30/98

Building:

Crane 1	\$ 20.28
Crane 2	20.62
Crane 3	20.98
Crane 4	21.35

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Crane 5.....	21.05
Crane 6.....	22.77
Crane 7.....	23.49
Crane 8.....	24.19
Master Mechanic.....	21.41
CLASS # 1.....	20.28
CLASS # 2.....	19.62
CLASS # 3.....	17.43
CLASS # 4.....	13.71
CLASS # 5.....	12.76

Maintenance, repair and renovation work on nuclear power plant paid 90% of above rates. The above rates does not cover hazardous waste removal work, See Heavy/Highway.

OVERTIME PAY: See (B,E*Note,E2,Q) on OVERTIME PAGE.

*Note: Doubletime after eight (8) hours work on Saturday.

HOLIDAYS:

Paid: See (5,6) on HOLIDAY PAGE.

Overtime: See (5,6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's wage.

Indentured prior to 4/01/88

1st term	80% of class 4 rate	
2nd term	85% of class 3 rate	100% of class 4 rate if employed in catagory
3rd term	90% of class 2 rate	100% of class 3 or 4 if employed in catagory
4th term	95% of class 1 rate	100% of class 2,3 or 4 if employed in catagory

Indentured on or after 4/01/88

1st term	60% of class 3 rate	3rd term 75% of class 2 rate
2nd term	65% of class 3 rate	4th term 80% of class 1 rate

SUPPLEMENTAL BENEFITS(per hour worked)

\$11.45

5-832B

POWER EQUIPMENT OPERATOR - Building Excavating and Paving

Building Excavating and Paving:

The following rates apply to "Site Work" in connection with a Building project which may include site preparation and grading, underground work or paving, If such work is outside Building line proper.

CLASS 1: Air Tugger, Derrick, Dredge, Big Generator Plant, Cableway, Backhoe-Clamshell, Carrier Mounted Backhoe with 360 degree swing, Dragline, Shovel and Similar machines over three-eighths cu.yd.capacity(Fact.rating), Bridge Crane(all types), Caissonauger and similar type machine, Forklift(with Factory Rating of fifteen ft.or more lift), Hoist(on steel erection), Mucking Machines, Ross Carrier(and similar types), Three-Drum Hoist(when all three drums are in use)

CLASS 2: A-Frame Truck, Backfilling Machine, Hoist(1 or 2 drums), Barber Green and similar type machines, Maintenance engineer(mechanic), Post Hole Digger, Bulldozer, Carry-all type scraper, Core Drill, Pumps(regardless of motive power) no more than four(4) in number not to exceed twenty(20) inches in total capacity, Fine Grade and Finish Rollers, Side Boom Tractor, Stone Crusher, Compressors: Four(4) not to exceed 2000 CFM combined capacity; or three(3) or less with more than 1200 CFM, but not to exceed 2000 CFM, Concrete Mixer, Bobcat, Concrete Pump, Concrete Placer, Tournadozer and similar types, Crane-Hoe-Shovel,

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Mechanical Slurry Machine(all kinds), Motor Grader, Belt Crete and similar type machines, Bituminous spreading machine, 3/8 yd. capacity or less (Factory Rating), Tournapull and similar types, Dinky Locomotives(all types), Tower-mobile and similar types, Elevating Grader, Elevator, Trenching Machines, Mega Mixers & Similar Type Mach., Shot Crete Pump Mach., Gunite Pump Mach. Fine Grade Machines(all kinds), Welder, Front End Loader, Forklift with Factory rating of less than fifteen(15) feet lift, Well Drill, Well Point System, High Pressure Boiler EXCEPTION: Single electric pumps upto and incl. four(4) inches need not be manned.

CLASS 3: Any combination (Not to exceed three (3) pieces of equipment), Welding, Machine or Mechanical Conveyor (over 12 ft. in length), Fireman, Belt Crete Generator, Mechanical Heater, Roller (Fill and Grade), Pumps (regardless of motive power), No more than three (3) in number, not to exceed twelve (12) inches total capacity, Rubber Tired Tractor, Compressors--three (3) or less not to exceed 1200 CFM combined capacity, Longitudinal Float. EXCEPTION: Single gasoline driven welding machine to 300 amps need not be manned.

CLASS 4: Junior Engineers on Truck Cranes.

CLASS 5: Junior Engineers.

WAGES (per hour) 7/01/97-
6/30/98

Building Excavating and Paving:

Master Mechanic.....	\$ 19.41
Class 1.....	18.86
Class 2.....	18.47
Class 3.....	17.91
Class 4.....	15.08
Class 5.....	14.07

OVERTIME PAY: See (B, E*Note, E2, Q) on OVERTIME PAGE.

*Note: Doubletime after eight (8) hours work on Saturday.

HOLIDAYS:

Paid: See (5, 6) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's wage.

Indentured prior to 4/01/88

1st term	80% of class 4 rate	
2nd term	85% of class 3 rate	100% of class 4 rate if employed in category
3rd term	90% of class 2 rate	100% of class 3 or 4 if employed in category
4th term	95% of class 1 rate	100% of class 2, 3 or 4 if employed in category

Indentured on or after 4/01/88

1st term	60% of class 3 rate	3rd term	75% of class 2 rate
2nd term	65% of class 3 rate	4th term	80% of class 1 rate

SUPPLEMENTAL BENEFITS (per hour worked)

\$ 11.10

5-832BEX

LINEMAN LINEMAN/ELECTRIC

WAGES (per hour)

5/05/96

5/05/97

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MDNROE

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	5/04/97	5/04/98
Lineman/Tech./Welder.. \$	26.99	27.84
Digging Mach./Dynamite.	24.29	25.06
Chief Mech./Tract.Trlr.	22.94	23.66
Mobile Equip.Oper./Truck Dr./		
Mech. 1st Class.....	21.59	22.27
Groundman 3rd year....	20.24	20.88
Groundman 2nd year....	16.19	16.70
Groundman 1st year....	12.15	12.53
Cable Splicer.....	26.99	27.84
Flagman.....	12.15	12.53
Additional 1.00 per hr. for crew on helicopter job.		
Above rates applicable on all overhead Transmission line work where other construction trades are or have been involved.		

Lineman/Technician....	25.78	26.63
Digging Mach./Dynamite.	23.20	23.97
Chief Mech./Trctr.Trlr.	21.91	22.64
Mobile Equip.Oper./Truck Dr./	20.62	21.30
Mech. 1st Class.....	20.62	21.30
Groundman 3rd year....	19.34	19.97
Groundman 2nd year....	15.47	15.98
Groundman 1st year....	11.60	11.98
Flagman.....	11.60	11.98
Certified Welder.....	27.07	27.96
Cable Splicer	28.36	29.29
Additional 1.00 per hour on helicopter job.		
Above rates apply on Sub-Stations, Switching Structures, Maintenance Projects, Railroad Catenary install/maint, Third rail installation, Bonding of Rails and pipe type cable installation.		

Lineman /Tech....	24.50	25.35
Welder/Cable Splicer	24.50	25.35
Digging Mach./Dynamite.	22.05	22.82
Chief Mech./Trctr.Trlr.	20.83	21.55
Mobile Equip.Oper./Truck Dr./	19.60	20.28
Mech. 1st Class.....	19.60	20.28
Mech. 2nd Class.....	14.70	15.21
Mech. Assistant.....	11.03	11.41
Groundman 3rd year....	18.38	19.01
Groundman 2nd year....	14.70	15.21
Groundman 1st year....	11.03	11.41
Flagman.....	11.03	11.41

Additional 1.00 per. hr. for crew on helicopter job.
Above rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work where no other construction trades are or have been involved.

