

July 20, 2005

Ms. Sarah Porter, Conservation Agent
New Bedford Conservation Commission
133 William Street
New Bedford, MA 02740

**Re: Response to Comments Provided on the Notice of Intent and Supporting
Documentation for Remediation of BVW at McCoy Field**

Dear Ms. Porter:

This letter addresses review comments presented in your letter to the Conservation Commissioners dated July 11, 2005. The review comments are related to the *Notice of Intent and Supporting Documentation dated May 27, 2005*, for the remediation of the wetlands at the above-referenced location, submitted by BETA Group, Inc. on behalf of the City of New Bedford. The purpose of this letter is to respond to your comments.

Comment #1 – Relating to Plan submissions with professional stamps and preparation dates

The final plans have the required professional stamps and preparation dates.

Comment #2 – Cross-Section A-A'

Refer to Figure 2 for the revised location of Cross-Section A-A'.

Comment #3 – Cross-Section A-A' and the Utility Easement

Refer to Figure 3 – Wetlands Sediment Remediation Profiles for a revised profile of Cross-Section A-A'. As indicated, the utility easement does not require remediation.

Comment #4 – Additional details (edge of wetlands, work areas, erosion controls, etc.) on profiles

Notations to the locations of the edge of wetlands, work areas, and erosion controls have been added to Figure 3 – Wetlands Sediment Remediation Profiles.

Comment #5 – Wetland Species to be placed in areas subject to varying degrees of flooding

The indicated wetlands plantings have been selected on the basis of the anticipated flooding. In addition, a Professional Wetland Scientist will be present during construction to direct the installation of the proposed biobarrier at the appropriate locations to restrict the migration of Phragmites into the restored areas.

Comment #6 – Plans labeled "For Permitting Only"

All plans have been revised with the label "NOI Submission 7/12/05".

Comment #7 – Reduction in Work Area

All plans have been revised to show the reduction in the work area size from approximately 60,000 s.f. to approximately 40,000 s.f..

Comment #8 – Insufficient Information on Temporary Driveways

The technical specifications have been modified to limit the Contractor's construction of temporary access ways to the area to be disturbed under the contract. In addition, the Contractor's activities (temporary filling) will be limited to only those necessary to access the area to be remediated and he/she will be required to remove all temporary access way provisions.

Comment #9 – Bio-barrier, hay bale and silt fence details to be included on plans

The bio-barrier, hay bale and silt fence, and infiltration basin details will be included on revised plans to be submitted to the Commission later this week.

Comment #10 – Location of settling basin and frac tank within BVW

Both the settling basin and frac tank will be located on the utility easement. The configuration of the infiltration basin will be modified to an elongated shape to fall within the utility easement, outside the wetland limits.

Comment #11 – Schedule of inspections by the Conservation Agent

Reference is made to the figure illustrating the wetlands remediation sections which includes times for all Conservation Commission inspections.

Comment #12 – Approval of all plant material and seed mix by Conservation Commission in the field

Technical Specification Section 02200 - Earthwork has been revised to include additional instructions on submittal of a copy of delivery slips and bag labels.

If you have any questions or concerns regarding this request, please call me.

Sincerely,
BETA GROUP, INC.



Alan D. Hanscom, P.E., LSP
Associate

Cc: Gerard Martin, MADEP
Scott Alfonse, City of New Bedford
Jacqueline Coucci, City of New Bedford
William DoCarmo, City Project Manager
Larry Oliveira, School Department
Evan Warner, Mount Vernon Group Architects
Barbara Laughlin, BETA

**THE FOLLOWING FIGURES ARE AVAILABLE AS HARD COPY (PAPER) PLANS
WITH A PROFESSIONAL STAMP**

Figure 2 – Wetlands Sediment Remediation (McCoy Field / New Keith Middle School)

Figure 3 – Wetlands Sediment Remediation Profiles (McCoy Field / New Keith Middle School)

THESE PLANS ARE AVAILABLE FOR VIEWING AT:

