

**Town of Wethersfield, CT
Finance Department**

INVITATION TO BID

The Town of Wethersfield is accepting bids for the following:

MILL WOODS BEACH MAINTENANCE

All bids must be submitted on forms and in accordance with specifications supplied by the Town of Wethersfield, Finance Department, 505 Silas Deane Highway, Wethersfield, CT. 06109. Bids will be received until **2:00 p.m., EDT, on March 21, 2013** and opened and read publicly at that time.

Town of Wethersfield
Finance Department
505 Silas Deane Highway
Wethersfield CT 06109
(860) 721-2861

PROJECT MANUAL AND TECHNICAL SPECIFICATIONS

1. Invitation to Bid
2. Instructions to Bidders
3. Bid Form
4. Fair Employment Practices
5. Non-Collusive Affidavit
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7. Local Preference Ordinance
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9. Noise Control
10. Supplementary Conditions
11. No Bid Response

12. TECHNICAL SPECIFICATIONS

| | |
|--------|------------------|
| 011000 | SUMMARY |
| 012300 | ALTERNATES |
| 020000 | GENERAL SITEWORK |
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| 311100 | EROSION CONTROL |
| 312000 | EARTH MOVING |
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| 321775 | CONCRETE CURBS |
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| 329201 | PLANTING SOIL |
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INSTRUCTION TO BIDDERS

B-1

TOWN OF WETHERSFIELD, CONNECTICUT

MILL WOODS BEACH MAINTENANCE

INTENT

The intent of these specifications is to obtain a contractor to reconstruct the beach area at the Mill Woods Swimming Pond at 154 Prospect Street in Wethersfield CT. The Contractor must be prepared to start work within the specified time; have adequate labor, materials, and equipment available to dedicate to this project to insure completion within the specified time frame, and coordinate the work to minimize disruption to the existing complex. **A Non-Mandatory Pre-Bid walk thru is scheduled on Thursday, March 7, 2013 at 1:00 p.m. at the site.**

The following instructions and specifications shall be observed by all Bidders:

I. GENERAL PROVISIONS

1. Place of Bid Opening

Town Hall, Finance Office, 2nd floor, 505 Silas Deane Highway, Wethersfield, Connecticut 06109.

2. Time of Bid Opening

Thursday, March 21, 2013 at 2:00 p.m. Bids may be withdrawn 90 days after bid opening, if no award has been made.

3. Bid Return Envelope

Clearly mark your submission envelope with the bid title and opening date to prevent a sealed bid from being opened prior to the opening date. Any bid not so marked and opened by the Town prior to date specified shall be rejected. The following forms shall be submitted:

- A. Bid Form (page C-1 and C-2)
- B. Fair Employment Practice Qualifications for Bidders
- C. Bid Bond or Certified Check as Bid Security
- D. Proof of Insurance
- E. Completed Projects and References
- F. Affidavit for Local Preference (Appendix III if applicable)
- G. Non-Collusive Affidavit of Proposer

4. Basis of Award

It is the Town's intent to award this Contract to the lowest responsible and qualified bidder possessing skill and ability to perform the work, whose past performance of work is satisfactory to the Town and whose bid documents comply with the procedural requirements stated herein, provided the times stated by bidders in schedule of prices in proposals for starting and completing work are deemed advantageous to the Town's interest. The Town reserves the right, for any reason or for no reason, to reject any Bid or all Bids, to negotiate with any or all Bidders, to waive any informalities, irregularities or omissions in any bids received or to afford any Bidder an opportunity to remedy any informality or irregularity if in the opinion of the Town it is in the best interest of the Town to do so. A.I.A. Document A101 – Standard Form of Agreement Between Owner and Contractor will be the basis for the contract.

Qualifications include the ability to complete the work within the specified timeframe. The contractor shall have been doing business under the same name for a period of five years preceding the bid opening. Also, the Contractor

shall have demonstrated experience in the construction or reconstruction of at least five (5) or more similar projects within the last five years. Names and locations of completed projects with a contact person's name and telephone number must be furnished as part of the bid requirements. Bids from vendors that have previously failed to satisfactorily complete performance on a contract with the Town, will not be considered.

5. Notice of Award

Owner will give notice of acceptance of a bid to the successful bidder by mail to bidder's address stated in Bid. If, within seven (7) calendar days immediately after receipt of Notice of Acceptance of Bid, the successful bidder shall fail or refuse to deliver a Bond properly executed, Bidder's Bid and Acceptance, at option of the Town, shall become null and void. He shall forfeit to the Town, as liquidated damages for such failure or refusal, the Bid Bond or certified check accompanying this Bid, and the Town may proceed to accept another of the Bids. Contractor shall start work under this contract and shall continue to completion with all practical dispatch and regularity. The Contractor agrees to begin work within ten (10) days of the date on which he receives a written notice from the Town to proceed and he shall complete the project within the stipulated contract time.

6. Bid Security

A bid bond or certified check in the amount of 5% of bid is required to be submitted with the Bid. The Bid Security will be returned to all except the successful bidder upon award.

7. No Bid

Failure to return a bid will result in the removal of your firm's name from the Bid List. "No Bids" and responsive bids will result in your firm's retention on the Bid List.

8. Performance/Labor Bond & Material Bond

The successful bidder shall at time of award of contract submit acceptable performance and labor and material bonds, each in an amount equal to 100% of amount bid. These bonds will be released upon expiration of the guarantee period, which is one year after the date of Substantial Completion.

9. Scope of Work Change

Owner reserves the right to change the scope of the project for any reason, before or after the bid is awarded without penalty to the Owner.

10. Substitution for Named Brands

Should brand name items appear in this bid, before bidding on any item considered equal to or better than a named item, the bidder shall get written approval of the Owner and Architect.

11. Price, Discounts, Payment

Prices bid shall not include any taxes, Local, State or Federal, as the Town is not liable. In addition to the prices bid, each bidder may quote binding discounts, which will be considered in making the award. It is the practice of the Town to pay valid invoices within 30 days after receipt.

12. Substantial Completion

The date for substantial completion for the project must be June 14, 2013.

13. Delays

Delays for completion of work shall only be authorized by the Owner and Architect. All authorized delays shall be in writing. Delays due to the contractor's inability to complete the work, for reasons other than weather, shall not be considered as authorized.

14. Prevailing Wage Scale

This project is subject to State of Connecticut prevailing wage laws and the Davis Bacon Act.

15. Assignment of Contract

Contractor shall not sublet, sell, transfer, assign or otherwise dispose of contract or any portion thereon or of his right, title or interest therein, of his obligations there under, without written consent of the Town.

16. Acceptance of Subcontractor

Submission of name of Subcontractor in Proposal shall be deemed to constitute an acceptance by Contractor, if awarded Contract of Bid, of such subcontractor. Any alteration therein, after award of Contract, shall be subject to the approval of Town.

17. Basis of Payment

Payment for this work will be a lump sum based on work completed and accepted except as noted herein and shall include all equipment, materials, labor, and tools incidental to the completion of this work.

18. Method of Measurement

The work required will not be measured for separate payment, except as noted.

19. Payments for Extra Work

Written notice of claims for payments for extra work shall be given by Contractor within ten (10) days after receipt of instructions from Owner as approved by the Architect to proceed with extra work and also before any work is commenced except in emergency endangering life or property. No claim shall be valid unless so made. In all cases, Contractor's itemized estimate sheet showing all labor and material shall be submitted to the Architect. Owner order for extra work shall specify any extension of contract time and one of the following methods of payment:

- A. Unit prices or combination of unit prices, which formed basis of original contract.
- B. A lump sum based on Contractor's estimate accepted by Owner and approved by the Architect.
- C. Actual cost plus 10% for overhead and profit.