OVERTIME PAY: See (B, E, Q,) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov. Election Day.
Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov Election Day.
SUPPLEMENTS for holidays paid at straight time.

The following APPRENTICE rates and the following SUPPLEMENTAL benefits apply to all classification categories of CONSTRUCTION, TRANSMISSION and

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DISTRIBUTION.

APPRENTICES: (1000) hr terms at the following percentage of Journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS:(per Hour worked including above listed holidays.

\$ 6.65	\$ 6.65
plus	plus
7% of wage	7% of wage

6-1249a

LINEMAN/ELECTRIC

WAGES(per hour)	4/29/96 4/28/97	4/29/97 5/04/98
Cert. Welder...	22.60	23.49
Lineman/Technician.....	21.52	22.37
Digging Mach./Dynamite.	19.37	20.13
Chief Mech./Tractor Trler	18.29	19.01
Mobile Equip.Oper./Truck Dr./		
Mechanic 1st Class...	17.22	17.90
Mechanic 2nd Class...	12.91	13.42
Mechanic Assistant...	9.68	10.07
Groundman 3rd Yr.....	16.14	16.78
" 2nd Yr.....	12.91	13.42
" 1st Yr.....	9.68	10.07
Flagman.....	9.68	10.07

Above rates applicable on ALL Lighting and Traffic Signal Systems with the installation, testing, operation, maintenance and repair of all traffic control and illumination projects, traffic monitoring systems and road weather information systems.

OVERTIME PAY: See (B. E. Q.) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov Election Day.

Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov Election Day.

Supplements paid at STRAIGHT TIME rate for holidays.

Overtime: (5, 6, 8, 13, 25)

The following APPRENTICE Rates and the following SUPPLEMENTAL BENEFITS apply to all classifications.

APPRENTICES: (1000) hour terms at the following percentage of Journey's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS: per Hour Worked including above listed holidays.

\$ 6.65	\$ 6.65
plus	plus
7% of wage	7% of wage

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NOTE(S): Each employee in a helicopter crew to receive \$ 1.00 above regular pay rate.

6-1249a-LT

LINEMAN - Pole Treater

WAGES(per hour)	6/01/96 5/31/97	6/01/97 5/31/98	6/01/98 5/31/99
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POLE TREATER AND MAINTENANCE

Pole treater 1st (Minimum 1 year experience)	\$10.28	10.49	10.70
Pole treater 2nd (Minimum 6 months experience)	9.74	9.93	10.13
Pole treater 3rd (Minimum 3 months experience)	9.20	9.38	9.57
Inexperienced treater (Less than 3 months)	8.66	8.83	9.01

OVERTIME PAY: See (B, H) on OVERTIME PAGE.HOLIDAYS

Paid : See (5, 6, 8, 10, 15) on HOLIDAY PAGE.

Overtime : See (5, 6, 8, 10, 15) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hours worked including the above listed holidays)

\$ 2.85	2.95	3.05
plus 3%	plus 3%	Plus 3%
of wage	of wage	of wage

*NOTE.....ABOVE RATES APPLICABLE THROUGHOUT THE ENTIRE STATE EXCEPT THE FOLLOWING COUNTIES: BRONX, KINGS, NEW YORK COUNTY, QUEENS, RICHMOND, NASSAU, AND SUFFOLK COUNTIES.

6-1249pole

ELECTRICIAN

WAGES(per hour)	5/26/97- 5/31/98	6/01/98 5/30/99
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Electrician.....\$	23.15	Addit. \$:70 per hr
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All maintenance repair and renovation work performed on nuclear power plants shall be paid at 90% of the wage plus full benefits.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

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APPRENTICES: (Hourly) terms at the following rates.

0 to 1000	to 2000	to 3500	to 5000	to 6500	over 6500
\$8.15	9.25	11.60	13.90	16.20	19.70

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$ 6.62 plus 5% of wage
Appr. 1st 2000 hours	\$ 3.00 plus 5% of wage
All other Appr.	\$ 6.62 plus 5% of wage

5-86

ELECTRICIAN

WAGES(per hour) 5/26/97-
 5/31/98

Audio/Sound/TV:

Journeyman Tech.....	\$ 16.10
Chief Installer.....	16.10
Installer 4th.....	14.50
" 3rd.....	12.90
" 2nd.....	10.45
" 1st.....	8.05
Chief Technician.....	16.10

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.

HOLIDAYS:

Pa1d: See (1) on HOLIDAY PAGE.

Overtime: See (5,6) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS: (per hour worked)

\$ 4.87 plus
5 % of wage

5 - 865

IRONWORKER

<u>Wages</u> (per hour)	7/01/97- 4/30/98	5/01/98- 6/30/99
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Structural.....\$	20.70	21.40
Reinforcing.....	20.70	21.40
Ornamental.....	20.70	21.40
Chain Link Fence.....	20.70	21.40
Welder.....	20.70	21.40
Sheeter.....	20.95	21.65
Stone Derrick Man..	20.70	21.40
Mach. Mov./Rigger..	20.70	21.40
Precast Concrete Erector	20.70	21.40

OVERTIME PAY: See (B,E,E2,Q) on OVERTIME PAGE.

HOLIDAYS:

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Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5,6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
45%	50%	55%	65%	75%	85%	90%	90%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$8.64	\$8.64
All Apprentices	\$3.60	\$3.60

5-33.1

PAINTER

<u>WAGES</u> (per hour)	7/01/97- 4/30/98	5/01/98- 4/30/99	5/01/99- 4/30/00
Base.....\$	19.16	19.41	19.71
Brush,Roll, from			
Swing Scaffold.....	19.66	19.91	20.21
Struct.Steel(to 40 ft).	19.66	19.91	20.21
" " (over 40 ft).	19.86	20.11	20.41
Spray.....	19.76	20.01	20.31
Sandblast(Ground Level)	19.91	20.16	20.46
" (From Swing Scaffold)	20.16	20.41	20.71
Drywall Taper.....	19.16	19.41	19.71
Wall Covering.....	19.41	19.66	19.96
Cherry Picker/Mech.Lift	19.76	20.01	20.31
Bridge/Steeplejack(Base)	21.11	21.36	21.66
" " (Spray).....	21.71	21.96	22.26
" " (Sandblast).	22.11	22.36	22.66
Lead Paint Abatement..	19.16	19.41	19.71
Nuclear Coating	Add \$1.00 per hour over all rates.		

OVERTIME PAY: See (B, F, R) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of journeyman's wage

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
40%	40%	50%	50%	65%	65%	75%	80%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 7.60	7.90	8.20
Appr. 1st & 2nd terms	\$ 3.80	3.90	4.00
Appr. all other terms	\$ 5.50	5.70	5.90

5-150

SURVEY CREW - Consulting Engineer

Prevailing Rate Schedule

New York State

Department of Labor

-----Case Number-----

9708246
MONROE

1997B

Feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a consulting engineer agreement.

SURVEY CLASSIFICATIONS:

Party Chief- One who directs a survey party.

Instrumentman- One who runs the instrument and assists the Party Chief.

Rodman- One who holds the rods and in general, assists the survey party.

<u>WAGES:</u> (per hour)	6/01/97	6/01/98	6/01/99
	5/31/98	5/31/99	5/31/2000

Survey Rates:

Party Chief	\$ 19.53	\$19.93	\$20.33
Instrument,Rodperson..	17.04	17.44	17.84

Additional 3.00 per hr. for work in a tunnel.