**CITY OF NEW BEDFORD PUBLIC LIBRARY
613 PLEASANT STREET
NEW BEDFORD, MA 02740**

CONTACT NUMBERS

PHONE: (508) 991-6275

FAX: (508) 979-1481

SCHEDULE OF HOURS

MONDAY – THURSDAY

9:00AM – 9:00PM

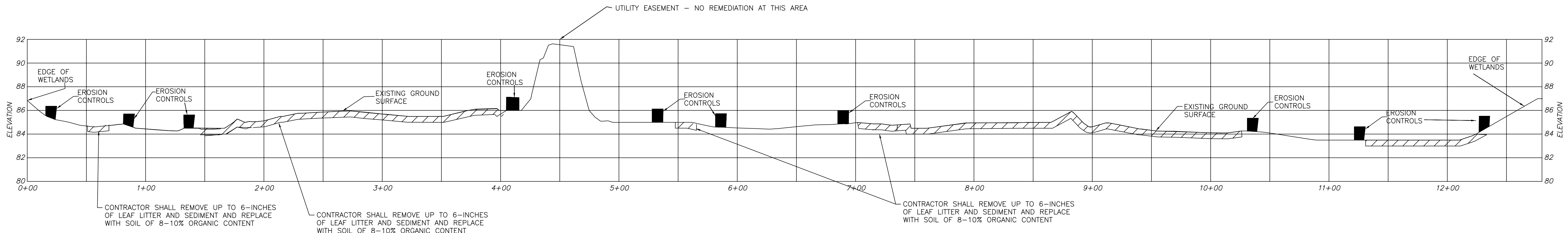
FRIDAY & SATURDAY

9:00 AM – 5:00 PM

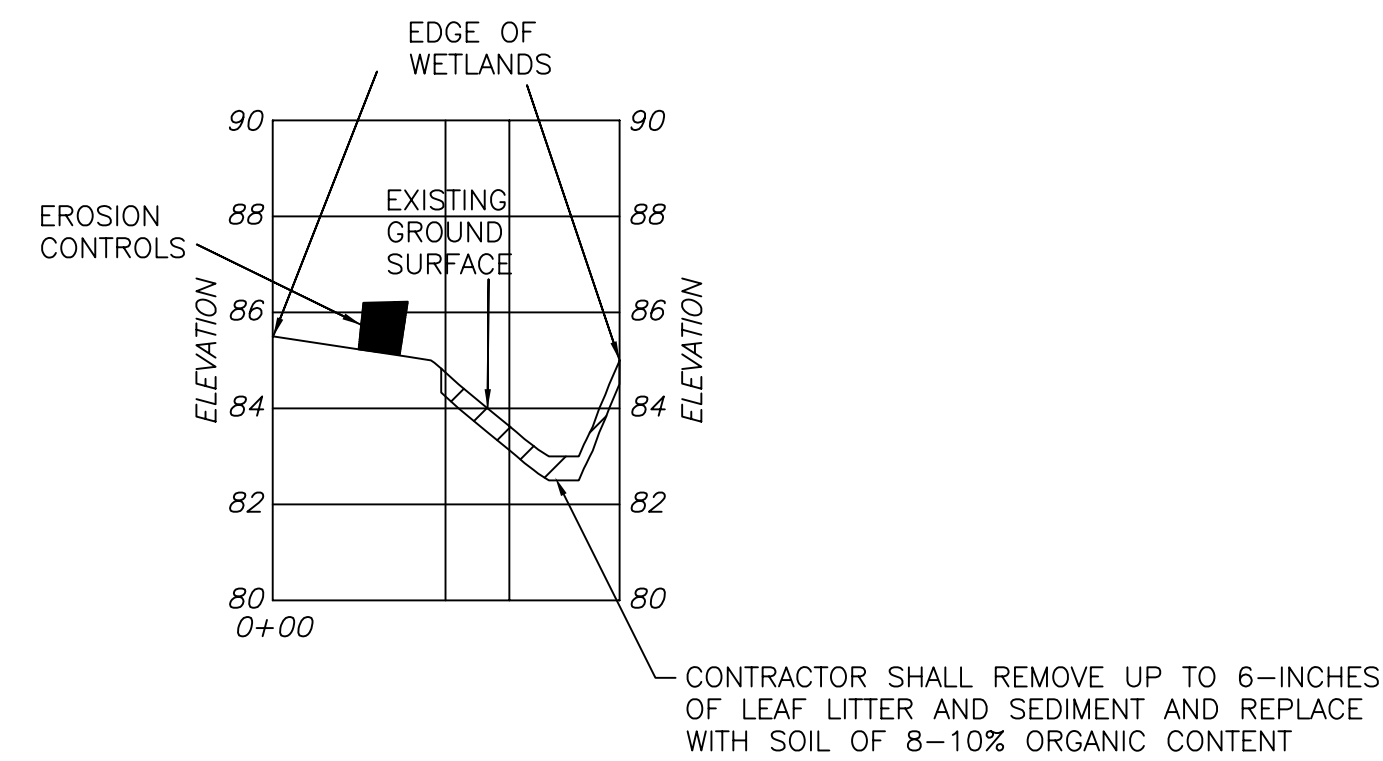
CLOSED SUNDAY & HOLIDAYS

HANDICAPPED ACCESSIBLE

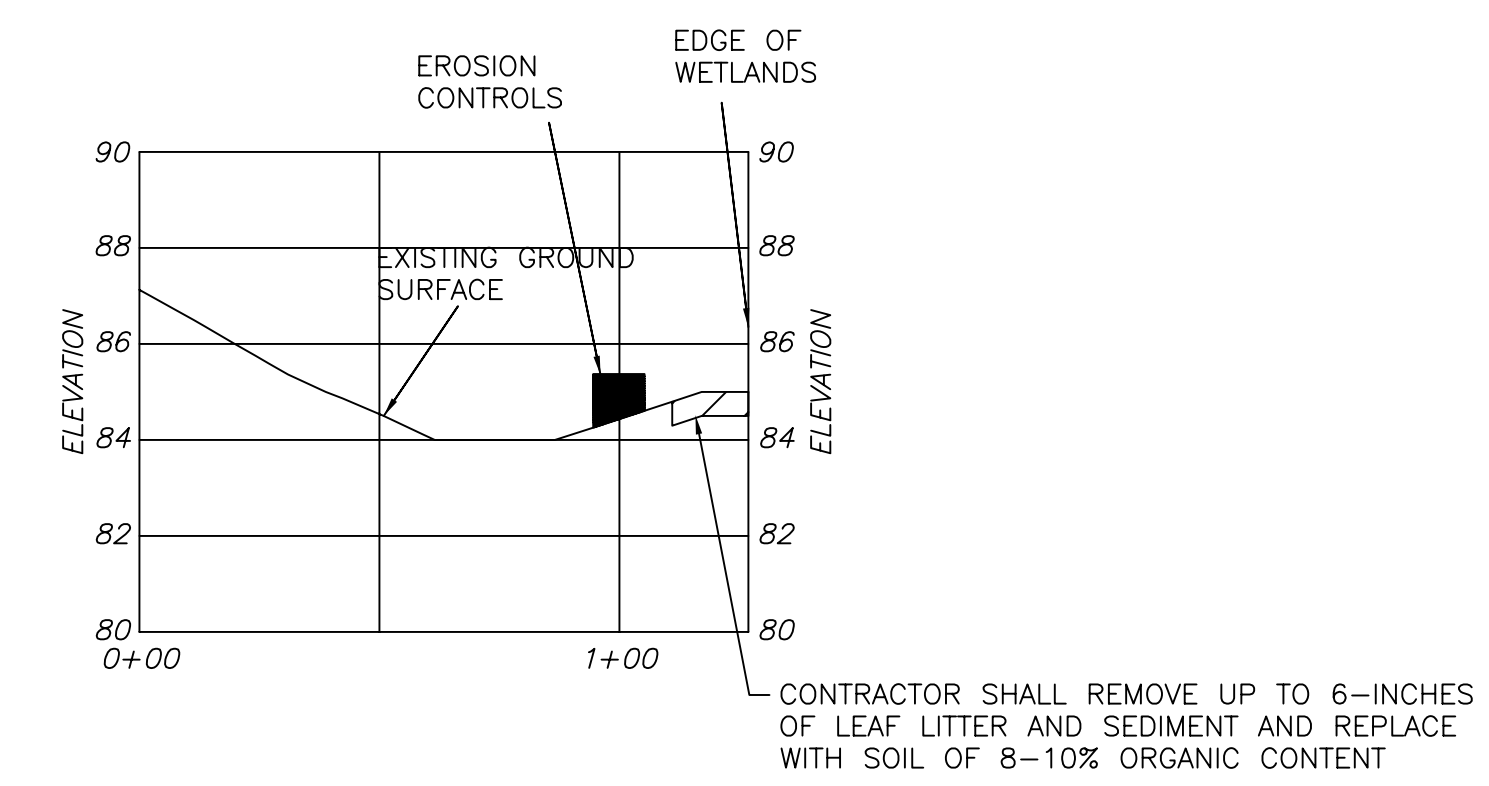
J:\Projects\2600a\2685 - New Bedford Sampling Plan\AutoCad Files\Wetlands\ConCom Profiles.dwg Jul 18, 2005 3:38pm



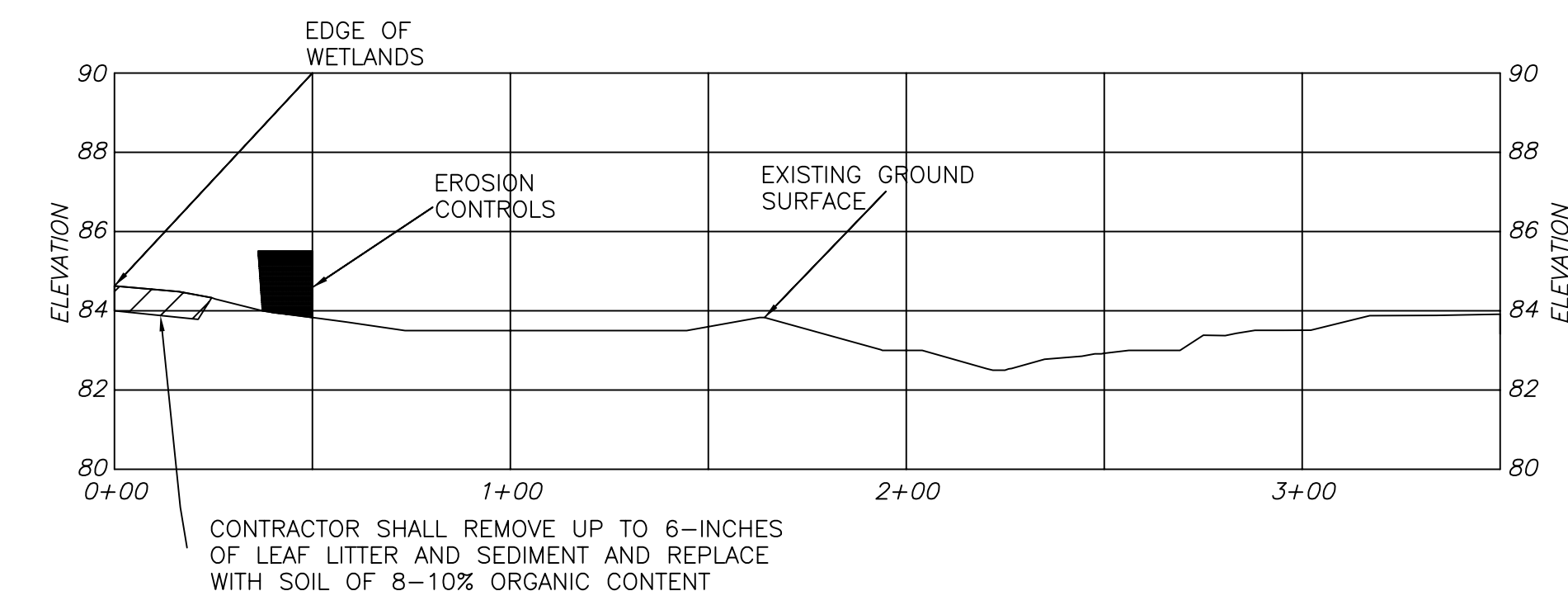
SECTION A-A



SECTION B-B

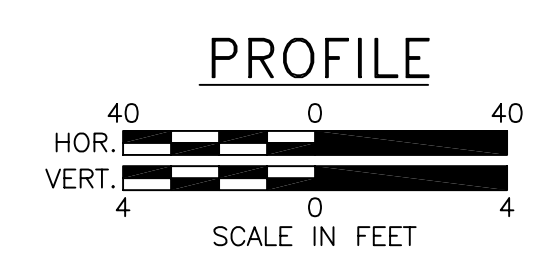


SECTION C-C



SECTION D-D

- CONSERVATION COMMISSION INSPECTIONS:
- 1-AFTER INSTALLATION OF EROSION CONTROLS BUT PRIOR TO ANY OTHER WORK
 - 2-AFTER COMPLETION OF EXCAVATION
 - 3-BACKFILL SOIL PRIOR TO PLACEMENT
 - 4-PLANTINGS PRIOR TO PLACEMENT
 - 5-AFTER COMPLETION OF BACKFILL
 - 6-AFTER FINAL PLANTINGS
- NOTE: EROSION CONTROLS NOT TO SCALE