20. Payment Requests, Retainage and Guarantee Period

Contractor may submit a request for payment monthly for work completed and materials delivered and installed on site. A request for payment shall be computed from work completed and materials delivered and installed, less 5%, retained by the Town for one calendar year following the Substantial Completion date.

21. Insurance

Without in any way affecting the indemnity herein provided and in addition thereto, the Vendor shall secure and maintain at its own expense, the insurance detailed in Appendix I - Town's Insurance and Indemnification requirements.

Note: Insurance Certificates in accordance with the requirements contained herein must be submitted to the Town prior to the signing of an agreement.

22. Local Bidder Preference/Local Bidder Affidavit Form

See Appendix II for Local Bidder Preference Ordinance and Appendix III for Local Bidder Affidavit Form.

23. Non-collusive Affidavit

See attached required Non-collusive Affidavit of Proposer form.

24. Equal Opportunity - Affirmative Action

The successful contractor shall comply in all aspects with the Equal Employment Opportunity Act. Each contractor with 15 or more employees shall be required to have an Affirmative Action Plan which declares that the contractor does not discriminate on the basis of race, color, religion, sex, national origin or age, and which specifies goals and target dates to assure the implementation of equal employment. Each contractor with fewer than 15 employees shall be required to have a written equal opportunity policy statement declaring that it does not discriminate on the basis of race, color, religion, sex, national origin or age. All bidders must fill out the "Fair Employment Practices for Qualifications of Bidders" form that follows. Findings of non-compliance with applicable State and Federal equal opportunity laws and regulations could be sufficient reasons for revocation or cancellation of this contract.

25. Plans

The accompanying plans entitled "Mill Woods Beach Maintenance" prepared by TO Design LLC, dated February 21, 2013 and consisting of drawings and technical specifications, are part of these specifications.

II. TECHNICAL SPECIFICATIONS

1. Scope of Work

- A. The contract resulting from these specifications shall include all labor, tools, equipment, and materials necessary to satisfactorily complete all work shown on the plan and in the specifications.
- B. All bid items shall include all labor, equipment, and materials necessary to complete that item. Measurement of all items and payment thereof shall be based upon the quantity of each item in place and accepted multiplied by the bid price.
- C. Lump sum prices bid items shall include all labor, tools, equipment, and materials necessary to complete that item.
- D. Unless otherwise noted, materials and construction methods shall be in strict accordance with the drawings and specifications that are a part of this contract.
- E. The work covered by this section of the specifications consists of furnishing all labor, equipment and materials, necessary to perform all operations in connection with the reconstruction of Mill Woods Beach area.

2. Shop Drawings

The contractor shall submit (3) copies of each submittal.

3. Technical Specifications

2012-24

The technical specifications are appended to this document are included as part of this contract, and are also a part of the Project Manual.

4. General Conditions of the Contract for Construction

The AIA Document A201 – 2007, the “General Conditions of the Contract for Construction” are a part of these specifications and shall be binding on the contractor/subcontractors who performs this work. In addition, Supplementary Conditions by the Town (Appendix V) contain changes and additions to the General Conditions of the Contract (AIA Document A201-2007). Where any part of the General Conditions is modified or voided by the Supplementary Conditions, the remaining unaltered provisions of the General Conditions shall remain in effect.

III. ADDITIONAL REQUIREMENTS

1. Questions Relating to Specifications

Any request from prospective bidders for interpretation of meaning of contract drawings, specifications or other contract documents shall be made in writing to Director of Parks & Recreation, Town of Wethersfield, Town Hall, 505 Silas Deane Highway, Wethersfield, Connecticut. Requests must be received at least seven (7) days prior to date fixed for opening of Proposals to be given consideration. Interpretations will be made in the form of written Addenda to Contract Documents, which Addenda shall become a part of Contract. Not later than four (4) days prior to date fixed for opening of Proposals, Addenda will be mailed to all persons who obtained Contract Documents. Failure of any bidder to receive any such Addenda shall not relieve bidder from any obligation under his Proposal as submitted.

2. Site Examination

At date fixed for opening of Bids, it will be presumed that each Bidder has made an examination of location and site of work to be done under Contract, has satisfied himself as to actual conditions, requirements, and quantities of work and has read and become thoroughly familiar with Contract Documents including Contract Drawings, Specifications and Addenda.

3. Inspection of Work

All materials and each part of detail of work shall be subject at all times to inspection by the representatives of the Town of Wethersfield and TO Design, LLC, and Contractor will be held strictly to true intent of specifications in regard to quality of materials, workmanship, and diligent execution of contract. Material furnished under these specifications is subject to such inspection. The Town of Wethersfield and TO Design, LLC shall be allowed access to all parts of work and shall be furnished such information and assistance by Contractor as is required to make a complete and detailed inspection.

4. Owner’s Use of Premises

The Owner shall have the right to use the premises and to grant permission to others to use the premises for town maintenance workers and other contractors to prepare the facility for the upcoming swim season during the progress of the beach reconstruction. Use of the premises shall not be construed to constitute approval or acceptance by the Owner or any part of the work.

5. Disposal of Materials

The Contractor at his sole cost shall be responsible for removal and proper disposal of all excess material.

6. Provisions for Access

The work shall be constructed to allow for passage of two-way traffic at all times along the access road to the bathhouse and to the parking lots. Hours of operation are limited to 8:00 a.m. to 4:30 p.m. No weekend work or work outside the hours specified is allowed unless previously approved by Director of Parks & Recreation.

7. Safety

All work done and equipment installed shall comply with all pertinent OSHA, Federal, State, and Local Regulations. The contractor shall maintain safety measures at all times when a hazard or hazards exist in or around the work area. The contractor shall implement additional safety measures as directed by the Town's representative or by other State, Federal, or Local authorities at no additional cost to the town.

NOTE: If, at any time, the Town of Wethersfield must install or provide labor, equipment, or materials, in order to eliminate a safety hazard due to activity related to this contract, the Contractor shall be billed by the Town for such services.

8. Utilities

The Contractor shall contact the respective utility companies including "CALL BEFORE YOU DIG" and must be especially careful not to disturb or break existing utilities or services. The Contractor is solely responsible for any monetary charges made by the Utility Company for repair or replacement of damaged utilities, or for any damage to his own equipment.

9. Permits

All Permits and Licenses necessary for prosecution of work including Building Permits are the responsibility of the contractor. However, the Town shall waive the Town fees associated with permits and licenses for this project. Contractor is responsible for state fees.

10. Construction Scheduling

A schedule of construction operations shall be submitted to the Town of Wethersfield for approval and shall include a flow chart of major work items and approximate lengths of time related to work items.

11. Noise Control/Hours of Operation - Appendix IV

The Town Ordinance entitled "Noise Control" included as an appendix, regarding noise and hours of operation, shall govern the contractor's operations.

12. Water Service

Water service to the park will be provided by the Town in April. If service is necessary prior to the Town being able to provide water the contractor shall make its own provisions to provide adequate water provisions at the contractor's expense.

13. Sanitation

Bathroom facilities at Mill Woods Park will be available in May. If portable sanitary facilities including chemical toilets, wash basins, water supply and cleaning supplies are necessary prior to the Town being capable of providing the facilities at the park, the contractor may provide portable sanitary facilities at their own expense. Upon completion of the contract, the contractor must remove all traces of these facilities. Contractor is responsible for any garbage removal. Facility must be maintained in a clean and sanitary condition.

14. Supplementary Conditions of the Contract for Construction

See Appendix V for Supplementary Conditions.