Additional 2.50 per hr. for DEC or EPA certified toxic or hazardous waste work.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGEHOLIDAY:

Paid: See (5,6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

SUPPLEMENTAL BENEFITS: (per hour worked)

\$9.95	\$10.35	\$10.75
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6-5450calg

PLUMBER

<u>WAGES</u> (per hour)	6/01/97-
	5/31/98

Plumber/Steamfitter.....\$ 21.98

Maintenance, repair and renovation work performed on nuclear power plants paid at 90% of wage above plus full benefits.

OVERTIME PAY: Site work & New const. See (B*, E, E2, Q) on OVERTIME PAGE.OVERTIME PAY: All other work See (B*, E, Q) on OVERTIME PAGE.

*Time and one half for work on the day after Thanksgiving.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following wage rates.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
\$7.65	7.65	8.65	8.65	9.65	10.65	13.84	14.34	14.84	15.34

SUPPLEMENTAL BENEFITS(per hour worked)

Journeyman	\$8.25
Appr. 1st year	\$3.13
Appr. 2nd, 3rd, 4th years	\$6.00
Appr. all other years	\$7.00

5-13

WELDER

Prevailing Rate Schedule

New York State

Department of Labor

-----Case Number-----

9708246
MONROE

1997B

Welder To be paid the rate of the mechanic performing the work.

LINEMAN-TREE CLEARANCE/TRIMMING

Applies to line clearance, tree work and right-of-way preparation on all new or existing overhead electrical, telephone and CATV lines.

<u>WAGES</u> (per hour)	1/01/96- 12/31/96	1/01/97- 12/31/97
Tree Trimmer:		
Treeman.....	\$13.72	\$14.13
" Equip. Operator..	12.15	12.51
" Mechanic.....	12.15	12.51
" Truck Driver....	10.32	10.63
" Inexperienced Grdsman	8.55	8.81
" Flag Person.....	6.18	6.37

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (5, 6, 8, 10, 15, 16) on HOLIDAY PAGE.

Overtime: See (5, 6, 8, 10, 15, 16) on HOLIDAY PAGE.

Supplements paid at STRAIGHT TIME rate for holidays.

Overtime: (5, 6, 8, 10, 15, 16)

SUPPLEMENTAL BENEFITS: (per hour worked including above listed holidays.

\$ 3.30 plus	3.40 plus
3% of wage	3% of wage

No. 6-1249TT

CARPENTER

Heavy/Highway/Tunnel: "Cut & Cover" work and all form work done in the open cut excavations for the purpose of constructing a tunnel (for any use)....
... also FABRICATION of forms at ground level, for installation below the open cut elevation or in any tunnel.

<u>WAGES</u> (per hour)	7/01/97- 6/30/98	7/01/98- 6/30/99	7/01/99- 6/30/00
		Addit.	Addit.
Carpenter	\$ 20.31	\$.72	\$.73
Welder.....	21.81	per hr	per hr

For Hazardous Waste Work an additional \$ 1.50 per hour.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
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60% 65% 70% 75% 80% 85% 90% 95%
-----SUPPLEMENTAL BENEFITS:(per hour worked)

\$ 8.52

5-85H

CARPENTER

<u>WAGES</u> (per hour)	4/01/97- 3/31/98	4/01/98- 3/31/99	4/01/99- 3/31/00
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Marine Diver -

Heavy/Highway:

Diver-Scuba & Hardhat

" (Wet Day).....\$ 36.25

" (Dry Day)..... 21.68

" Tender..... 21.68

Addit.

\$.75

per hr.

Addit.

\$.75

per hr.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (2, 17) on HOLIDAY PAGE.

Overtime: See (4, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$9.65
Appr. 1st year	\$3.60
Appr. 2nd year	\$4.10
Appr. 3rd year	\$5.65
Appr. 4th year	\$6.65

5-1163DH

CARPENTER

<u>WAGES</u> (per hour)	4/01/97- 3/31/98	4/01/98- 3/31/99	4/1/99 - 3/31/00
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Heavy/Highway:

Piledriver(Heavy/Hiway)\$ 20.68

Certified Welder..... 21.68

Hazardous Waste work... 22.18

Addit.

\$.75

per hr.

Addit.

\$.75

per hr.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (2, 17) on HOLIDAY PAGE.

Overtime: See (4, 6) on HOLIDAY PAGE.

APPRENTICES: (1) year terms at the following percentage of journeyman's

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MONROE

1997B

wage.			
1st.	2nd.	3rd.	4th.
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$ 9.65
Appr. 1st year	\$ 3.60
Appr. 2nd year	\$ 4.10
Appr. 3rd year	\$ 5.65
Appr. 4th year	\$ 6.65

5-1163H

MASON - HEAVY/HIGHWAY

WAGES(per hour)	6/01/97- 5/31/98	6/01/98 5/31/99	6/01/99 5/31/00
Heavy/Highway-Tunnel:		Addit.	Addit.
Cement Finish (H/H)...\$	17.91	\$.60 per hr.	\$.60 per hr.
Bricklayer.....	17.91		
Plasterer.....	17.91		

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (5, 6) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.
50%	55%	60%	65%	70%	80%

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$7.60
Appr.1st term	\$3.50
Appr.2nd term	\$3.78
Appr.3rd term	\$4.22
Appr.4th term	\$4.56
Appr.5th term	\$4.89
Appr.6th term	\$5.56

5-11H/H

SURVEY CREW - Heavy/HighwaySURVEY CLASSIFICATIONS:

Party Chief- One who directs a survey party.

Instrumentman- One who runs the instrument and assists the Party Chief.

Rodman- One who holds the rods and in general, assists the survey party.

WAGES:(per hour)	6/01/97 5/31/98	6/01/98 5/31/99	6/01/99 5/31/2000
Survey Rates:			
Party Chief	\$20.53	\$20.93	\$21.33
Instrument/Rodman.....	18.04	18.44	18.84

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MONROE

1997B

Additional 3.00 per hr. for work in a tunnel.
 Additional 2.50 per hr. for DEC or EPA certified toxic or hazardous waste work.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGEHOLIDAY:

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

APPRENTICE: (1 yr or 1000 hr) terms at the following wage rates.

	1st	2nd	3rd
6/01/97	\$ 9.00	11.29	13.54
6/01/98	9.20	11.54	13.84
6/01/99	9.40	11.79	14.14

SUPPLEMENTAL BENEFITS: (per hour paid)

Journeyman	\$ 9.95	\$10.35	\$10.85
Appr 1st	5.00	5.20	5.40
Appr 2nd	6.20	6.45	6.70
Appr 3rd	7.45	7.75	8.05

6-545Dhalg

LABORER

Heavy/Highway Laborer:

Group # A: Flagperson.

Group # B: Basic, Bull float, Chain saw, Concrete aggregate bin, Concrete bootmen, Gin buggy, Hand or Machine vibrator, Jack hammer, Mason tender, Mortar mixer, Pavement breaker, Handlers of steel mesh, Small generators for Laborer's tools, Installation of bridge drainage pipe, Vibrator type rollers, Tamper, Drill doctor, Tail or Screw operator on asphalt paver, Water pump operators (1 1/2" & single Diaph.) Nozzle (asphalt, seeding & sandblasting), Laborers on chain link fence, Rock splitter & Power unit, Pusher type concrete saw, All other Gas, Electric, Oil and Air tool ops., Form setters, Stone or Granite curb setters.