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS	DESCRIPTION

DRAWN BY:	
DEPT. CHECK:	
PROJ. CHECK:	ADH

NOI Submission
7/12/05

BETA Group, Inc.
Engineers • Scientists • Planners

315 Norwood Park South
Norwood, MA 02062
781.255.1982 fax: 781.255.1974
email: BETA@BETAInc.com

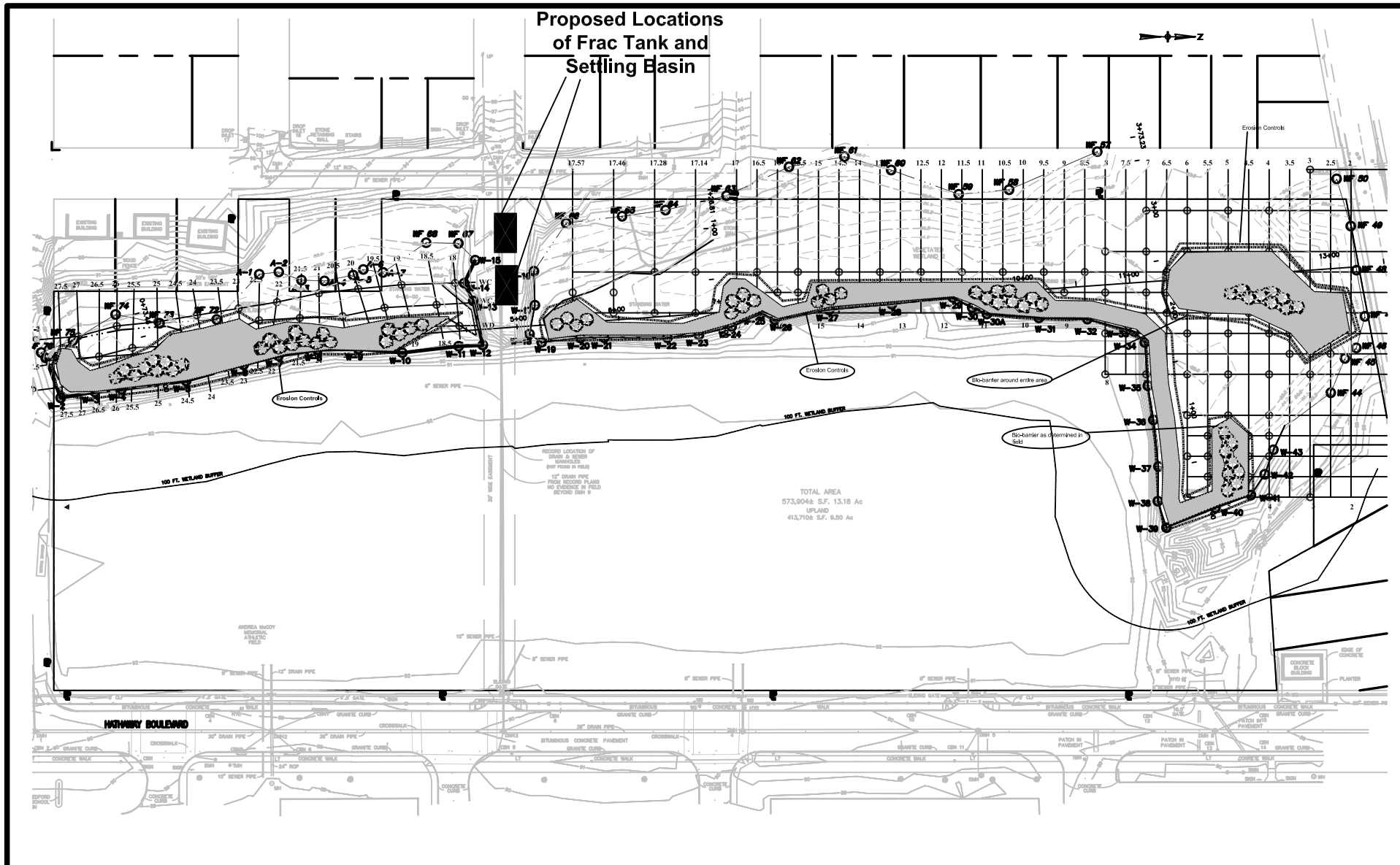
SCALE:

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

FIGURE 3
WETLANDS SEDIMENT
REMEDATION PROFILES
McCOY FIELD/NEW KEITH MIDDLE SCHOOL

JOB	
FILE NO.	ConCom Profiles.dwg
PLOT DATE	July 2005
SHEET	3

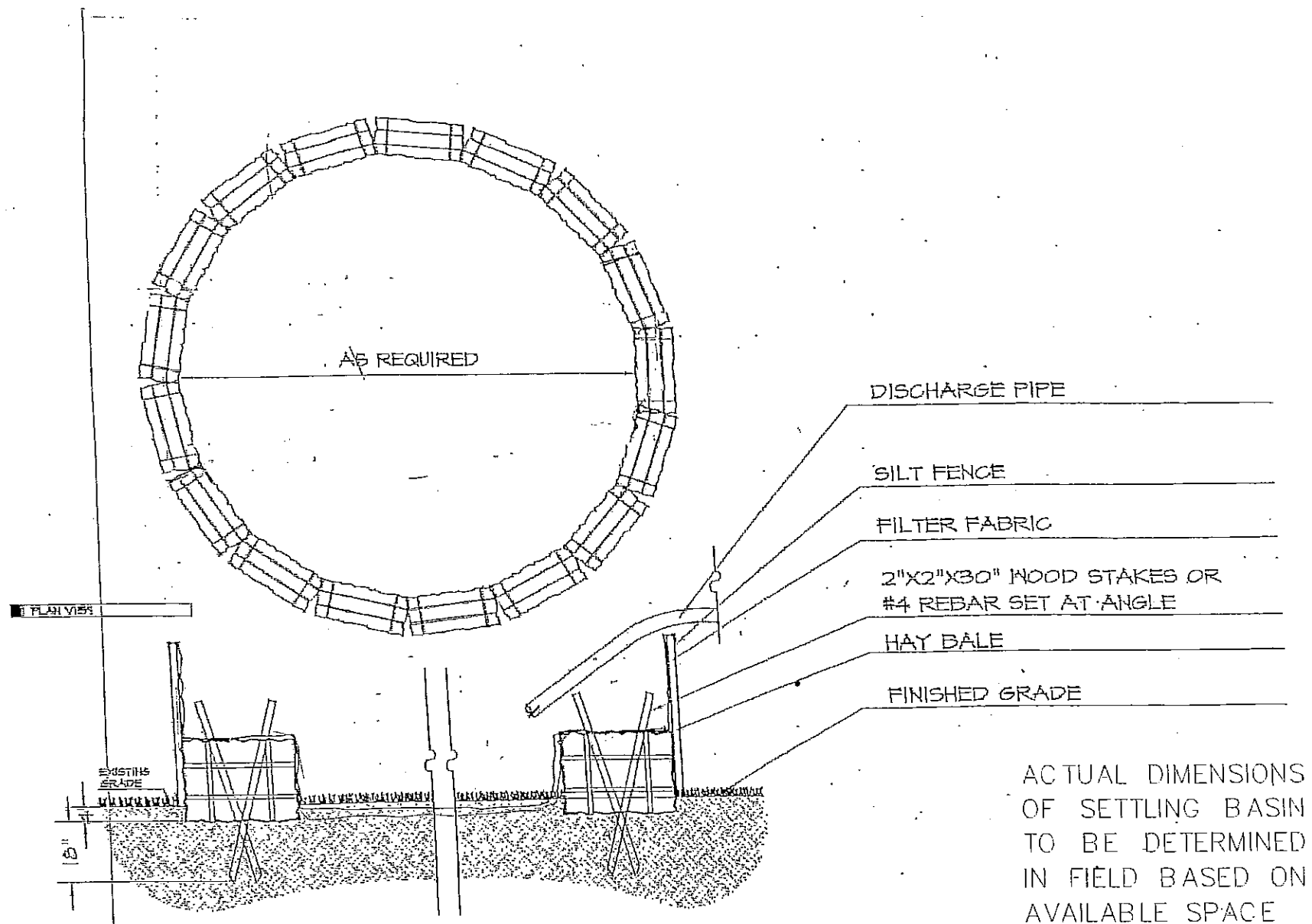


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McCOY FIELD
WETLAND SEDIMENT REMEDIATION AREAS
New Bedford, Massachusetts