BID FORM

C-1

TOWN OF WETHERSFIELD, CONNECTICUT 06109
MILL WOODS BEACH RECONSTRUCTION

Opening: **Thursday, March 21, 2013 2:00 p.m.**

Town Hall, Finance Office, 2nd floor

505 Silas Deane Highway

Wethersfield, Connecticut 06109

In accordance with these Specifications, the undersigned agrees to supply the following:

MILL WOODS BEACH RECONSTRUCTION:

Total Lump Sum Base Bid \$ _____

Base Bid in Words: _____

ALTERNATE #1 BEACH SAND (Instead of Masons sand):

Lump Sum Bid \$ _____

Alternate #1 in Words: _____

ALTERNATE # 2 LAWN RENOVATION SPRING 2013:

Lump Sum Bid \$ _____

Alternate #2 in Words: _____

ALTERNATE #3 LAWN RENOVATION FALL 2013:

Lump Sum Bid \$ _____

Alternate #3 in Words: _____

ALTERNATE #4 CLAY EXCAVATION AND NEW SAND AT SOUTH END OF BEACH:

Lump Sum Bid \$ _____

Alternate #4 in Words: _____

UNIT PRICES:

4" perforated pipe in place / LF: \$ _____

Unit price in Words: _____

Clay excavation and new sand (masons sand)/ CY: \$ _____

Unit price in Words: _____

Clay excavation and new sand (beach sand)/ CY: \$ _____

Unit price in Words: _____

Work to start ____ days after receipt of a Purchase Order.

Bidder acknowledges receipt of the following addenda:

Dated _____

The undersigned is familiar with the conditions surrounding this call for bids, is aware that the Town reserves the right to reject any and all bids, and is submitting this bid without collusion with any other person, individual or corporate.

Signature

Witness

Printed Name & Title of Signer

Date

Company Name

Phone

Address

Fax

Town/City State Zip

Email address

- Please attach the following:
- Fair Employment Practice Qualifications for Bidders
 - Bid Bond or Certified Check as Bid Security
 - Proof of Insurance
 - Completed Projects and References
 - Affidavit for Local Preference (Appendix III if applicable)
 - Non-Collusive Affidavit of Proposer

FAIR EMPLOYMENT PRACTICES FOR QUALIFICATIONS OF BIDDERS

TOWN OF WETHERSFIELD, CONNECTICUT

THIS QUESTIONNAIRE ON FAIR EMPLOYMENT PRACTICES FOR THE QUALIFICATIONS OF BIDDERS IS PART OF THIS BID DOCUMENT AND MUST BE RETURNED WITH YOUR BID. FAILURE TO COMPLETE THIS FORM MAY BE SUFFICIENT CAUSE FOR REJECTION OF YOUR BID. IT WILL BE NECESSARY TO SUBMIT THIS FORM ON AN ANNUAL BASIS IN ORDER FOR THE TOWN TO MAINTAIN AND UP-TO-DATE FILE ON YOUR PROGRESS IN EQUAL OPPORTUNITY EMPLOYMENT. AS REQUIRED BY FEDERAL AND STATE LAWS AND REGULATIONS, THE TOWN MAY REQUEST ADDITIONAL EQUAL EMPLOYMENT OPPORTUNITY INFORMATION FROM YOU.

“FAIR” OR “EQUAL EMPLOYMENT” MEANS THE PRACTICE OF NOT DISCRIMINATING AMONG PERSONS ON THE BASIS OF RACE, COLOR, SEX, NATIONAL ORIGIN OR AGE.

THIS QUESTIONNAIRE WILL BE EVALUATED BY THE PURCHASING AGENT AND HIS RECOMMENDATIONS WILL BE A FACTOR IN DETERMINING WHETHER YOUR FIRM IS TO BE RETAINED ON THE TOWN’S BID LIST.

SECTION PLEASE ANSWER ALL THE FOLLOWING QUESTIONS:

- A NAME OF FIRM _____
ADDRESS _____
TELEPHONE NUMBER _____
NATURE OF BUSINESS _____
NUMBER OF FULL TIME EMPLOYEES _____
PERSON FILLING OUT FORM _____
TITLE _____

SECTION DO YOU HAVE A WRITTEN EQUAL EMPLOYMENT POLICY? YES ___ NO ___

- B IF YES, PLEASE ATTACH COPY
IF NO, DO YOU PLAN TO ADOPT ONE IN THE NEAR FUTURE? YES ___ NO ___

SECTION DO YOU HAVE A WRITTEN AFFIRMATIVE ACTION POLICY? YES ___ NO ___

- C IF YES, PLEASE ATTACH COPY
IF NO, DO YOU PLAN TO ADOPT ONE IN THE NEAR FUTURE? YES ___ NO ___

SECTION DO YOU UTILIZE AFFIRMATIVE ACTION IN EMPLOYMENT PRACTICES, SUCH AS
D ADVERTISING ALL POSITIONS WITH THE EQUAL OPPORTUNITY
CLAUSE, MAKING SPECIAL EFFORTS TO RECRUIT MINORITY AND FEMALE
JOB APPLICANTS AND REVIEWING JOB-TESTING PROCESURES TO ENSURE
THAT NO DISCRIMINATORY BIASES EXIST.

SECTION PLEASE FILL OUT THE DATA REQUESTED IN THE FOLLOWING TABLE FOR ALL
E FULL-TIME EMPLOYEES OF YOUR ORGANIZATION. THE STATISTICS
USED MUST BE NO OLDER THAN 3 MONTHS FROM THE TIME THIS BID IS
SUBMITTED.

EMPLOYMENT STATUS AS OF _____

MALE

FEMALE

| WHITE (NON HISPANIC) | BLACK (NON HISPANIC) | HISPANIC | ASIAN/PACIFIC ISLANDER | AMERICAN INDIAN | TOTAL MALE | WHITE (NON HISPANIC) | BLACK (NON HISPANIC) | HISPANIC | ASIAN/PACIFIC ISLANDER | AMERICAN INDIAN | TOTAL FEMALE |
|----------------------|----------------------|----------|------------------------|-----------------|------------|----------------------|----------------------|----------|------------------------|-----------------|--------------|
|----------------------|----------------------|----------|------------------------|-----------------|------------|----------------------|----------------------|----------|------------------------|-----------------|--------------|

| | | | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| OFFICERS/ MANAGERS | | | | | | | | | | | | |
| PROFESSIONALS | | | | | | | | | | | | |
| TECHNICIANS | | | | | | | | | | | | |
| SALES WORKERS | | | | | | | | | | | | |
| OFFICE/ CLERICAL | | | | | | | | | | | | |
| CRAFTSMEN (SKILLED) | | | | | | | | | | | | |
| OPERATORS (SEMI-SKILLED) | | | | | | | | | | | | |
| LABORERS (UNSKILLED) | | | | | | | | | | | | |
| SERVICE WORKERS | | | | | | | | | | | | |

SECTION _____ NAME OF OFFICER OF FIRM _____

F _____ SIGNATURE OF OFFICER _____

DATE _____

TOWN OF WETHERSFIELD
Department of Finance
NON COLLUSIVE AFFIDAVIT OF PROPOSER

The undersigned proposer, having fully informed themselves regarding the accuracy of the statements made herein certifies that;

- (1) the proposer developed the bid independently and submitted it without collusion with, and without any agreement, understanding, or planned common course of action with any other entity designed to limit independent bidding or competition, and
- (2) the proposer, its employees and agents have not communicated the contents of the bid to any person not an employee or agent of the proposer and will not communicate the proposal to any such person prior to the official opening of the proposal.