Group #C: All Rock or Drilling machine operators (Except Quarry master and Similar type), Acetylene torch operators, Powderman, Guniting nozzleman, Pipe layer, Wrecking laborer, Asphalt rakers (Top only).

Group #D: Blasters.

Group #E: All hazardous waste work when State/Federal designated hazardous waste site and regulations require employees to wear required personal protection.

WAGES(per hour)	7/01/96- 6/30/97	7/01/97- 6/30/98	7/01/98- 6/30/99
Heavy/Highway Laborer:			Addit.
Group # A.....\$	17.23	17.63	\$.75
Group # B.....	17.93	18.33	per hr.
Group # C.....	18.13	18.53	
Group # D.....	18.93	19.33	
Group # E.....	19.43	19.83	

For work bid on or after June 1, 1988, there shall be a twelve (12) month carryover, from the bid date, of the posted rate.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5,6) on HOLIDAY PAGE.

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MONROE

1997B

APPRENTICE: (1/2) year terms at the following wage rates.

1st term	\$11.62	12.10
2nd term	\$14.07	14.69
3rd term	\$14.51	15.28
4th term	\$14.93	15.74

SUPPLEMENTAL BENEFITS:(per hour worked)

Journeyman	\$7.28	7.58
Appr. 1st term	\$3.05	3.45
Appr. 2nd term	\$3.05	3.45
Appr. 3rd term	\$5.05	5.45
Appr. 4th term	\$7.08	7.58

5-435H

TEAMSTER-Heavy/HighwayTruck Driver(H/H):

Group#1: Warehousemen, Yardmen, Truck helpers, Pickups, Panel trucks, Flatboy material trucks(straight jobs), Single Axle dump trucks, Dumpsters, Material checkers and receivers, Greasers, Truck tiremen, Mechanics helpers and parts chasers. Rubber-tired tractors (towing or pushing flat body vehicles), Form truck.

Group#2: Tandems and batch trucks, Mechanics, Dispatcher, When used as a hauling vehicle the following: Front end loader, A-frame and fork lift.

Group#3: Semi-trailers, Low-boy trucks, Asphalt distributor trucks, And agitator, Mixer trucks and Dumpcrete type vehicles, Truck mechanic, Fuel trucks, Boom truck.

Group#4: Specialized earth moving equipment, Euclid type, or similar off-highway, Where not self-loaded, Straddle (Ross) carrier, And self-contained concrete mobile truck.

Group#5: Off-highway Tandem back-dump, Twin engine equipment and Double-hitched equipment where not self-loaded.

<u>WAGES</u> (per hour)	4/01/96- 3/31/97	7/01/97- 6/30/98	7/01/98- 6/30/99
Heavy/Hiway:			
Group #1.....\$	17.68	17.92	18.17
Group #2.....	17.73	17.97	18.22
Group #3.....	17.78	18.02	18.27
Group #4.....	17.93	18.17	18.42
Group #5.....	18.08	18.32	18.57

One year carry-over for rate in effect at time of bid.

OVERTIME PAY: See (B, E, Q) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hour paid)

\$ 7.77	8.23	8.73
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5-398H

Prevailing Rate Schedule

New York State

Department of Labor

-----Case Number-----

9708246
MONROE

1997B

LABORER- Building Excavating and Paving

The following rates apply to "Site Work" in connection with a Building project which may include site preparation and and grading, underground work or paving, if such work is outside Building line proper.

Group # A: Basic laborer, Chuck tender

Group # B: Asphalt raker, Formsetter, Wagon drill, Air track, Curb stone setter and Powder monkey.

Group # C: All Air, Elec., Gas, Deisel, motor driv. tool opers., Curb cockmen, Pipelayer.

Group # D: Relining of all pipes.

Group # E: Blaster.

Group # F: Meter Setter/Changer.

WAGES(per hour)	6/01/95- 5/31/96	6/01/96- 5/31/97	6/01/97- 5/31/98
Excav/Paving Laborer:			
Group # A.....\$	14.44	15.04	15.44
Group # B.....	14.69	15.29	15.69
Group # C.....	14.64	15.24	15.64
Group # D.....	14.84	15.44	15.84
Group # E.....	15.49	16.09	16.49
Group # F.....	14.74	15.34	15.74

There shall be an 18 month carryover of the wages and supplements in effect at the time of the project bidding.

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (5, 6) on HOLIDAY PAGE.

Overtime: See (5, 6) on HOLIDAY PAGE.

APPRENTICES: (1/2) year terms at the following wage rates.

1st term	\$9.67	10.28	10.42
2nd term	\$11.79	12.48	12.68
3rd term	\$11.91	12.68	12.95
4th term	\$12.00	14.87	15.21

SUPPLEMENTAL BENEFITS: (per hour worked)

Journeyman	\$6.93	6.93	7.18
Appr. 1st term	\$3.00	2.90	3.15
Appr. 2nd term	\$3.00	2.90	3.15
Appr. 3rd term	\$5.00	4.90	5.15
Appr. 4th term	\$7.03	4.90	5.15

5-435E&P

TEAMSTER-Building

Truck Driver(Sewer/Water/Excavation):

Group # A: Concrete (ready-mix) transportation, Tractor and attached units (except low-boy) Truck of ten (10) tons or more capacity.

Group # B:

Trucks of less than ten (10) ton capacity, Plant men, Yard men, Helpers, Parts Room drivers, Fuel truck drivers, Line trucks (where line truck is used solely for the transportation of construction materials, supplies and equipment).

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9708246

MONROE

1997B

Group # C: Mechanic.

Group # D: Tractor and Low-boys.

Group # E: Tractors and Low-boys of twenty-five (25) tons and over moving engineers self-powered equipment.

WAGES(per hour)	5/01/95- 4/30/96	5/01/96- 4/30/97	5/01/97- 4/30/98
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Sewer/Water/Excavation

Group # A.....\$	16.70	17.20	17.20
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Group # B.....	16.55	17.05	17.05
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Group # C.....	16.95	17.45	17.45
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Group # D.....	16.85	17.35	17.35
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Group # E.....	16.95	17.45	17.45
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18 month carry-over for wages and supplements in effect at time of bid.

OVERTIME PAY: See (B, E, E2, Q) on OVERTIME PAGE.

HOLIDAYS:

- Paid: See (1) on HOLIDAY PAGE.

- Overtime: See (5, 6) on HOLIDAY PAGE.

SUPPLEMENTAL BENEFITS:(per hour worked)

\$5.38	\$5.55	\$6.24
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5-398SW

POWER EQUIPMENT OPERATOR - Heavy/HighwayMASTER MECHANIC:

CLASS A:Asphalt Paver, Automated Concrete Spreader(CMI Type), Automatic Fine Grader, Backhoe(except tractor-mounted,rubber tired),Belt Placer(CMI Type),Blacktop Plant(auto) Cableway, Caisson Auger, Central Mix Concrete Plant(automated), Cherry Picker(over 5 tons capacity), Conc Pump(8" or over), Crane (less than 200ft. of boom), Crane & Derricks (Steel Erection), Dragline,Dredge,Dual Drum Paver,Excavator(all purpose-hydraulic-Gradall or Similar), Fork Lift(factory rated 15' and over),Front End Loader(4cy & ov), Head Tower (Sauerman or equal), Hoist(2 or 3 Drum), Mine Hoist, Holland Loader, Hydroblaster, Mucking Mach. or Mole, Overhead Crane(Gantry or Straddle Type), Pile Driver,Power Grader, Pavement Profiler over 105 horsepower, Quad 9, Quarry Master(or equivalent), Scraper, Shovel, Side Boom, Slip Form Paver(If second man is needed, shall be an Oiler), Tractor Drawn Belt Type Loader, Truck Crane, Truck or Trailer Mounted Chipper(self-feed ing), Tug Operator(manned, rented equipment excluded) & Tunnel Shovel, Maintenance Engineer, Concrete Curb Machine,Self-Propelled Slip Form, Catalytic Oxidizer.