Proposed Locations
of Frac Tank and
Settling Basin



PERIMETER CONTROL SECTION

5 SETTLING BASIN

L-3 SCALE: N.T.S.

SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Bidding requirements, Contract Forms, General and Supplementary Conditions and Division I, General Requirements are hereby made a part of this Section. The Order of Conditions, DEP File No. SE 049-0543, issued by the New Bedford Conservation Commission is included in this contract.

1.02 DESCRIPTION OF WORK

- A. The scope of work consists of all materials, equipment, labor and services required for all Site Preparation work, including all items incidental thereto, as specified herein and as shown on the Drawings.
- B. Include the following:
1. Protection of trees (including roots) marked by Engineer with trunks greater than six (6) inches in diameter.
 2. Clearing within the limits of work by cutting and removing, together with proper disposal of, shrubs, brush, trees of trunk diameter less than six (6) inches, and other objectionable materials, if any, except as otherwise provided herein.
 3. No burning on the site shall be permitted.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all of the Contract Documents for requirements which affect the work of this section.
- B. Other specifications sections which directly relate to the work of this section include, but are not limited to, the following:
1. Excavation and Management of Wetland Sediment
 2. Section 02200 – Earthwork
 3. Section 02270 – Sedimentation and Erosion Control

1.04 CODES, STANDARDS, ORDINANCES AND PERMITS

- A. Perform all work in strict accordance with all rules, regulations, standards, codes, ordinances, or laws of local, State and Federal authorities having lawful jurisdiction, and be responsible for compliance therewith. Such authorities include but are not limited to the following:
1. Occupational Safety and Health Administration (OSHA)
 2. American Society of Testing Materials (ASTM)
 3. Massachusetts Department of Public Safety Standard Specification (MASS DPS)
 4. Massachusetts Department of Environmental Protection (DEP)

5. Commonwealth of Massachusetts, Board of Fire Prevention Regulations, 527 CMR 9.00
6. National Fire Protection Association, Standard No. 30, Flammable and Combustible Liquids Code
- B. The Contractor shall give the proper authority all requisite notices and secure all permits, licenses, inspections and certificates relating to his work.

1.05 SUBMITTALS

- A. Prior to commencement of any site preparation operations, submit to the Architect, for review, a schedule for the proposed methods to insure against possible damage to existing areas adjacent to where excavation operations will occur.
- B. Include a full description and plan for securing the site, safety devices and measures to be taken and time table for implementation.

1.06 SURFACE/SUBSURFACE INFORMATION

- A. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation.

1.07 PROTECTION

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing buildings, streets, curbs, paving, service utility lines, structures and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- B. Prior to start of Contractor's work, Engineer will mark selected trees (generally with trunk diameters of six (6) inches or greater) within the limit of work. Trees so marked shall be protected during the work such that they will remain undamaged and remain viable as a result of excavation and backfilling as described in this and related sections. Trees that are not viable at one year after the completion of backfilling shall be replaced by Contractor at his sole expense.
- C. The Contractor shall assume full responsibility for damages caused by his or his Subcontractor's equipment and personnel to the existing streets, vegetation, and grounds, as well as adjoining private property.
- D. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.

1.08 CLEAN UP

- A. Any soil, demolition debris or similar material which has been brought onto paved areas by hauling operations or otherwise shall be removed promptly, keeping these areas clean at all times.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 PREPARATION

- A. Notify all corporations, companies, individuals or local authorities owning, or having jurisdiction over, utilities running to, through or across areas disturbed by demolition operations.

- B. Have all utility services not otherwise designated to be disconnected by the Contractor disconnected at service mains in accordance with requirements governing the utility involved unless otherwise shown on the plan or directed by the Architect.
- C. Install siltation barrier as described in City of New Bedford Conservation Commission Order of Conditions No. SE 049-0543 and in Section 02270 Sedimentation and Erosion Control.

3.03 CLEARING

- A. Clearing shall consist of the cutting and removal of all trees (excepting those marked by the Engineer for protection), shrubs, brush, and other objectionable material from within the Limit of Work Line unless otherwise shown on the plans or directed by Engineer.

3.04 DISPOSAL AND CLEAN UP

A. Disposal:

1. Cleared vegetation consisting of trees, shrubs, and brush that prior to the start of clearing was not in contact with the ground, may be disposed of as non-contaminated landscaping debris.
2. Other objectionable removed material will be disposed of by the Contractor at a facility approved by the Engineer.
3. Soil, sediment, leaf litter, and vegetation debris excavated for wetland remediation shall be disposed of in accordance with "Excavation and Management of Wetland Sediment."
3. Keep all public ways clear of all spillage from trucks hauling material to and from the project site.

B. Premises:

1. The premises shall be left in a safe, clean and relatively orderly condition upon completion of work under this Section.

C. Dust Control:

1. Thoroughly wet down all work being demolished and all trucking ways as necessary to prevent spreading dust. If necessary, provide all water, hoses and connections required for dust control.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Bidding requirements, Contract Forms, General and Supplementary Conditions and Division I, General Requirements are hereby made a part of this Section. The Order of Conditions, DEP File No. SE 049-0543, issued by the New Bedford Conservation Commission is included in this contract.

1.02 DESCRIPTION OF WORK

- A. The scope of work consists of all materials, equipment, labor and services required for all Earthwork work, including all items incidental thereto, as specified herein and as shown on the Drawings. The following work shall be included:
1. Provide crushed stone placed on geotextile fabric/wetland mats to create temporary driveways from site upland areas to the wetland areas of excavation. The dimensions of the driveway will be kept to the smallest width possible, only to allow enough area for the mobilization and demobilization of equipment inside the work area. The driveway shall measure no more than two feet wider than the widest piece of equipment to enter the work area, as approved by the Conservation Commission. Only under extreme circumstances should these parameters be altered, and only upon approval from the City of New Bedford Conservation Commission. The exact location and dimensions of the driveway shall be selected in an area likely to result in the least possible overall disturbance to wetland resources. Approval of the selected location by the New Bedford Conservation Commission will be required prior to construction of the driveway.
 2. Pumping and/or bailing necessary to maintain excavated spaces free from water from any source whatsoever.
 3. Remove four (4) to six (6) inches of sediment by Bobcat loader, hand tools, physical use of mechanical equipment, and vacuum excavation to the horizontal limits shown on Figure 2.
 4. Provide clean sandy fill, with 8-10% organic content, as specified, for wetland restoration.
 5. Protect all existing utilities, roads, pavements, lawns, planting and other improvements from damage due to construction. Install fencing and safety devices or controls as necessary.
 6. Dust control and clean up.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Other specifications sections, which directly relate to the work of this section include, but are not limited to, the following:
1. Section 02100 - Site Preparation
 2. Section 02270 - Sedimentation and Erosion Control
 3. Excavation and Management of Wetland Sediment

1.04 REFERENCE STANDARDS

- A. Definitions and Reference Standards:
1. ASTM: Specifications of the American Society for Testing and Materials.