The undersigned proposer further certifies that this statement is executed for the purpose of inducing the Town of Wethersfield to consider the proposal and make an award in accordance therewith.

Legal Name of Proposer/Firm

Business Address

Signature and Title

Date

Printed Name of Title Person

Subscribed and Sworn to me this ____ day of _____, 20__.

Notary Public
My Commission Expires

APPENDIX I

TOWN OF WETHERSFIELD

INSURANCE AND INDEMNITY REQUIREMENTS

The Contractor shall be responsible for maintaining insurance coverage in force for the life of this contract of the kinds and adequate amounts to secure the Contractor's obligations under this contract with an insurance company or companies with an AM Best Rating of A-: VII or better licensed to write insurance in Connecticut and acceptable to the Town of Wethersfield. Where no insurer so licensed in Connecticut will provide the required coverage, the insurer shall, at minimum, be approved to do business in Connecticut (listed on the current "White List" of the Connecticut Insurance Department).

As to all insurance required, the insurer shall provide the Purchasing Agent, Town of Wethersfield, with Certificates of Insurance prior to the execution of this contract, describing the coverage and providing that the insurer shall give the Town of Wethersfield written notice at least thirty (30) days in advance of any termination, expiration, or any and all changes in coverage.

Deductibles and self-insurance shall be declared in the Certificate of Insurance and are subject to the approval of the Town of Wethersfield.

Such insurance or renewals or replacements thereof shall remain in force during the Contractor's responsibility under this Agreement. The kinds and amounts of such insurance coverage shall not be less than the kinds and amounts designated herein, and the Contractor agrees that the stipulation herein of the kinds and minimum amounts of insurance coverage, or the acceptance by the Town of Wethersfield of Certificates of Insurance indicating the kinds and limits of coverage shall in no way limit the liability of the Contractor to any such kinds and amounts of insurance coverage.

1. Contractor agrees to indemnify and save harmless the Town from loss, expense, damage or injury caused or occasioned, directly or indirectly, by its failure to comply with any of the following:
 - a. The furnishing and paying for all necessary permits, licenses and inspection fees as called for in the plans, specifications and addenda as being his responsibility.
 - b. The payment of all royalty and license fees and the defense of all suits or claims for infringement of any patent rights pertaining to work furnished by the Contractor.
 - c. The payment of any loss or damage arising from any defects in materials or workmanship for a period, and to the extent, as set forth in the plans, specifications and addenda, or for a period of one year from date of acceptance, whichever is greater.

The Contractor agrees that, to the fullest extent permitted by law, it shall hold harmless and indemnify the Town and all of its officers, agents and employees (hereinafter collectively called the "Indemnitees") and shall defend and protect the Indemnitees from and against any and all loss, cost, liability, claim, damage and expense including, without limitation, reasonable attorney's fees and expenses, incurred in connection with or arising from or alleged to have occurred in connection with or arisen from (1) any injury, illness or death to any person or damage to any person or property occurring with respect to, in connection with or as a result of and to the extent caused by the negligent acts or omissions of the Contractor, its employees, subcontractors or any other person or entity for whose acts the Contractor may be liable, and (11) any litigation, whether material or immaterial, with respect to any negligent act or omission of the Contractor, its employees, subcontractors or any other person or entity for whose acts the Contractor may be liable, or with respect to or in connection with Contractor's performance or non-performance of its obligations under this agreement. As used above, the Contractor's duty to "defend and protect" shall be by counsel reasonably acceptable to the Town and "attorneys fees and expenses" shall include both reasonable attorney's and paralegals' fees and expenses. In case any action or proceeding be brought against any of the Indemnitees by reason of any such claim or liability, the Contractor, upon notice from the Town, shall

protect and defend at the Contractor's sole expense such action or proceeding by counsel reasonably satisfactorily to the Town and the Town agrees to cooperate in such defense. The Contractor will pay any judgments entered against the Indemnitees or any of them after exhaustion of all appeals thereof as the Contractor shall reasonably determine to undertake. The Contractor will also pay all amounts payable in settlement or compromise of any such action or proceeding, and the Town agrees not to settle any such action or proceeding without the Contractor's consent, which will not be unreasonably withheld. In the event the Contractor shall fail to protect and defend any of the Indemnitees, the Town may undertake to protect and defend such Indemnitees and the Contractor shall pay to the Town, upon demand, all reasonable costs and expenses incurred by the Town in connection therewith, including, without limitation, all reasonable attorneys fees and expenses.

3. The Contractor shall procure and maintain, at its own expense, the following insurance:
4. Worker's Compensation with minimum statutory limits on Employer's Liability Part B and Occupational Disease. Workers Compensation shall include waiver of subrogation in favor of the Town and alternate employer endorsement.

- b. General Liability Insurance on an occurrence basis with minimum limits of:

\$1,000,000 Bodily Injury Per Occurrence

\$1,000,000 Property Damage

or

\$1,000,000 Combined Single Limit

The Town shall be listed as an additional insured as regards both premise operations and products/completed operations.

Coverage shall include Broad Form Property Damage, Contractual Liability and Completed Operations coverage, Professional Liability where applicable and such other insurance as the Town may require. The Town requires that these aggregate limits be maintained by the Contractor as required. Contractors insurance shall be primary and non-contributory and include waiver of subrogation. It is the responsibility of the Contractor or his representative to notify the Town if ever or whenever the policy limits go below those required above. If the aggregate limits include defense costs, the Town should be so notified. It is the responsibility of the Contractor and his insuring agent to provide the Town with current certificates throughout the contract period, keeping the required limits in full force and effect. The Town of Wethersfield reserves the right to modify or change the requirements at any time if it is in the best interest of the Town to do so.

- c. Auto Liability Insurance with minimum limits of:

\$1,000,000 Bodily Injury

\$1,000,000 Property Damage

or

\$1,000,000 Combined Single Limit

All insurance shall be evidenced by a certificate of insurance showing the Contractor's insurance is in force and the carrier shall notify the Town that the policies will not be canceled with less than 30 days written notice to the Contractor. Contractors Insurance shall be primary and non-contributory and include waiver of subrogation.

5. On purchase orders where the cost of the work, or contract price, exceeds \$100,000 or is hazardous in nature, there shall also be a \$4,000,000 umbrella or excess liability layer over the underlying described

above. In such case there shall also be required an Owners and Contractors Protective Liability policy issued naming the Town as named insured, with a \$1,000,000 per occurrence limit.

The wording for both named insured and additional insured shall read as follows:

The Town of Wethersfield, The Wethersfield Board of Education (where appropriate), and its respective officers, agents and servants.

4. Professional Liability, \$5,000,000 limit (Architects, Engineers, Attorneys including Town Council, Accountants, Actuaries, Agent of Record).

Additional Coverage and Limits may be required based upon the particular services contracted.