CLASS B:Backhoe (Tractor-Mounted,Rubber Tired), Bituminous Spreader & Mixer, Blacktop Plant (non-automated),Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant(Non Automated), All Concrete Batching Plants, Cherry Picker(5 tons & under),Compressors(4 or less exceeding 2,000 c.f.m.combined capacity), Concrete Paver over 16S, Concrete Pump(Under 8"), Core Drill, Crusher, Drill Rigs (tractor mounted), Diesel Power Unit,(Tractor Mounted), Front End Loader (under 4 c.y.), Fork Lift (under 15ft.), Hydroblaster, Pressure Boiler (15 lbs.& over), Hoist(One Drum), Kolman Plant Loader & similar type loaders(if employer requires another man, he shall be Oiler), L.C.M.Work Boat Oper, Locomotive, Lubrication Eng/Greaseman, Welder, Mixer(for stabilized base-self propelled); Monorail Machine, Plant Engineer, Pump Crete,Ready Mix Concrete Plant, Pavement Profiler (105 HP and under, Refrigeration Equip (for soil stabilization), Road Widener, Roller(all above sub-grade),Sea Mule,Tractor with Dozer and/or Pusher,Trencher, Tugger Hoist,

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MONROE

1997B

Winch and Winch Cat, Hydro-Axe, Log Skidder, Pavement Breaker (self-propelled) Wertgen, PB-4 and similar type, Vermeer type saw, Bobcat and attachments.

CLASS C: A Frame Truck, Aggregate Plant, Ballast Regulator(ride on) Boiler (used in conjunction with Production), Cement and Bin Oper., Compressors (4 under 2,000 cfm combined capacity; or 3 or less with more than 1200 cfm. but not to exceed 2,000 c.f.m), Compressors(any size but subject to other provisions for compressors) Dust Collectors, Generators, Pumps, Welding Machines, Light Plants- 4 of any type or combination), Concrete Pavement Spreaders and Finishers, Concrete Paver or Mixer(16s or under), Concrete Saw,(self-propelled), Conveyor, Electric Pump Used in Conjunction with Well Point System, Farm Tractor with Accessories, Fine Grade Machine, Fireman, Form Tamper, Grout Pump, Gunit Machine, Hammers(hydraulic-self propelled), Hydro-Spiker(ride-on), Hydraulic Pump(jacking system), Hydroblaster(low pressure cleaning), Light Plants, Mulching Machine, Oiler, Parapet Concrete or Pavement Grinder, Post Hole Digger & Post Driver, Power Broom(towed), Power Heaterman, Power Sweeper, Revinius Widener, Roller(grade & fill), Scarifier(ride-on), Shell Winder, Span Saw (ride-on) Steam Cleaner, Submersible Electric Pump(when used in lieu of well point system), Tamper(ride-on), Tie Extractor(ride-on), Tie Handler(ride-on), Tie Inserter(ride-on) Tie Spacer(ride-on), Track Liner(ride-on), Tractor(with or Without accessories), Vibratory Compactor, Vibro Tamp, Well Drill, Well Point.

<u>WAGES</u> (per hour)	7/01/97- 5/31/98	6/01/98- 5/31/99	6/01/99- 6/30/00
Heavy/Highway:			
Master Mechanic.... . \$	24.90	25.40	25.95
Cranes 200ft.& over..	24.77	25.27	25.82
CLASS A.....	23.64	24.14	24.69
CLASS B.....	22.93	23.43	23.98
CLASS C.....	20.07	20.57	21.12

Additional 2.50 per hr. for E.P.A. or D.E.C. certified toxic or hazardous waste work.

OVERTIME PAY: See (B,E,Q) on OVERTIME PAGE.

HOLIDAYS:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5,6) on HOLIDAY PAGE.

APPRENTICES: (1000) hour terms at the following percentages.

1st term	2nd term	3rd term	4th term
60% of	65% of	70% of	75% of
Class C	Class C	Class B	Class A

SUPPLEMENTAL BENEFITS:(per hour paid)

\$ 10.45	10.95	11.45
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5-832H

MARINE CONSTRUCTION

<u>WAGES</u> (per hour)	10/01/96- 9/30/97	10/01/97- 9/30/98	10/01/98- 9/30/99	10/01/99- 9/30/00
Hydraulic Dredge:				
Class A:				

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1997B

Leverman.....	\$ 24.06	\$ 24.91	\$ 25.78	\$ 26.68
Engineer, Derrick Op.	21.89	22.38	22.94	23.51
Chief Mate on Dredge.	21.07	22.06	22.61	23.18
Class C:				
Maint. Eng.....	21.36	21.79	22.23	22.67
Mate.....	19.94	20.34	20.75	21.17
Boat Captain.....	20.09	20.49	20.90	21.32
Class D:				
Deckhand.....	16.29	16.53	16.78	17.04
Fireman, Oiler.....	16.92	17.17	17.43	17.69
Shoreman.....	16.29	16.53	16.78	17.04

Tug Boats:

Class A:

Tug Master.....	22.00	22.61	23.29	23.99
Tug Chief Engineer...	20.49	21.00	21.53	22.07

Class C:

Tug Captain.....	21.16	21.74	22.39	23.06
Tug Engineer.....	20.09	20.59	21.10	21.63

Class D:

Tug Deckhand.....	16.50	16.75	17.00	17.26
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Dipper and Clamshell Dredges:

Class A:

Operator.....	24.49	25.35	26.24	27.16
Engineer.....	22.36	22.86	23.43	24.02

Class C:

Maint. Engineer.....	21.36	21.79	22.23	22.67
Mate.....	19.94	20.34	20.75	21.17

Boat Master, Welder..	21.03	21.45	21.88	22.32
Boat Captain.....	20.09	20.49	20.90	21.32

Class D:

Oiler.....	16.92	17.17	17.43	17.69
Deckhand.....	16.50	16.75	17.00	17.26

OVERTIME PAY: See (B, F, R) on OVERTIME PAGE.HOLIDAY:PAID: See (5, 6, 8, 10, 15) on HOLIDAY PAGE.OVERTIME: See (1) on HOLIDAY PAGE.

The following SUPPLEMENTAL BENEFITS apply to ALL classifications of the above
HYDRAULIC, DIPPER, CLAMSHELL DREDGES and TUG BOATS.