2. AASHTO: American Association of State Highway and Transportation Officials.
3. ACI: American Concrete Institute.
4. Building Code: Commonwealth of Massachusetts State Building Code, latest edition.
5. EPA: United States Environmental Protection Agency.
6. DEP: Massachusetts Department of Environmental Protection.
7. SSHB: Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Mass. Highway Department, latest edition.

1.05 BENCHMARKS AND ENGINEERING

- A. Lines and grade work in accordance with Drawings and Specifications shall be laid out by a registered Civil Engineer or Surveyor employed by the Contractor. The Contractor shall establish permanent benchmarks, to which access can easily be had during the progress of the work. The Contractor shall maintain all established bounds and benchmarks and replace, as directed, any that may be disturbed or destroyed. The selection of the registered Civil Engineer or Surveyor shall be subject to the Architect's approval. The General Contractor shall pay all costs of the services of the Civil Engineer or Surveyor.
- B. The Contractor shall verify dimensions and elevations on the ground and report any discrepancies immediately to the Architect. Any discrepancies not reported prior to construction shall not be the basis for claims for extra compensation.

1.06 SUBSURFACE INFORMATION

- A. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation and makes no representation regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work.

1.07 FINISHED GRADES

- A. The words "finished grades" as used herein mean the required final grade elevations indicated on the Drawings. Where not otherwise indicated, areas shall be given uniform slopes between points for which finished grades are shown, or between such points and existing grade except that vertical curves or roundings shall be provided at abrupt changes in slope.

1.08 PROTECTION

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing buildings, streets, curbs, paving, service utility lines, structures and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- B. The Contractor shall protect selected trees of six (6) inch trunk diameter or greater marked by the Engineer and their roots in the excavation area as described in excavation section below.
- C. Contractor shall place hay bales at perimeter of work area as required by the City of New Bedford Conservation Commission. The location and installation of the hay bales will be approved by the Conservation Commission. No disturbance of soil or vegetation shall be allowed outside of this designated work area.
- D. The Contractor, under this Section, shall provide at his own expense adequate pumping and drainage facilities to keep the excavation sufficiently dry as not to affect adversely the quality or time of excavation.

- E. The Contractor shall assume full responsibility for damages caused by him or his Subcontractor's equipment and personnel to the existing buildings and grounds as well as adjoining private property.
- F. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.

PART 2 - PRODUCTS

2.01 FILL MATERIAL

- A. Crushed Stone: Crushed stone to be placed on geotextile fabric/wetland mats to serve as a temporary driveway for excavation equipment shall be washed, graded free of organic materials one and one-quarter (1-1/4) inch to one-half (1/2) inch size. Gradation shall conform to SSHB, Section M2.01.3 as follows:

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight</u> <u>Minimum</u>	<u>Passing</u> <u>Maximum</u>
1-1/2 inches	100%	-
1-1/4 inches	85%	100%
3/4 inch	10%	25%
1/2 inch	0%	8%

- B. Wetland topsoil fill: Clean sandy soil shall be used as backfill for restoring the excavated area of the wetland:

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight</u> <u>Minimum</u>	<u>Passing</u> <u>Maximum</u>
3/4 inch	100%	100%
No. 4	80%	100%
No. 200	0%	10%
(Based on fraction passing No. 4)		

Organic Content	8%	10%
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PART 3 - EXECUTION

3.01 EXCAVATION

A. General:

- Excavate all vegetation, leaf litter, soil, and sediment to the elevations and dimensions shown on the Drawings. Excavation will generally be 2-4 inches in depth and is not expected to extend greater than six (6) inches below grade. Confirmation of sufficient initial excavation shall be by the visual observations of the Engineer. Contractor shall coordinate with the Engineer regarding the Engineer's collection of post-excavation confirmatory soil samples to verify the removal of sufficient contaminated sediment.
- Contractor shall remove sediment from areas within five (5) feet of trees marked by Engineer for protection using vacuum excavation. Contractor shall loosen soils in these areas using hand tools prior to vacuuming, taking care to minimize damage to tree roots.

3. In order to allow excavating equipment (Bobcat skid steer loader, or equivalent) access to the areas to be excavated, Contractor shall, as necessary, construct temporary driveway(s) to consist of six (6) to twelve (12) inches of crushed stone placed on geotextile fabric/wetland mats. The driveway shall measure no more than two feet wider than the widest piece of equipment to enter the work area, as approved by the Conservation Commission. Only under extreme circumstances should these parameters be altered, and only upon approval from the City of New Bedford Conservation Commission. The temporary driveway shall be removed immediately upon completion of work, and the wetland area beneath the temporary driveway shall be restored as specified for all impacted areas.
4. The Contractor shall obtain from the proper authorities locations of all utilities within the scope of this work so that there will be no damage done to such utilities. Neither the Owner nor the Architect will be responsible for any such damage, and the Contractor shall restore any structure or utility so damaged without additional compensation. Written notifications to the appropriate utility agencies shall be made at least ten (10) days prior to the commencement of any work.
5. Any unsanitary conditions encountered, such as broken sewer mains or uncovered garbage, shall be corrected or removed entirely as directed by the Architect.

3.02 DEWATERING

- A. Provide all pumps and pumping facilities, including a well point system as necessary with attendants, to keep all areas of excavation free from water from whatever source at all times, when work is in progress or when necessary for protection and integrity of the work in place. Dewatering treatment and discharge will be conducted by the Contractor in accordance with either an NPDES exclusion letter or NPDES Construction General Permit, as appropriate, to be obtained by the Engineer.
- B. Dewatering discharge will be treated for silt and sediment removal by settling in a 20,000-gallon fractionation tank followed by discharge into a settling basin to be constructed on site in accordance with, and in the approximate locations shown in, Appendix D – Dewatering, of the May 27, 2005 Notice of Intent submitted to the New Bedford Conservation Commission.

3.03 FILLS, BACKFILLS AND COMPACTION

A. Samples and Testing:

1. All fill material and its placement shall be subject to quality control testing. A qualified laboratory may be selected by the Owner to perform tests on materials. All costs of testing will be paid for by the Owner. Test results and laboratory recommendations shall be available to the Architect.
2. Provide samples of each fill material from the proposed source of supply including on-site sources. Allow sufficient time for testing and evaluation of results before material is needed. Submit samples from alternate source if required.
3. Architect will be sole and final judge of suitability of all material.

B. Placing Fills and Compacting

1. Fill material shall be placed in a single lift. Compaction will be _____.
2. Contractor shall use hand tools to ensure fill is worked into areas of protected trees' exposed roots.

3. Notify the Engineer when excavation is ready for inspection. Filling and backfilling shall not be started until conditions have been approved by the Engineer.

3.04 DUST CONTROL

- A. If needed, the Contractor shall employ all possible methods and/or materials to prevent the spread of dust. Chemical materials may not be used.

3.05 WETLAND RESTORATION

- A. Contractor shall seed and replant area of excavation in accordance with the "Wetland Restoration and Plantings Plan" dated June 2005 prepared by Nover-Armstrong Associates, Inc. of Carver, Massachusetts and incorporated in its entirety in this section by reference.

3.06 CLEAN UP

- A. Contractor shall remove all geotextile and crushed stone used for driveways upon completion of sediment excavation. Areas previously covered by a temporary driveway shall be seeded and planted in accordance with the Wetlands Restoration Plan.
- B. The Contractor shall remove all debris, construction equipment and scrap material from all areas within the limit of work prior to inspection for acceptance.

END OF SECTION

SECTION 02270

SEDIMENTATION AND EROSION CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Bidding requirements, Contract Forms, General and Supplementary Conditions and Division I, General Requirements are hereby made a part of this Section. The Order of Conditions, File No. SE 049-0543, issued by the New Bedford Conservation Commission is included in this contract and attached to this Section.

1.02 DESCRIPTION OF WORK

- A. Furnish all labor, materials, equipment and incidentals necessary to perform all installation, maintenance, removal and area cleanup related to sedimentation control work as shown on the Drawings and as specified herein. The work shall include, but not necessarily be limited to; installation of temporary diversion swales, silt/hay bale fences, temporary slope drains, sediment removal and disposal, device maintenance, removal of temporary devices and final clean up.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all of the Contract Documents for requirements which affect the work of this section.
- B. Other specifications sections, which directly relate to the work of this section include, but are not limited to, the following:
 - 1. Excavation and Management of Wetland Sediment
 - 2. Section 02100 - Site Preparation
 - 3. Section 02200 - Earthwork

1.04 REFERENCE SPECIFICATIONS

- A. ASTM - American Society for Testing and Materials.
- B. AASHTO - American Association of State Highway and Transportation Officials.
- C. SSHB - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Massachusetts Highway Department, latest edition.