5. Property Insurance

- a. Town shall purchase and maintain property insurance upon the Work at the site of the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or as required by law). This insurance shall include the interests of the Town, Contractor, Subcontractor and Engineer in the Work; shall insure against the perils of fire and extended coverage; shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be specified in the Supplementary Conditions; shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architect, attorney and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain similar property insurance on portions of the Work stored on or off site or in transit when such portions of the Work are to be included in an Applications for Payment.
 - b. Town shall purchase and maintain such boiler and machinery insurance as may be required by the Supplementary Conditions or by law. This insurance shall include the interest of the Town, Contractor, Subcontractors and Engineer in the Work, but only to the extent required by the Supplementary Conditions or by law.
 - c. Town shall not be responsible for purchasing and maintaining any property insurance to protect the interests of the Contractor or Subcontractors in the work to the extent of any deductible amounts that are provided in the Supplementary Conditions. The risk of loss within the deductible amount shall be borne by the Contractor, and if Contractor wishes property insurance coverage within the limits of such amounts, Contractor may purchase and maintain it at Contractor's own expense.
 - d. If Contractor requests in writing that other special insurance be included in the property insurance policy, Town shall, if possible, include such insurance, and the cost thereof shall be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the site, Town will in writing advise Contractor whether such other insurance has been procured by the Town.
 - e. The policies of insurance required shall contain a provision that in the event of payment for any loss under the coverage provided, the insurer will have no rights of recovery against any of the parties enumerated. It is the intention of the Owner and Contractor that the policies shall protect all of the enumerated parties and be primary coverage for any and all losses covered by the insurance described.
6. Waiver of Rights: Town and Contractor waive all rights against each other and the Subcontractors and their agents and employees and against Engineer and separate contractors (if any) and their subcontractors' agents and employees, for damages caused by fire or other perils to the extent covered by insurance provided, or any other property insurance applicable to the Work, except such rights as they may have to

the proceeds of such insurance held by Owner as trustee. Town shall require similar waivers in writing from each Subcontractor; each such waiver will be in favor of all other parties enumerated.

7. Receipt and Application of Proceeds: Town as trustee shall have power to adjust and settle any loss with the insurers. Any insured loss under the policies of insurance shall be adjusted with Owner and made payable to Town as trustee for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause. Town shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order.

Other Conditions

Claims Made Coverage Guidelines - General or Professional Liability

The Town requires that the Certificate of Insurance include the retroactive date of the policy. Retroactive dates must be either before or coincident with the Contract's inception.

The Town requires prompt and immediate notice of the following:

1. Erosion of any aggregate limits.
2. Advance of any retroactive dates.
3. Cancellation or non renewal. Prior 30 day notice.

The Town requires that any extended reporting period premium be paid by the named insured. The reporting of possible claims to the Town of Wethersfield is necessary and the Town retains the right to require that the extended reporting period be invoked by the Contractor at his/her expense. The Town requires that if any excess coverage is secured to meet the requirements that the retroactive dates be concurrent with the primary policy and that the retro dates be either before or coincident with the inception of the Contract. If the retroactive date is moved, or if the policy is canceled or not renewed, the Contractor must invoke the tail coverage option, at no expense to the Town but rather at the expense of the Contractor, in order to adequately assure that the policy meets the above requirements.

If, at any time, any of the said policies shall be or become unsatisfactory to the Town, as to form or substance, or if a surety issuing any such shall become unsatisfactory to the Town, the Bidder shall promptly obtain a new policy, submit same to the Purchasing Agent for approval and submit a certificate thereof as hereinabove required. Upon the failure of the Bidder to furnish, deliver or maintain same, this contract, at the election of the Town, may be forthwith declared suspended, discontinued or terminated. Failure of the Bidder in the above shall not relieve same from any/all liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the Bidder concerning indemnification.

In the event that claims in excess of these amounts are filed by reason of any operations under this contract, the amount of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the Bidder until such time as the Bidder shall furnish such additional security covering such claims as may be determined by the Town.

Note: Proof of insurance in accordance with these specifications must accompany bid submission.

APPENDIX II

ORDINANCE PROVIDING FOR LOCAL PREFERENCE

TOWN BASED BUSINESS

The term “town based business” shall mean a business with a principal business located within the Town of Wethersfield. A business shall not be considered a town based business, unless evidence submitted with each bid submitted by said business to establish that said business has a bona fide principal place of business in Wethersfield. Such evidence may include evidence of ownership of or a long term lease of the real estate from which the principal place of business is operated, or payment of property taxes on the personal property of the business to be used in performance of the bid.

LOWEST RESPONSIBLE BIDDERS

On any project the lowest responsible bidder shall be determined in the following order:

Provided that such town based resident bidder shall have met all other requirements set forth in this article, any town based resident bidder which has submitted a bid not more than ten (10) percent higher than the lowest most responsible bid may be awarded the bid provided such town based bidder agrees to accept the award of the bid at the amount of the lowest most responsible bid.

If more than one town based resident bidder has submitted a bid not more than ten (10) percent higher than the lowest responsible bid, the lowest responsible bidder shall be that one of the town based resident bidders which had submitted the lowest bid.

IMPLEMENTATION OF LOCAL BIDDER PREFERENCE

Any local vendor meeting the requirements of a local vendor as defined in the above ordinance responding to the solicitation shall be required to submit a signed Local Bidder Affidavit form with their bid submittal.

Failure to submit an affidavit form, approved by the Town of Wethersfield, may result in your disqualification as a local vendor and ineligibility for contract award.

RESTRICTION OF USE OF LOCAL BIDDER PREFERENCE

This section shall not apply in those instances where the bid requested involves a cooperation purchasing arrangement between the town and other municipalities or the State of Connecticut.

APPENDIX III

AFFIDAVIT PURSUANT TO THE
ORDINANCE PROVIDING FOR LOCAL PREFERENCE

(It is not necessary to submit this form unless you are a Wethersfield Town-based Business)

The undersigned, being duly sworn, disposes and says as follows:

- 1. That he/she is over the age of eighteen (18) years of age;
- 2. That he/she believes in and understands the obligations of an oath;
- 3. That he/she is submitting a bid as a “town based business”, pursuant to those conditions delineated in the Town of Wethersfield’s Ordinance Providing for Local Preference.

Name of Local Bidder
(Please Print)

Date

Signature of Local Bidder

Appendix IV
Chapter 105
NOISE CONTROL

- § 105-1 Title
- § 105-2 Purpose
- § 105-3 Definitions
- § 105-4 Noise Measurement Procedures
- § 105-5 Noise Levels
- § 105-6 Background and Impulse Noise
- § 105-7 Exceptions
- § 105-8 Vehicle Noise Restrictions
- § 105-9 Penalties For Offenses
- § 105-10 Variances
- § 105-11 More Stringent Provisions to Apply

[HISTORY: Adopted by Town Council of the Town of Wethersfield as Secs. 3-4-1 through 3-4-12 of the Code of 1972 Section 105-3 amended at time of adoption of Code; see Ch. 1, General Provisions, Art. II. Other amendments noted where applicable.]

GENERAL REFERENCES

Noise to attract sales – See Ch. 116.

§ 105-1 Title

The short title of this chapter shall be the “Town of Wethersfield Noise Control Ordinance”.

§ 105-2 Purpose

It is recognized that people have a right to and should be ensured an environment free from excessive sound and vibration that may jeopardize their health, safety or welfare or degrade the quality of their lives. This chapter is enacted to protect, preserve and promote the health, safety, welfare and quality of life for the citizens of Wethersfield through the reduction, control and prevention of noise.

§ 105-3 Definition

1. **BACKGROUND NOISE** – Noise of a measurable intensity which exists at a point as a result of a combination of many distant sources individually indistinguishable. In statistical terms, it is the level which is exceeded ninety (90%) of the time (L90) in which the measurement is taken.
2. **BUSINESS ZONE:** - Those areas so designated under Business Zone No. 1 (B-1), Business Zone No. 2 (B-2), Planned Development – Office Zone (PD-O) and Planned Development – Business Zone – (PD-B) of the Zoning Regulations of the Town of Wethersfield.
3. **CHIEF OF POLICE** – The Chief of Police of the Town of Wethersfield or a duly authorized officer subject to his order.
4. **CONSTRUCTION** – The assembly, erection, substantial repair, alteration, demolition or site preparation for or of public rights-of- way, buildings or other structures, utilities or property.
5. **CONSTRUCTION EQUIPMENT** – Any equipment or device operated by fuel or electric power used in construction or demolition work.
6. **DAYTIME HOURS** – The hours between 7:00 a.m. and 10:00 p.m. Monday through Saturday and the hours between 9:00 a.m. and 10:00 p.m. on Sunday.