SUPPLEMENTAL BENEFITS: (per hour worked)

All Class A & B \$ 3.21 (OVERTIME \$ 0.80 EXTRA)
plus
8% of
wage

All Class C \$ 3.21 (OVERTIME \$ 0.65 EXTRA)
plus
8% of
wage

All Class D \$ 3.21 (OVERTIME \$ 0.50 EXTRA)
plus
8% of

Prevailing Rate Schedule

New York State

Department of Labor

-----Case Number-----

9708246
MONROE

1997B

wage

4-25a

MARINE CONSTRUCTION

<u>WAGES</u> (per hour)	10/01/94- 9/30/95	10/01/95- 9/30/96
Drill Boat:		
Class A:		
Engineer.....	\$ 21.58	\$ 22.35
Blaster.....	21.81	22.59
Driller.....	21.59	22.36
Class C:		
Welder/Machinist..	21.42	22.18
Class D:		
Oiler/Helper.....	19.27	19.66
Deckhand.....	15.15	15.43

OVERTIME PAY: See (B, E, P, S) on OVERTIME PAGE.HOLIDAY:PAID: See (5, 6, 10, 15) on HOLIDAY PAGE.OVERTIME: See (5, 6, 10, 15) on HOLIDAY PAGE.SUPPLEMENTAL BENEFITS: (per hour worked)

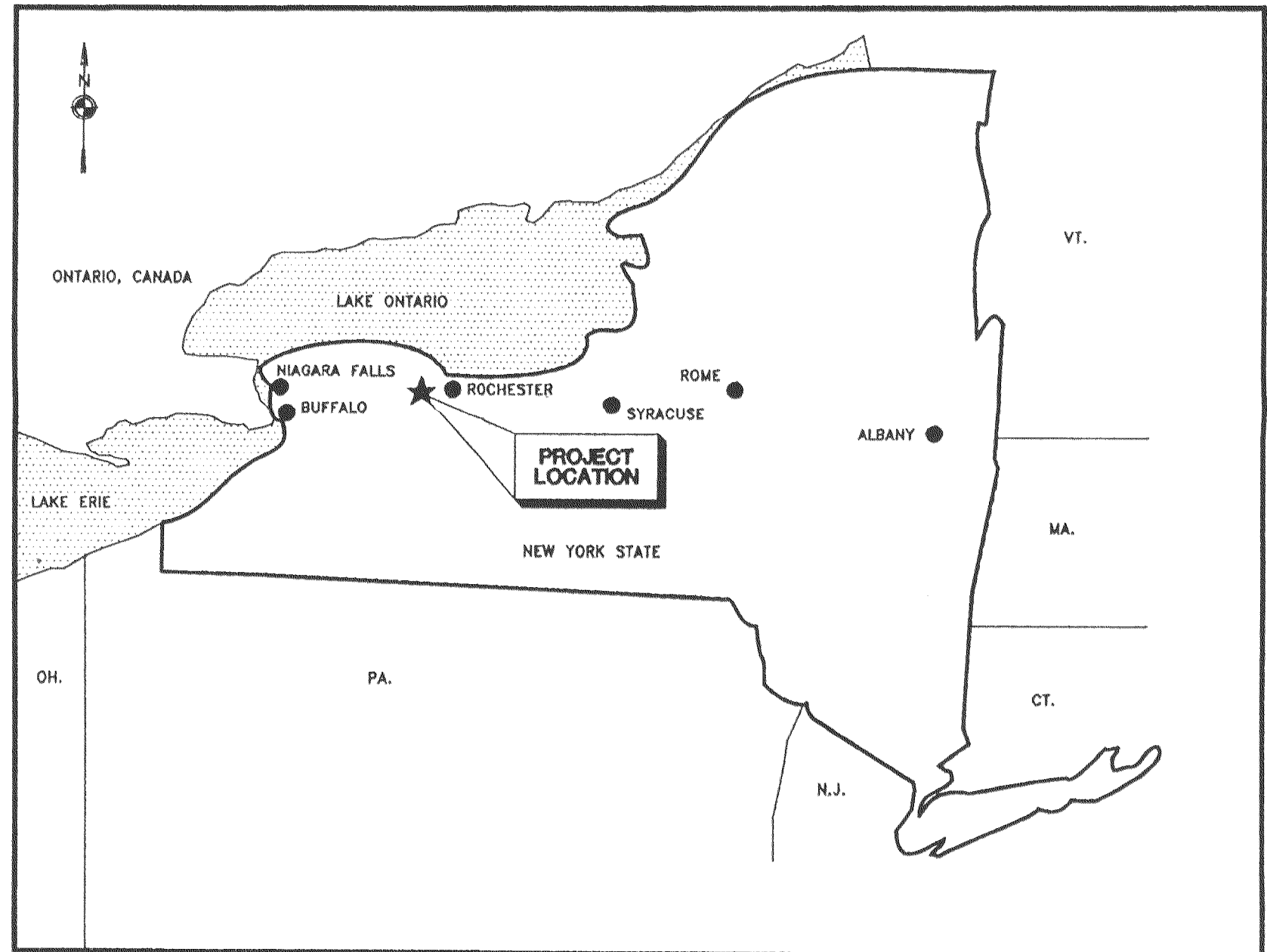
Class A	\$ 4.63 plus	\$ 4.63 plus
	8% of wage	8% of wage
Class C	\$ 4.34 plus	\$ 4.34 plus
	8% of wage	8% of wage
Class D	\$ 4.06 plus	\$ 4.06 plus
	8% of wage	8% of wage

4-25/3

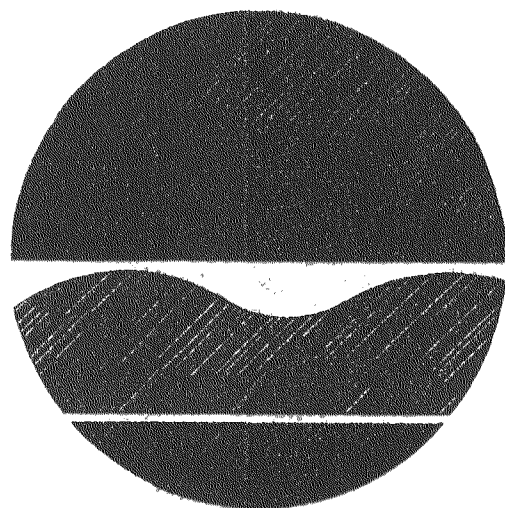
Cabler \$ 3.00 plus
3% of wage

SWEDEN-3 CHAPMAN SITE
NYSDEC SITE No. 8-28-040A
TOWN OF SWEDEN
MONROE COUNTY, NEW YORK

Prepared For:
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION



VICINITY MAP



SITE LOCATION MAP

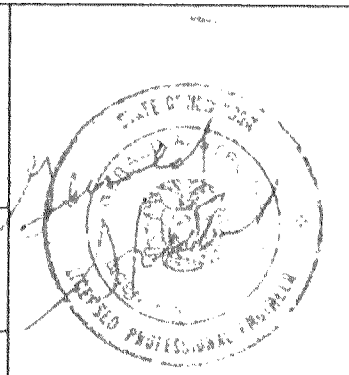
DRAWING INDEX	
DRAWING NO.	TITLE
T-1	TITLE SHEET, VICINITY MAP, SITE LOCATION MAP, AND DRAWING INDEX
1 OF 3	EXISTING SITE PLAN AND EXISTING LANDFILL CROSS SECTIONS
2 OF 3	PROPOSED SITE PLAN AND SITE CROSS SECTIONS
3 OF 3	LANDFILL COVER SYSTEM DETAILS

DRAWING ALTERATION
WARNING: IT IS A VIOLATION OF ART. 145, SECT. 7209 OF THE NEW YORK STATE
EDUCATION LAW FOR ANY PERSON UNLESS ACTING UNDER THE DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER THIS DRAWING. IF ALTERED,
SUCH P.E. OR L.S. SHALL AFFIX HIS SEAL, SIGNATURE, THE DATE, THE NOTATION
"ALTERED BY," AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NO.	DATE	BY	APP'D	DESCRIPTION
1	5/98	MAB	REB	SHEET REMOVED

ecology and environment
engineering, p.c.
International Specialists in the Environment

DESIGNED BY J. VAETH	CHECKED BY M. WAWROWSKI
DRAWN BY R. BIDELL	APPROVED BY G. STROBEL



SWEDEN-3 CHAPMAN SITE
SWEDEN, NEW YORK

TITLE SHEET, VICINITY MAP,
SITE LOCATION MAP & DRAWING INDEX

SCALE NO SCALE	DATE ISSUED 05/98	C.A.D. FILE NO. 0F9C104C_D6320_F1	DRAWING NO. 0F9330 - T-1	REV. 1
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SOILS USED FOR START UP AND SHAKEDOWN OF LTSD SYSTEM SHALL BE FROM LOCATIONS ADJACENT TO SB-01 AND SB-02.