1.04 PERFORMANCE REQUIREMENTS

- A. The Contractor shall be responsible for the timely installation and maintenance of all sedimentation control and dewatering devices necessary to prevent the movement of sediment from the construction site to off site areas or into wetlands, or other drainage systems. Measures in addition to those shown on the Drawings necessary to prevent the movement of sediment off site shall be installed, maintained, removed and cleaned up at the expense of the Contractor. No additional charges to the owner shall be considered.
- B. Sedimentation and erosion control measures shall conform to the requirements outlined in the forthcoming New Bedford Conservation Commission's Order of Conditions.

PART 2 - MATERIALS

2.01 SILT FENCE

- A. Steel posts shall be a minimum of five feet (5') in length, two and one-half inch by two and one-half inch by one-quarter inch (2-1/2" x 2-1/2" x 1/4") angle post with self-fastening tabs and a five inch by four inch (5" x 4") (nominal) steel anchor plate at bottom.
- B. Welded wire fabric shall be four inch by four inch (4" x 4") mesh of twelve (12) gauge by twelve (12) gauge steel wire.
- C. Silt fence fabric shall be a woven, polypropylene, ultraviolet resistant material such as Mirafi 100X as manufactured by Mirafi, Inc., Charlotte, North Carolina or approved equal.
- D. Tie wires for securing silt fence fabric to wire mesh shall be light gauge metal clips (hog rings), or one-thirty second inch (1/32") diameter soft aluminum wire.
- E. Prefabricated commercial silt fence may be substituted for built-in-field fence. Prefabricated silt fence shall be "Envirofence" as manufactured by Celanese Corp., Charlotte, North Carolina, or approved equal.

2.02 EROSION CONTROL MAT

- A. During the period between the completion of excavation and backfilling, Jute erosion mat shall be placed on all sloped surfaces and in all low-lying areas subject to erosion due to runoff. Use jute mat made of unbleached, undyed, and loosely-twisted yarn. The unit yarn weight shall be from 0.90 to 1.50 lb/yd² (488 to 814 g/m²). A 48 in (1.2 m) width shall show between 76 and 80 warpings, and a 36 in (900 mm) length shall show between 39 and 43 weftings.
- B. The Erosion Control Blanket shall be placed in intimate contact with the soils without wrinkles or folds and anchored on a smooth graded surface approved by the Engineer. The Erosion Control Blanket shall be placed in such a manner that placement of the overlying materials will not excessively stretch so as to tear the Erosion Control Blanket. Anchoring of the terminal ends of the Erosion Control Blanket shall be accomplished through the use of key trenches or aprons at the crest and toe of the slope.
- C. The Erosion Control Blanket shall be placed with the machine direction parallel to the slope. For streambank and channel protection the Erosion Control Blanket shall be placed with the machine direction parallel to the direction of water flow and perpendicular to wave action. Adjacent Erosion Control Blankets shall be joined by overlapping and anchoring. Overlapped seams of roll ends shall be a minimum of (1.5 ft.) except where placed under water. In such instances the overlap shall be a minimum of (2.5 ft). Overlaps of adjacent rolls shall be a minimum of (3 in) in all instances.
- D. When overlapping, successive sheets, the Erosion Control Blankets shall be overlapped upstream over downstream, and/or upslope over downslope. In areas subject to high winds, Erosion Control Blankets shall be overlapped upwind over downwind and/or upslope over downslope.
- E. Care shall be taken during installation so as to avoid damage occurring to the Erosion Control Blankets as a result of the installation process. Should the Erosion Control Blankets be damaged during installation, a material patch shall be placed over the damaged area extending (3.0 ft) beyond the perimeter of the damage.
- G. Anchoring:
 - 1. U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Wire staples should be a minimum of 11 gauge. Metal stake pins should be 3/16 inch (4.8 mm) diameter steel with a 1 1/2 inch (38.1 mm) steel washer at the

head of the pin. Wire staples and metal stakes should be driven flush to the soil surface. All anchors should be 6-8 inches (0.2-0.5 m) long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

2. Blankets shall be stapled sufficiently to anchor blanket and maintain intimate contact with the soil. Staples shall be placed down the center and staggered with the staples placed along the edges. Slopes 2:1 or greater require 2 staples per square yard. Moderate slopes, 2:1 to 3:1, require 1-2 staples per square yard (1 staple 3' o.c.). Gentle slopes require 1 staple per square yard.

- H. Field monitoring shall be performed to verify that the placement does not damage the Erosion Control Blankets.
- I. Any Erosion Control Blankets damaged during placement shall be replaced as directed by the Engineer, at the contractor's expense.

2.03 HAY BALES

- A. Hay bales shall be bailed hay using two (2)-wrapping wires.

2.04 HAY BALE STAKES

- A. Wood stakes for hay bales shall be two-inch (2") square by thirty-two inches (32") long, hardwood stakes.

PART 3 - EXECUTION

3.01 SILT FENCE AND HAY BALE INSTALLATION

1. Install the hay bale barrier/silt fence as indicated on the Drawings and as necessary to prevent off site movement of sediment produced by construction activities as directed by the Architect. Once installed, the contractor shall notify the Conservation Agent for a site inspection relative to the location of the barrier and its condition. Any changes which are required by the Conservation Agent shall be made prior to any excavation work.
 2. Dig trench approximately six inches (6") wide and six inches (6") deep along proposed fence lines.
 3. Drive hardwood stakes, eight feet (8') on center (maximum) at back edge of trenches. Stakes shall be driven two feet (2') (minimum) into ground.
 4. Hang four by four (4 x 4) woven wire mesh on posts, setting bottom of wire in bottom of trench. Secure wire to posts with self-fastening tabs.
 5. Hang filter fabric on wire carrying to bottom of trench with about four inches (4") of fabric laid across bottom of trench. Stretch fabric fairly taut along fence length and secure with tie wires eighteen inches (18") on center both ways.
 6. Backfill trench with excavated material and tamp.
 7. Install a double row of hay bales in staggered formation, and stake with two (2) hardwood stakes per bale.
- B. Excavate the areas proposed for remediation. The excavation shall be done pursuant to the Notice of Intent and any subsequent contracts developed by the City of New Bedford for said work.
 - C. Immediately install Bio-barrier in those areas where Phragmites predominates (i.e. the northern end of the remediation area). The Bio-barrier should be installed according the manufacture's specifications

- and shall be installed along and inside the perimeter of those areas within the dense Phragmites stands.
- D. The Conservation Agent and the Professional Wetlands Scientist (PWS) shall conduct a site inspection of the excavation work and the location of the Bio-barrier.
 - E. Survey the elevations within the remediation area to determine if there are any areas which need to be brought back to original grade. Supplement those areas as necessary with the previously specified 8-10% organic soil amendments. Prior to any soil amendments being added to the site, the excavated areas should be free of any slash, brush, debris, or large rocks. If any material was brought in to facilitate access to the site (swamp mats, gravel base), it too must be removed from the restoration area. In addition, if any of the restoration area suffered compaction impacts from heavy equipment, the area will need to be worked by hand to improve the consistency to a loose, friable state.
 - F. Conduct a field inspection with the Conservation Agent and the PWS to verify the elevations and any soil amendments. The PWS and Agent can also review the proposed planting plan and make field changes as necessary.
 - G. Provide the Conservation Agent with the label and specifications of the seed mix proposed for the restoration area. Once approved by the Agent, the seed mix shall be applied in accordance with the specifications.
 - H. Plant shrubs and trees in accordance with the Planting Plan and/or any subsequent field changes. A PWS shall be present during the planting process to ensure the viability of the plants, the proper placement of the plants and to make appropriate field decisions as necessary.
 - I. Conduct a field inspection to verify the plantings.
 - J. Monitor the restoration area in accordance with the Wetland Restoration Design.
 - K. Maintain silt fence and hay bales as specified and as shown on the Drawings. Remove after final inspection by Conservation Commission and with approval of Engineer.