7. DECIBEL – A unit of measurement of the sound level, the symbol for which is “db.”.
8. DEMOLITION – Any dismantling, intentional destruction or removal of structures, utilities, public or private right-of way surfaces or similar property.
9. DOMESTIC POWER EQUIPMENT – Includes but not limited to power saws, drills, grinders, lawn and garden tools and other domestic power equipment intended for use in residential areas by a homeowner.
10. EMERGENCY VEHICLE – Any motor vehicle authorized by any local authority to have sound warning devices, such as sirens and bells, which can lawfully be used when responding to an emergency.
11. EMERGENCY WORK – Work made necessary to restore property to a safe condition following an emergency or work required to protect persons or property from exposure to imminent changes.
12. EXCESSIVE NOISE – Any sound, the intensity of which exceeds the standards set forth in §105-5.
13. IMPULSE NOISE – Sound of short duration, usually less than one (1) second, with an abrupt onset and rapid delay.
14. INDUSTRIAL ZONE – Those areas so designated under the Industrial Zone (I) and Industrial Park Zone (IP) of the Zoning Regulations of the Town of Wethersfield.
15. INTRUSION ALARM – A device with an audible signal and which, when activated, indicates an intrusion by an unauthorized person.
16. MOTOR VEHICLE – A vehicle as defined in Subdivisions (30) and (31) of Section 14-1, Connecticut General Statutes, Revision of 1958, as amended.
17. MUFFLER – A device for abating sound such as escaping gases.
18. NIGHTTIME HOURS – The hours between 10:00 p.m. and 7:00 a.m. Sunday evening through Saturday morning and between 10:00 p.m. and 9:00 a.m. Saturday evening through Sunday morning.
19. NOISE LEVEL – The sound-pressure level as measured with a sound-level meter using the A-weighting network. The sound level is designated “db(A)” or “db(a)”.
20. PERSON – Any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency or political or administrative subdivision of the state or other legal entity of any kind.
21. PREMISES – Any building, structure, land or portion thereof, including all appurtenances, owned or controlled by a person. A noise emitter’s premises including contiguous publicly dedicated street and highway rights-of-way, all road rights-of way and waters of the state.
22. PROPERTY LINE – That real or imaginary line along the ground surface and its vertical extension which separates real property owned or controlled by any person from contiguous real property owned and controlled by another person and which separates real property from the public right-of-way.
23. PUBLIC RIGHT-OF-WAY – Any street, avenue, boulevard, highway, sidewalk, alley, park, waterway, railroad or similar place which is owned or controlled by a government entity.
24. RECREATIONAL VEHICLE – Any internal-combustion-engine-powered vehicle which is being used for recreational purposes.
25. RESIDENTIAL ZONES – Those areas so designated under Special Resident Zone (SR), AA Residence Zone, A-1 Residence Zone, A Residence Zone, B Residence Zone, C Residence Zone, Planned Development – Medium Density Residence Zone (PD-MDR), Planned Development – High Density Residence Zone (PD-HDR) and Planned Development – Elderly Housing Zone (PD-EH) of the Zoning Regulations of the Town of Wethersfield.

- 26. SOUND – A transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alterations in pressure or position of the particles in the medium and which, in air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.
- 27. SOUND LEVEL METER – An instrument used to measure sound levels. A “sound-level-meter” shall conform, as a minimum, to the American National Standards Institute operational specifications for sound level meters §1.4-1971 (Type S2A).
- 28. SOUND-PRESSURE LEVEL – Twenty (20) times the logarithm to the base 10 of the ratio of the pressure of a sound to the reference pressure of a sound to the reference pressure of twenty (20) micronewtons per square meter (20x10⁶ newtons/meters²) or two ten-thousandths (0.0002) dyne per square centimeter, and is expressed in decibels (db).

§ 105-4 Noise Measurement Procedure

For the purpose of determining noise levels as set forth in this chapter, the following guidelines shall be applicable.

- A. A person conducting sound measurements shall have been trained in the techniques and principles of sound-measuring equipment and instrumentation.
- B. Instruments used to determine sound-level measurement shall be sound-level meters as defined in this chapter.
- C. The following steps should be taken when preparing to take sound level-measurements:
 - 1. The instrument manufacturer’s specific instructions for the preparation and use of the instrument shall be followed.
 - 2. Measurements to determine compliance with § 105-5 shall be taken at a point that is located more or less (1) foot beyond the property line of the noise emitter’s premises and within the noise receptor’s premise.
 - 3. The recommended practices for determining statistical noise levels shall be those as outlined in the document entitled “Connecticut Noise Survey Data Form No. 101”.

§ 105-5 Noise Levels

It shall be unlawful for any person to emit or cause to be emitted any noise beyond the property lines of his/her premises in excess of the following noise levels:

Zone in Which Noise Receptor is Located

| Zone in Which Noise Emitted is Located | Industrial [db(A)] | Business [db(A)] | Residential | Residential |
|---|-----------------------|---------------------|-------------------------|---------------------------|
| | | | Daytime Hours[db(A)] | Nighttime Hours[db(A)] |
| Industrial | 70 | 66 | 61 | 51 |
| Business | 62 | 62 | 55 | 45 |
| Residential | 62 | 55 | 55 | 45 |

§ 105-6 Background and Impulse Noise

- A. In those individual cases where the background noise levels caused by sources not subject to this chapter exceed the standards contained herein, a source shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise levels by five (5) db(A), provided that no source subject to the provisions of this chapter shall emit noise in excess of eighty (80) db(A) at any time and provided that this section does not decrease the permissible levels of other sections of this chapter.
- B. No person shall cause or allow the emission of impulse noise in excess of eighty (80) db peak sound-pressure level during nighttime hours to any residential zone.

- C. No person shall cause or allow the emission of impulse noise in excess of one hundred (100) db peak sound-pressure level at any time to any zone.

§ 105-7 Exceptions

- A. This chapter shall not apply to noise emitted by or related to:
 - 1. Natural phenomena.
 - 2. Any bell or chime from any building clock, school or church.
 - 3. Any siren, whistle or bell lawfully used by emergency vehicles or any other alarm systems used in an emergency situation.
 - 4. A public emergency sound signal.
 - 5. Warning devices required by the Occupational Safety and Health Administration or other state or federal safety regulation
 - 6. Farming equipment or farming activity.
 - 7. An emergency.
 - 8. Snow removal equipment.
- B. The following shall be exempt from this chapter, subject to special conditions as specified.
 - 1. Noise generated by construction equipment which is operated during daytime hours, provided that the operation of construction equipment during nighttime hours shall not exceed the maximum noise levels as specified in § 105-5.
 - 2. Noise from domestic power equipment operated during daytime hours.
 - 3. Noise from demolition work conducted during daytime hours, provided that when considered emergency work, demolition shall be exempted at all times from the noise levels set in this chapter.
 - 4. Noise created by any aircraft flight operations which are specifically preempted by Federal Aviation Administration.
 - 5. Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the town, including but not limited to parades, sporting events, concerts and fireworks displays.
 - 6. Noise created by blasting other than that conducted in connection with construction activities shall be exempted, provided that the blasting is conducted between 8:00 a.m. and 5:00 p.m. local time, at specified hours previously announced to the local public and provided that a permit for such blasting has been obtained from local authorities,
 - 7. Noise created by leaf, refuse and solid waste collection, provided that the activity is conducted during the hours specified in this Code or, if no hours are specified or are specifically prohibited, then during daytime hours. [Amended 9-7-1993]
 - 8. Noise created by fire or intrusion alarm shall, from time of activation of the audible signal, emit noise for a period of time not exceeding ten (10) minutes when such alarm is attached to a vehicle or thirty (30) minutes when attached to any building or structure.
 - 9. Public-address systems used in election campaign activities during daylight hours only.