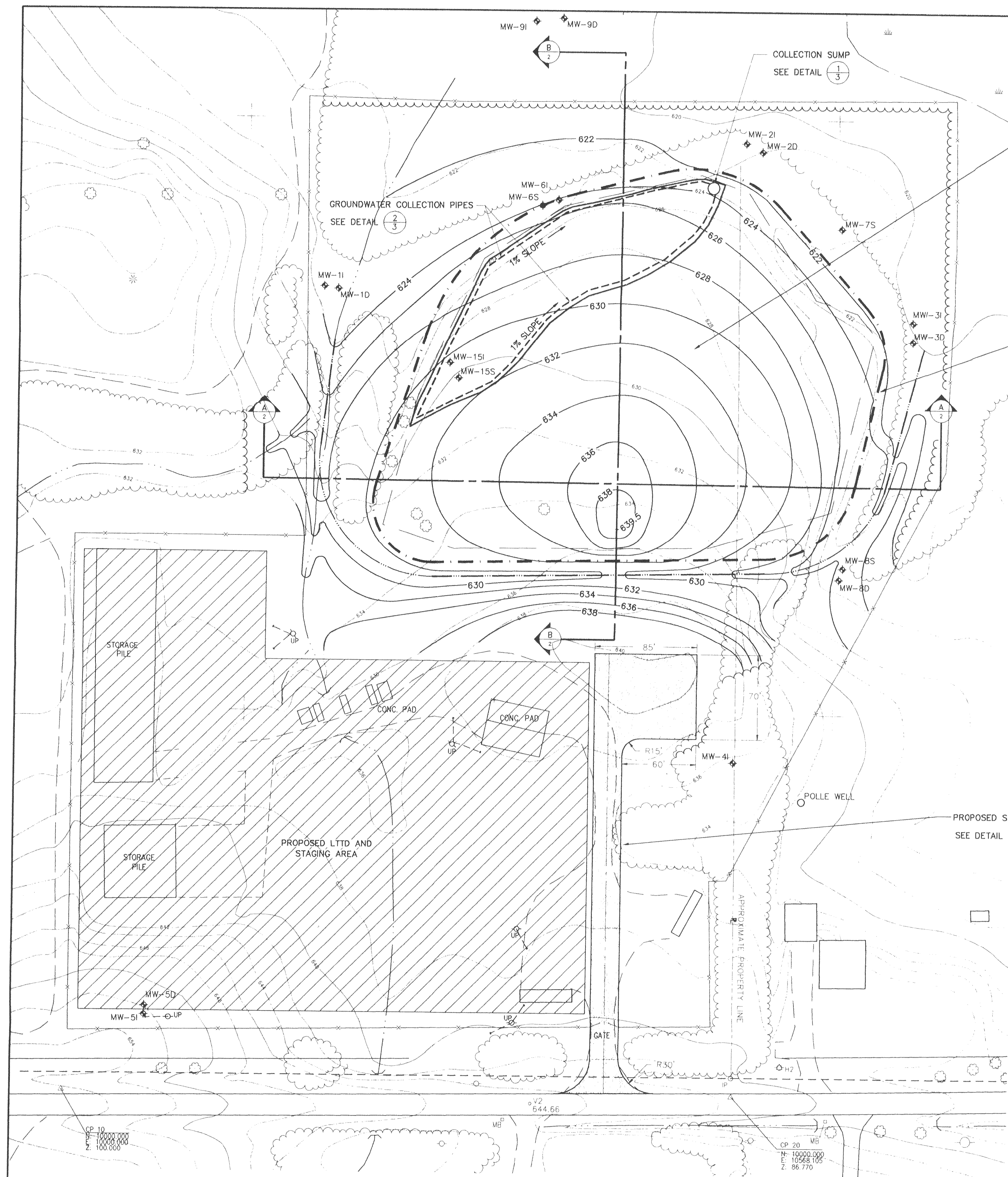


- NOTES:
- 1) ELECTRICAL SERVICE AVAILABLE ON-SITE. GAS SERVICE LOCATED APPROXIMATELY 2,000 FEET FROM SITE. CONTACT UTILITIES FOR DETAILED INFORMATION.
 - 2) DEMOLISH ALL EXISTING CONCRETE PADS, FOUNDATIONS, AND STRUCTURES. DISPOSE ON-SITE UNDER CAP.
 - 3) EXISTING STOCKPILED SOILS MAY CONTAIN WOOD AND DEBRIS. SEGREGATE/SEPARATE DEBRIS FROM SOIL PRIOR TO USE AS BACKFILL.
 - 4) NO DECOMPOSABLE MATERIALS SHALL BE PLACED ON-SITE UNDER CAP.
 - 5) DECOMMISSION MW's 6I, 6S, 15I, AND 15S PRIOR TO SOURCE REMOVAL. INSTALL NEW MONITORING WELLS UPON CONCLUSION OF SOURCE REMOVAL AND LANDFILL CAP CONSTRUCTION.
 - 6) BASE MAP AND EXISTING CAP DIMENSIONS WERE DEVELOPED BY DUNN GEOSCIENCE ENGINEERING CO., ALBANY, NEW YORK; AUGUST 1992.

2	5/98	REB	REB	NOTES AND SECTION B-B TEXT REVISED
1	5/98	MAB	REB	MONITORING WELLS ADDED
NO	DATE	DWN	APP'D	DESCRIPTION
REVISIONS				

DESIGNED BY	CHECKED BY
J. VAETH/C. TAYLOR	M. WAWROWSKI
DRAWN BY	APPROVED BY
R. BIDELE	G. STROBEL

<p align="center">SWEDEN-3 CHAPMAN SITE SWEDEN, NEW YORK</p>			
<p align="center">EXISTING SITE PLAN AND EXISTING LANDFILL CROSS SECTIONS</p>			
SCALE 1"=100'	DATE ISSUED 05/98	C.A.D. FILE NO. OF9S107C	DRAWING NO. OF9330 - 1 of 3
			REV. 2