3.02 MAINTENANCE AND INSPECTIONS

A. Inspections:

1. Contractor shall make a visual inspection of all sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off site areas the Contractor shall promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly. Maintain stockpiles on site of siltation fence, hay bales, straw mat, and repair kits.

B. Maintenance:

1. Silt Fences and Hay Bales:

- a. Remove accumulated sediment once it builds up to one-half (1/2) of the height of the haybale.
- b. Replace damaged fabric, or patch with a two-foot (2') minimum overlap.
- c. Make other repairs as necessary to ensure that the fence is filtering all runoff directed to the fence.
- d. Replace hay bales when saturated with silt or otherwise damaged.

3.05 REMOVAL AND FINAL CLEANUP

- A. Once the site has been fully stabilized against erosion (approximately one full growing season) and after authorization by Engineer, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner. Regrade all areas disturbed during this process and stabilize against erosion with surfacing materials and erosion control devices as directed by the Architect until vegetation has sufficiently developed.

END OF SECTION

EXCAVATION AND MANAGEMENT OF WETLAND SEDIMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work under this Section shall include all labor, materials, equipment, supervision and supplies necessary for the excavation, removal, segregation, handling, temporary stockpiling, loading, transportation and off-site management of contaminated soils and sediment in the wetlands area immediately adjacent to the new Keith Middle School construction site, to the lines and grades indicated on the Contract and/or as directed by the Engineer. For purposes of this Section, the Engineer (or Engineer) is BETA Group, Inc. The unsuitable sediment and soils contain levels of polychlorinated biphenyls (PCBs), heavy metals (particularly barium and lead), and polynuclear aromatic hydrocarbons (PAHs).
- B. The contaminated soil and sediment to be excavated under this project exist within six inches of grade. No excavation will be permitted deeper than six inches without the specific authorization of the Engineer.
- C. The Work shall include, but not be limited to, the following:
1. Mobilization and demobilization of all personnel, equipment, materials and supplies required to perform the Work;
 2. Submittal of all required certifications demonstrating that personnel are properly trained and qualified to perform the Work in accordance with applicable OSHA regulations and all laws governing the Work;
 3. Securing all permits and licenses, as necessary, including notification of local emergency personnel and notification/reporting requirements, with respect to unforeseen conditions;
 4. Installation of a double row of staked haybales in staggered formation at the perimeter of the work area as shown on Figure 2, Wetlands Sediment Remediation Area;
 5. Clearing and grubbing of all vegetation, including trees less than six (6) inches in diameter as measured at breast height above existing grade;
 6. Excavation, on-site handling, loading and transportation of contaminated soils, primarily consisting of vegetation; leaf litter; sand, silt, and clay sediment; and other unsuitable subgrade materials; as directed by Engineer;
 7. Assisting Engineer in obtaining environmental samples;
 8. Segregating and temporarily storing portions of the excavated wastes/regulated spoils, if directed by the Engineer;
 9. Coordinating all off-site recycle/disposal of excavated materials, based upon existing in-situ characterization results and/or supplemental sampling and analytical results provided by Engineer;
 10. Selecting appropriately licensed off-site recycle or disposal facilities;
 11. Backfilling excavated areas with clean, off-Site, sandy soil;
 12. Placement of a wetmix/wetlands seed mix over the replacement sandy soil. The wetmix will be composed of seeds that will germinate and produce a permanent cover of grasses, forbs, wildflowers, legumes, and grasses;
 13. If it becomes necessary to delay restoration because of adverse or unsuitable weather conditions, the excavated area shall be covered with mulch or organic cover to protect against erosion until conditions for re-vegetation (as determined by the Engineer) are more suitable; and

13. Perform general site cleanup.
- D. Schedule – Work shall not commence until the Engineer determines that site conditions are suitably dry and/or otherwise acceptable so as to reduce the compaction impacts by equipment and/or other excessive site disturbances.

1.02 APPLICABLE LAWS AND REGULATIONS

- A. Work under this Section shall be performed in strict compliance with all applicable Federal, State and local laws, rules, regulations related to the handling and off-site management of contaminated wastes and regulated soil. Specific reference is made to the fact that PCB-impacted soil to be excavated and managed off-site is regulated under the Toxic Substances Control Act (TSCA).
- B. Pertinent Federal and State Authorities having jurisdiction over this project include:
1. Occupational Safety and Health Administration (OSHA)
 2. U.S. Environmental Protection Agency (EPA)
 3. Massachusetts Department of Environmental Protection (MADEP)
- C. The following OSHA regulations will apply:
1. Occupational Safety and Health Standards, Hazardous Waste Operations and Emergency Response - 29 CFR 1910.120.
 2. Safety and Health Regulations for Construction - 29 CFR 1926.
- D. The Order of Conditions, DEP File No. SE 049-0543, issued by the New Bedford Conservation Commission is included in this contract.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Other Sections that directly relate to the Work of this Section include, but are not limited to, the following:
1. Section 02100 – Site Preparation
 2. Section 02200 - Earthwork
 3. Section 02270 – Sedimentation and Erosion Control

1.04 SUBMITTALS

- A. No Work will be permitted to proceed until the required submittals have been received and approved by the Engineer. In the event the Engineer requests additional information, it shall be the Contractor's responsibility to provide such additional information in a complete and timely manner, so that construction can proceed by the date stipulated in the Information for Bidders.
- B. Within seven (7) calendar days after execution of this Contract, the Contractor shall submit three (3) copies of the following to the Engineer for approval:
- i. Names and qualifications of all proposed subcontractors, if any, identifying the tasks to be performed by each proposed Subcontractor.

- C. Approval of submittals by the Engineer shall not impose any liability upon the Engineer or the City of New Bedford, nor shall any such approval relieve the Contractor of his/her responsibilities to meet all of the requirements and comply with all applicable laws, regulations and other applicable requirements under this Contract.
- D. Within 21 days after substantial completion of the Work, the Contractor shall submit to the Engineer one (1) original copy of all manifests, certified weigh slips (tons), bills-of-lading, and records of final waste disposition from the accepting disposal facility (ies), and all other pertinent documentation, including a summary of dates and quantities relating to the off-site management of wastes and regulated soil.

1.05 EXISTING ENVIRONMENTAL CONDITIONS

- A. The project site is a confirmed disposal site, as defined under the Massachusetts Contingency Plan (MCP). The Department of Environmental Protection (DEP) has assigned the Site a release tracking number of 4-0015685.
- B. The project site has received "Special Project" designation, as defined under the MCP, by the Southeast Regional Office of the DEP.
- D. The material to be excavated from the Site is at a depth of six inches or less below existing wetlands elevation, and primarily consist of surface deposition of sediment from runoff from the adjacent ash and C&D landfill. The contaminants of concern include semi-polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), barium, cadmium, total chromium, lead, mercury, and selenium. The concentrations of these contaminants do not pose a Significant Risk as determined by an MCP Method 3 Risk Assessment under any foreseen exposure scenarios.
- D. The Contractor shall satisfy himself/herself as to the conditions existing at the Site, the type of equipment required to perform this Work, and the quality and quantity of the materials to be removed. Additional environmental data relative to in-situ characterization of wastes and soils to be excavated under this Contract will be provided by the Engineer.
- E. Failure of the Contractor to become fully acquainted with the available information will not relieve him/her of the responsibility to completely and properly perform the work in full compliance with the Contract Documents. The Engineer assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis of information made available by the Owner or Engineer.

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION

3.01 GENERAL

- A. Provide adequate barriers and demarcation of excavations and exclusion zones to warn site visitors and the public of potential hazards.
- B. Provide for on-site monitoring of VOC's, if any, and airborne particulates (dust).

- C. Take appropriate means to prevent a release or the spread of hazardous wastes or contaminated materials as a result of the Contractor's operations.
- D. Assist the Engineer with collection of post-excavation soil and/or groundwater samples for laboratory analyses, as requested.
- E. Separately stockpile characteristically different soil, material and other bulky wastes from that which is live-loaded for off-site management, for separate characterization by the Engineer. The quantity of wastes/soil to be segregated for separate characterization and off-site management is not expected to exceed 500 cubic yards.