§ 105-8 Vehicle Noise Restrictions

The following activities are prohibited:

- A. Motor vehicle noise. All motor vehicles operated within the limits of the Town of Wethersfield shall be subject to the noise levels set forth in the regulations authorized in Section 14-80a of the Connecticut General Statutes.
- B. Motor vehicle sound-amplifying devices. No sound-amplifying devices on or within motor vehicles shall emit noise in excess of the noise levels as specified in §105-5.
- C. Recreational vehicles noise. No person shall create or cause to be created any unreasonably loud or disturbing noise due to the operation of a recreational vehicle. A noise shall be deemed to be unreasonably loud and a violation of this chapter when the noise so generated exceeds the noise level standards set forth in §105-5.

§ 105-9 Penalties For Offenses

Any person in violation of any of the provisions of this chapter shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined in an amount not to exceed fifty dollars (\$50). Each day that such violation continues after the time for correction of the violation given in an order shall constitute a continuing violation, and the amount of the fine shall be doubled for each day said violation continues, said fine not to exceed four hundred dollars (\$400) per day.

§ 105-10 Variances

- A. Any person living or doing business in Wethersfield may apply to the Chief of Police for a variance from one (1) or more of the provisions of this chapter which are more stringent than the Connecticut Department of Environmental Protection regulations for the control of noise, provided that the applicant supplies all of the following information to the Chief of Police at least twenty (20) days prior to the start of the activity for which the variance is sought:
 - 1. The location and nature of the activity
 - 2. The time period and hours of operation of said activity.
 - 3. The nature and intensity of the noise that will be generated.
- B. No variance from this chapter shall be granted unless it has been demonstrated that:
 - 1. The proposed activity will not violate any provisions of the Connecticut Department of Environmental Protection regulations;
 - 2. The noise levels generated by the proposed activity will not constitute a danger to the public health; and
 - 3. Compliance with this chapter constitutes an unreasonable hardship on the applicant.
- C. The application for a variance shall be reviewed and approved or rejected at least five (5) days prior to the start of the proposed activity. Approval or rejection shall be made in writing and shall state the condition(s) of approval, if any, or the reason(s) for rejection.
- D. Failure to rule on an application within the designated time shall constitute approval of the variance.

§ 105-11 More Stringent Provisions to Apply

All provisions of the Zoning Regulations of the Town of Wethersfield which are more stringent than those set forth herein shall remain in force. If, for any reason, any word, clause, paragraph or section of this chapter shall be held to make the same unconstitutional or be superseded by any State laws or regulations, this chapter shall not thereby be invalidated, and the remainder of the chapter shall continue in effect.

APPENDIX V

SUPPLEMENTARY CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

1. THE SUPPLEMENTARY CONDITIONS:

- A. The work of this Contract shall be subject to The American Institute of Architects Document A201, "General Conditions of the Contract for Construction, Edition," 2007 edition, herein referred to as the General Conditions.
- B. The Supplementary Conditions contain changes and additions to the General Conditions of the Contract, AIA Document A201. Where any part of the General Conditions is modified or voided by the Supplementary Conditions, the remaining unaltered provisions of the General Conditions shall remain in effect.

2. ARTICLE 1 – GENERAL PROVISIONS:

A. 1.1 BASIC DEFINITIONS

- 1. Add the following new paragraphs:

1.1.1 APPRENTICE

A person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Bureau of Apprenticeship agency recognized by the Bureau; or (2) a person in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship council (where appropriate) to be eligible for probationary employment as an apprentice.

1.1.2 TRAINEE

A person receiving on-the-job training in a construction occupation under a program which is approved (but not necessarily sponsored) by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, and which is reviewed from time to time by the Manpower Administration to insure that the training meets adequate standards.

1.1.3 SUBCONTRACTOR

A person, firm, or corporation supplying labor and materials or only labor, for work at the site of the project, for and under separate contract or agreement with the Contractor.

B. 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- 1. Add the following to the end of subparagraph 1.2.1:

...Where discrepancies or conflicts occur:

- .1 Amendments and Addenda shall take precedence over the Specifications.

- .2 The Specifications shall take precedence over the Drawings.
- .3 Stated dimensions shall take precedence over scaled dimensions.
- .4 Large-scale detail drawings shall take precedence over small-scale drawings.
- .5 Schedules shall take precedence over other data on the drawings.

In the case of a difference between Drawings and Specifications or within either document itself in describing the Work, the better quality, greater quantity or more costly work will be assumed to be desired and shall be included in the Contractor's Bid and in the Contract price. Refer the matter to the Architect's attention for resolution after the Contract is awarded.

2. Add the following to the end of subparagraph 1.2.3:

...When applied to materials and equipment required for the Work, the words "furnish," "install," and "provide" shall mean the following:

- .1 The word "provide" shall mean to furnish, pay for, deliver, install, adjust, clean, and otherwise make materials and equipment fit and ready for their intended use.
- .2 The word "furnish" shall mean to secure, pay for, deliver to site, unload, and uncrate materials and equipment.
- .3 The word "install" shall mean to place in position, incorporate in the work, adjust, clean, make fit and ready for use, and perform all services except those included under the term "furnish".
- .4 The phrase "furnish and install" shall be equivalent to the word "provide." Each shall be interpreted to mean "the Contractor shall furnish all labor, material, and equipment and install...".

3. Add the following new subparagraphs:

- 1.2.4 All work shown or referred to in the Contract Documents shall be included in the Contract excepting those items which are specifically noted as being "provided under another contract," or "provided by the Owner," or "by others," or "not in contract (NIC)".
- 1.2.5 Parties to the Contract shall not take advantage of any obvious error or apparent discrepancy in the Contract Documents. Notice of any discovered error or discrepancy shall immediately be given in writing to the Architect to make such corrections and interpretations as he may deem necessary for completion of the work in a satisfactory and acceptable manner.
- 1.2.6 Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provisions is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion.

3. ARTICLE 2 – OWNER

- A. Delete Section 2.1.2 in its entirety.
- B. 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER
 - 1. Amend subparagraph 2.2.5 as follows:
 - 2.2.5 The Contractor will be furnished with (1) set of Drawings and Project Manuals for its execution of the Contract. Additional sets needed by the Contractor or Subcontractors will be paid for by the Contractor.
- C. 2.4 OWNER’S RIGHT TO CARRY OUT THE WORK
 - 1. Amend Subparagraph 2.4.1 by deleting the first two sentences, and replace with the following: “If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a seven day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies, correct such deficiencies,

4. ARTICLE 3 – CONTRACTOR

- A. 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES
 - 1. Add the following new subparagraphs:
 - 3.3.4 The Contractor shall coordinate the work of the various trades required for the project to assure the efficient and orderly sequence of installation of construction elements. The Contractor will verify that characteristics of interrelated equipment are compatible, and shall coordinate the work of various trades having interdependent responsibilities for installing, connecting and placing equipment in service.
 - 3.3.5 The Contractor and each Subcontractor will verify all new and existing dimensions for all built-in work and/or work adjoining that of other trades, before ordering any material or doing any work. They will be responsible for the correction of all dimensions found to be in error. Any discrepancy in dimensioning will be submitted, in writing, to the Architect for his consideration, before proceeding with the Work.
 - 3.3.6 The Contractor will notify “Call Before You Dig,” at 1-800-922-4455 at least three (3) full working days before any proposed excavation activity. The Contractor will provide the Construction Manager with written evidence of a Dig Number and Start Date prior to commencing any excavation work. The Contractor will have full responsibility for maintaining and protecting original utility mark-outs and for periodically notifying “Call Before You Dig” in accordance with State requirements. Should the Contractor require additional mark-outs as a result of the Contractor’s failure to adequately protect the original mark-outs, the Contractor will bear the cost for those additional mark-outs.
 - 3.3.7 The Contractor will satisfy himself regarding the accuracy of the base lines, bench marks, etc., established by the Land Surveyor. He will protect all such stakes and/or marks as required to hold them free from damage or displacement, until they are no longer needed, or to the Date of Substantial Completion.