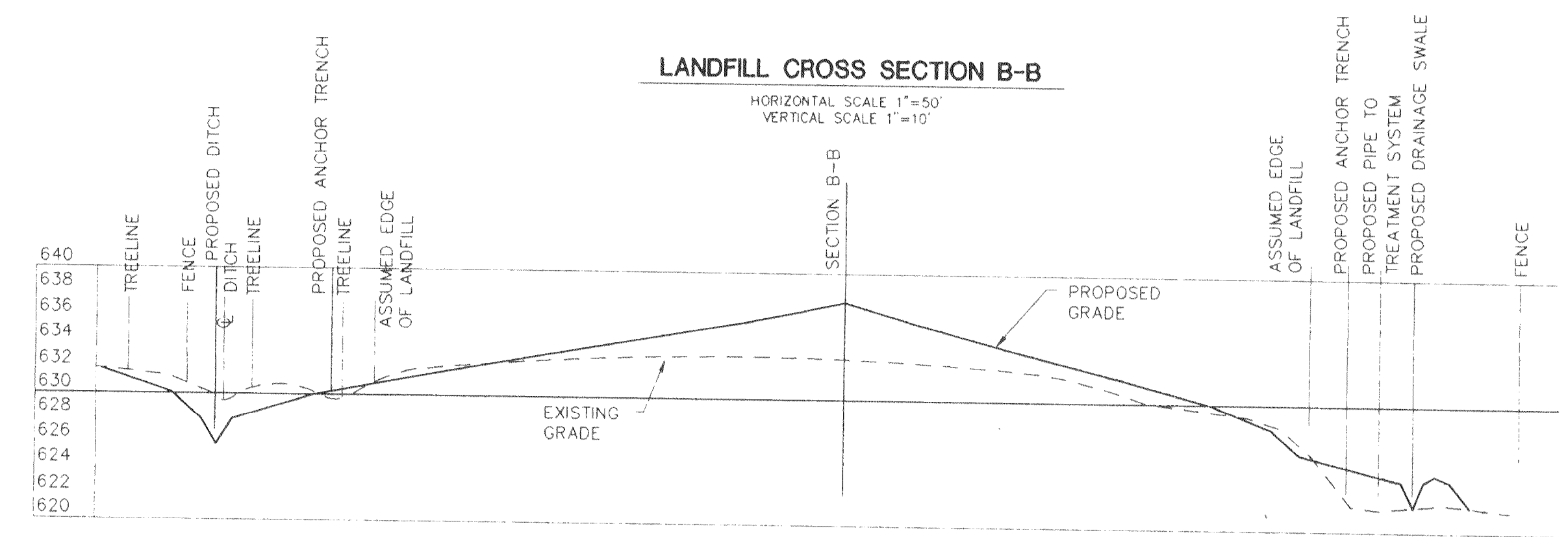
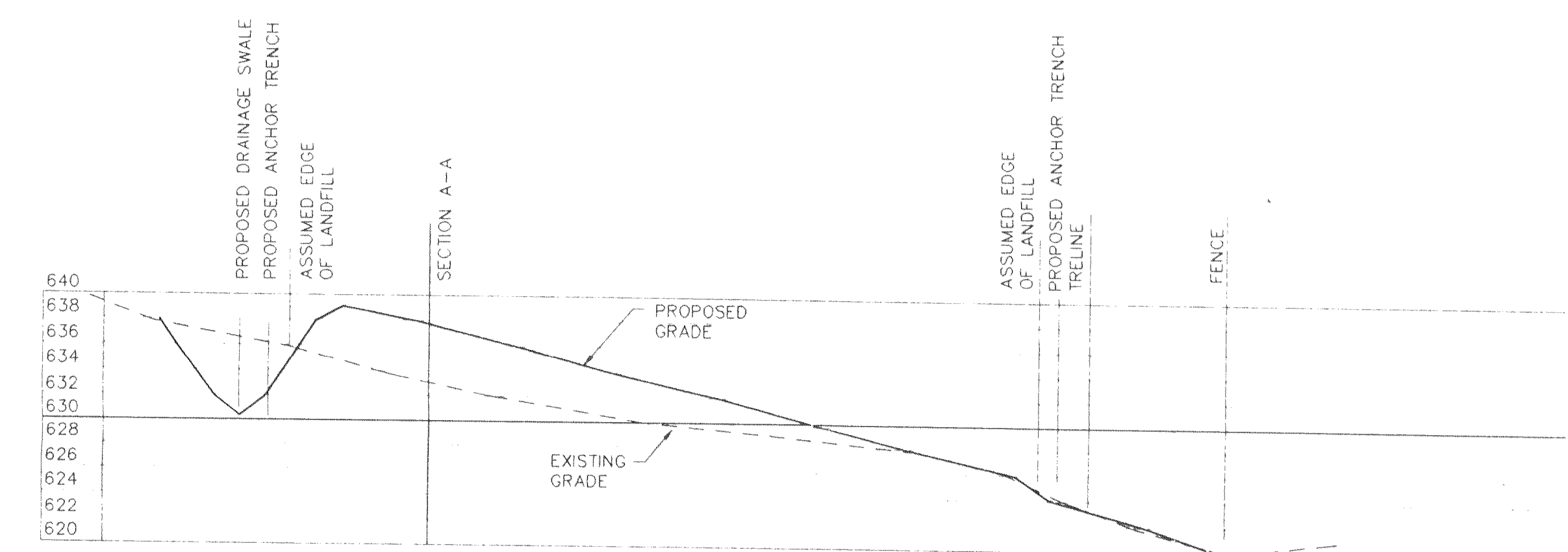
LANDFILL COVER SYSTEM
SEE DETAIL 5/3

TOE OF SLOPE / COVER ANCHOR TRENCH
SEE DETAIL 4/3

PROPOSED STONE ACCESS ROAD
SEE DETAIL 6/3

- NOTES:
1. BASE MAP WAS DEVELOPED BY DUNN GEOSCIENCE ENGINEERING CO. ALBANY, NEW YORK AUGUST 1992
 2. TOPSOIL SHALL BE STRIPPED FROM ALL AREAS REGRADED AS PART OF THE NEW LANDFILL COVER SYSTEM AND ACCESS ROAD.

- LEGEND
- MW-7S EXISTING MONITORING WELL
 - 634 PROPOSED CONTOUR
 - PROPOSED ANCHOR TRENCH
 - PROPOSED DRAINAGE SWALE
 - PROPOSED VEGETATION REMOVAL LIMIT
 - APPROXIMATE LANDFILL BOUNDARY
 - APPROXIMATE PROPERTY LINE
 - UTILITY POLE
 - V2 VERTICAL CONTROL MONUMENT
 - H2 HORIZONTAL CONTROL MONUMENT
 - TREE
 - TREE LINE
 - DITCH/STREAM
 - EXISTING CONTOUR
 - FENCE



PROPOSED SITE PLAN
SCALE 1"=50'

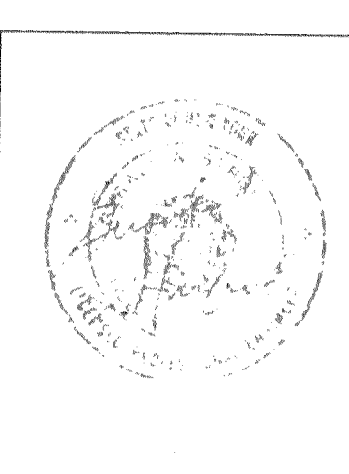
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NO.	DATE	DWN.	APPD.	DESCRIPTION
1	5/98	MAB	REB	GAS VENTS REMOVED

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International Specialists in the Environment

DESIGNED BY J. VAETH/C. TAYLOR	CHECKED BY M. WAWROWSKI
DRAWN BY M. HERRMANN	APPROVED BY G. STROBEL



SWEDEN-3 CHAPMAN SITE
SWEDEN, NEW YORK

PROPOSED SITE PLAN
AND SITE CROSS SECTIONS

SCALE 1"=100'	DATE ISSUED 05/98	C.A.D. FILE NO. OF95105C	DRAWING NO. OF9310 - 2 of 3	REV 1
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