3.02 SITE HEALTH & SAFETY

- A. The Contractor is solely responsible for controlling Site health and safety, including the provision of a Site H&S Officer. In the performance of its Work, the Contractor shall provide for the safety of all Contractor personnel, other Contractors' personnel, regulatory agency personnel, and the public for the duration of the Contract.
- B. The Contractor is solely responsible for his/her construction means and methods.
- C. The Engineer will be responsible for the H&S of its personnel only.
- D. The Contractor shall rely on the existing Health and Safety Plan (HASP) which addresses identified contaminants of concern for the Work under this Contract and conforms to the requirements of OSHA 1910.120 and all other applicable federal, state, and local laws, regulations, ordinances, and procedures. The HASP shall continue to be implemented by the Contractor's Safety Officer experienced with the health and safety requirements of OSHA 1910.120. The HASP shall be revised, as needed, whenever new information about site hazards is obtained.
- G. All personnel performing Work in contaminated or hazardous areas shall be fully trained in accordance with the OSHA 1910.120 and the HASP and shall be thoroughly briefed on anticipated hazards, safety equipment to be employed, safety practices to be followed, and emergency procedures and communications. The Contractor shall have a medical monitoring surveillance program in place for all personnel in accordance with all applicable laws and regulations.

3.03 MISCELLANEOUS PROVISIONS

- A. If hazardous wastes are to be transported from the Site, Contractor must have a valid EPA identification number and any other permits or licenses required by federal, state, and local laws, regulations, ordinances, and procedures.
- B. With the exception of the NPDES dewatering discharge permit, the Contractor shall be responsible for securing all necessary and applicable permits, certificates, licenses, and approvals required for the performance of this Work and shall be responsible for the payment of all associated fees.
- C. The Contractor shall comply with all required reporting and record keeping requirements in accordance with the provisions of this Contract and all applicable federal, state, and local laws, regulations, ordinances, and procedures.

- D. The Contractor shall be responsible for all notifications required by federal, state, and local laws, regulations, ordinances, and procedures. All notifications shall be coordinated with the Engineer.
- E. Material Shipping Records and/or Bills of Lading, as appropriate, will be provided and coordinated by the Engineer. The Owner will be responsible for signing all waste manifests and bills of lading. In order for Contractor's operations to proceed without interruption, complete and accurate information shall be provided by the Contractor during the Submittals process.
- F. The Contractor will be responsible for providing EPA Waste Manifests and other such documentation required by any out-of-state receiving facilities.

3.04 DUST MONITORING & CONTROL MEASURES

- A. The Contractor is responsible for monitoring the Work for overt evidence of airborne particulates (dusts) emanating from the Work area. It shall be the Contractor's responsibility to continuously monitor the work area (including the exclusion zone) for dust levels. The maximum allowable particulate level is 400 μg per cubic meter.
- B. The Contractor shall take appropriate measures to substantially eliminate the generation of dusts within the Work Area, including use of water provided by the Contractor and covering all stockpiled wastes and/or soils, except in the immediate vicinity of the excavation, where water may be required to control dust emissions.
- C. The Engineer will also be monitoring the site for elevated levels of dusts. In the event that visible emissions are observed, or levels are measured in excess of 200 μg per cubic meter, the Engineer may direct the contractor to take appropriate measures to mitigate the condition. Failure of the Contractor to implement measures that reduce dust levels below 200 μg per cubic meter may be caused for suspension of the Work, until otherwise directed by the Engineer.

3.05 EXCAVATION OF WASTES AND SOIL

- A. Sediment and soil shall be excavated to the horizontal limits indicated on the drawings and to the depth(s) as directed by the Engineer.
- B. Dewatering shall be performed to the extent necessary to excavate the wastes and soil and provide for the placement of graded fill and/or common borrow.
- C. All excavation operations shall be conducted in a manner suitable for removal of wastes and contaminated soil without cross contamination of "clean" soil.

3.06 TEMPORARY ON-SITE SOIL STOCKPILING

- A. If directed by the Engineer, "suspect" characteristically different excavated material shall be stockpiled out of the immediate work area and in a location acceptable by Owner, on 20-mil polyethylene sheeting. All stockpiled soils shall be covered with 20-mil polyethylene sheeting at the end of every working day. Sheeting shall be properly secured and maintained such that it remains fully intact during all weather conditions.
- B. The Contractor shall segregate the soils into separate stockpile areas to facilitate separate characterization by Engineer, and subsequent off-site management.

- C. The Contractor shall take care to segregate apparently uncontaminated or lightly contaminated materials from wastes and other overtly contaminated materials, as directed by Engineer. It will be the responsibility of the Engineer to decide what portion of the excavated materials may be suitable for on-site reuse.
- D. All stockpiled soil shall be either reused on site or transported from the site as soon as possible. In no event shall the volume of on-site stockpiled soil exceed 500 cubic yards, without the specific approval of Engineer.

3.07 OFF-SITE MANAGEMENT OF EXCAVATED WASTES, SOIL AND INVESTIGATION
DERIVED WASTE (IDW)

- A. The Contractor shall be responsible for the off-site transportation and disposal of all soil designated by the Engineer for off-site management. In addition, all investigation derived waste (IDW) generated from in-situ pre-characterization of the site and otherwise generated over the course of the project, shall be disposed of at the facility approved by Engineer.
- B. All soil and IDW requiring off-site disposal shall be properly disposed off-site at appropriately permitted landfill or disposal facility(ies) in good standing and holding current, valid permits and licenses in accordance with all federal, state, and local laws, regulations, ordinances, and procedures. The Contractor shall be responsible for identification and selection of the disposal facility (ies) for approval by the Engineer.
- C. The Engineer will be responsible for all additional sampling and analyses as may be required by the receiving disposal facility (ies) for off-site disposal of soil and IDW. However, it is the Contractor's responsibility to identify any additional receiving facility requirements that have not been met by the analytical results summary provided in these documents, including all subsequent environmental data provided by the Engineer.
- D. The Contractor shall contain all soil and IDW in DOT-approved containers and/or transport in DOT-approved vehicles. All containers or transport vehicles shall be provided with appropriately sized polyethylene bladder bags and/or polyethylene liners that can be secured by duct tape or other appropriate means, to the satisfaction of the Engineer, prior to leaving the site. In addition, all loose soil, dusts and other deleterious materials shall be rinsed from the all containers and transport vehicles at the decontamination area, after loading and prior to leaving the site.
- E. All vehicles used for transportation of soil and IDW shall be properly labeled and placarded, as required for off-site transportation for conformance with all federal, state, and local laws, regulations, ordinances, and procedures.
- F. The Contractor shall be responsible for coordination of all transporter and receiving facility activities. Transporter vehicles used for the transportation of soil and IDW shall be covered, substance compatible, licensed, insured, and permitted pursuant to federal, state, and local laws, regulations, ordinances, and procedures.
- G. All vehicles departing the site shall be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume and content of material carried. Location from which the wastes/soil originated will be provided by the Engineer for inclusion on the shipping documentation.

- H. No materials shall leave the site until the designated receiving facility has agreed in writing to accept the type and quantity of waste/soil to be shipped.
- I. The Contractor shall complete all required manifests and other pertinent forms for proper transportation and disposal. The Engineer shall review and the City will sign all manifests. Signatures from the receiving location of all materials transported off-site are required. The Contractor shall be held accountable for ensuring that all requirements of the transporter and receiving disposal facility (ies) and federal, state, and local laws, regulations, ordinances, and procedures are complied with and properly documented.
- J. Documentation shall be maintained indicating that all applicable laws have been satisfied and that all soil and IDW has been successfully transported and received at the disposal facility (ies).
- K. Actual quantities which are subject to unit rates and measurements in the field shall be tabulated by the Contractor and verified by Engineer on a daily basis. The Contractor will not be reimbursed for unit rate work performed without the prior approval of quantities by Engineer.

3.08 SITE CLEANUP

- A. During the course of the Work, the Contractor shall keep the Site and his operations clean and neat at all times. The Contractor shall dispose of all residue resulting from the site clearing operations; and at the conclusion for the day's Work, he shall remove and haul away any surplus materials, lumber, equipment, temporary structures, and any other refuse remaining from the site clearing operations and shall leave the entire site in a neat and orderly condition.

END OF SECTION