B. 3.4 LABOR AND MATERIALS

1. Add the following to the end of subparagraph 3.4.3:

3.4.3 ...The Contractor shall require that the conduct of all construction personnel shall be of the highest respectable character. Personnel under the Contractor's control who violate the above, or exhibit vulgarity in their behavior or language, shall be permanently restricted from working on the Project by the Contractor.

2. Add the following as subparagraph 3.4.4

3.4.4 Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard; and, any material, article or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article or equipment so proposed is, in the opinion of the Architect/Engineer, of equal substance and function. Should the Contractor wish to substitute another product or method for products or methods specified or shown in Contract Documents, whether or not such phrases as "or equal" or "based on" are used, he shall apply in writing for approval. He shall enclose such data as the Architect requires to evaluate products. The Architect's decision shall be final. The Contractor is responsible for space requirements of substitutions, shall execute necessary changes in adjacent and relocated situations, and shall execute necessary changes in adjacent and relocated work due to such substitutions, without additional cost and he shall be responsible for delays required for evaluation of proposed substitutions.

3. Add the following new subparagraph 3.4.5:

3.4.5 No materials or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional seller. The Contractor warrants that it has good title to all materials and supplies used by it in the Work, free from all liens, claims or encumbrances.

C. 3.5 WARRANTY

1. Add the following new clauses to the end of subparagraph 3.5.:

.1 Project Warranty: Unless otherwise specified, the Contractor shall warrant (guarantee) all Work against defects from material, workmanship or equipment. This warranty, unless stated otherwise in a given section of the Specifications, shall be for a period of one year from the date of issuance of the Certificate of Substantial Completion for the Project.

.2 Specified product warranty: Issued by a manufacturer or fabricator for compliance with requirements of the Contract Documents. Refer to sections of the Specification for requirements of specified warranties.

- .3 Coincidental product warranty: Available on a product incorporated into the work, by virtue of a manufacturer's publication of warranty without regard for application requirement, a non-specified warranty. The Contractor shall identify such warranties as they apply.
- .4 Warranty Obligations:
 - .a The Contractor shall restore or remove-and-replace warranted work to its originally specified condition, at such time during the warranty period if it does not comply with or fulfill the terms of the warranty.
 - .b The Contractor shall restore or remove-and- replace other work which has been damaged by failure of warranted work, or which must be removed and replaced to gain access to warranted work.
 - .c The cost of restoration or removal-and-replacement is the Contractor's obligation, without regard to whether the Owner has already benefited from the use of failing work.
 - .d Except as otherwise indicated or required by governing regulations, warranties do not cover consequential damage to property other than the Work of the Contract. The General Contractor shall be liable for any consequential damages to the Owner's property caused by failure of warranted work.
 - .e Upon restoration or removal-and-replacement of warranted work which has failed, the Contractor shall reinstate the warranty by issuing a newly executed form, for at least the remaining period of time of the original warranty, but for not less than half of the original warranty period.
 - .f Warranties and warranty periods shall not diminish implied warranties, and shall not deprive the Owner of actions, rights and remedies otherwise available if the Contractor fails to fulfill any requirements of the Contract Documents.
 - .g The Owner reserves the right to reject coincidental product warranties which conflict with or are less than the requirements of the Contract Documents.
- .5 The Contractor shall furnish fully executed warranties to the Owner within two weeks after the Date of Substantial Completion.

D. 3.6 TAXES

1. Amend subparagraph 3.6 as follows:

- 3.6.1 No amount shall be included in the bid for State Sales Tax or for Federal Excise Tax on materials or supplies purchased for this project. The Owner has a municipal tax exemption. Tax exempt certificates will be supplied to the contractors upon request.

E. 3.7 PERMITS, FEES AND NOTICES

1. Amend item 3.7.1 include the following:

- 3.7.1 a. The Contractor shall pay costs charged by utility companies for service connections, inspections and tests, and related utility company fees normally assessed as part of the connection process.
- b. The Contractor will be responsible for obtaining the Permits and Certificates of Occupancy required by the scope of this contract.
- c. Town Building Permit fees have been waived by the Owner. The Town cannot waive the State fee.

F. 3.9 SUPERINTENDENT

1. Add the following new subparagraph:

3.9.4 The Contractor shall designate a 24-hour emergency contact person for the duration of the Project and shall provide the Owner with the name, address and telephone number of that individual within ten (10) days of the award of the contract. The individual so named will respond within one (1) hour of an emergency call. It will be capable of rectifying any problem that permits to the Work of this Project. It will have the authority to enter into a contract with other individuals as may be required to resolve the problem creating the emergency, to the satisfaction of the Owner, at the scene of the emergency.

.1 The Contractor will post the individual's names and telephone number and appropriate clarification of all emergency response procedures, in a waterproof transparent display, on the door of the Job trailer, or in the immediate vicinity of the current area(s) of work.

.2 Should the individual designated for emergency response fail to respond in the specified period of time, or fail to effect adequate repairs in a timely manner, the Owner may take whatever action necessary to alleviate the problem, repair any damage incurred, and/or clean up the immediate and adjacent areas. The cost of the corrective measures specified above, including the Owner's time and expenses, will be billed directly to the Contractor. Should the Contractor not bear the cost of these measures, they will be assigned to the Project and his Contract Sum will be reduced by that amount.

G. 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

1. Add to end of subparagraph 3.10.1 as follows:

3.10.1 The Contractor, within ten (10) days of notification of contract award, shall submit a schedule of their work to the Architect for approval. The schedule shall include a time line for the submission, review and approval of shop drawings for critical path and long-lead items and delivery and installation dates for those critical path and long-lead items. The schedule shall coincide with the Contractor's approved Schedule of Values and shall indicate a completion date in advance of the date specified for the Substantial Completion of the Project.

H. 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1. Add the following new subparagraph:

3.12.11 The Architect will not review partial submissions for which correlated items have not been received.

I. 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

1. Delete subparagraph 3.17.1 and substitute the following as subparagraph 3.17.1:

3.17.1 The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the Contractor, including its use by the Owner, unless otherwise specifically stipulated in the contract documents.

.1 License or Royalty Fee: License and/or royalty fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized licensee, direct by the Owner and not by or through the Contractor. If the Contractor uses any design, device or materials covered by letters, patent or copyright, it shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work.

.2 The Contractor and/or its Sureties shall indemnify and hold harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copy-righted design, device or materials or any to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

5. ARTICLE 4 – ADMINISTRATION OF THE CONTRACT:

1. Add to end of section 4.2.13 “subject to Owners approval”.

6. ARTICLE 6 – CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTS:
 - A. 6.2 MUTUAL RESPONSIBILITY
 1. Add the following new subparagraphs:
 - 6.2.6 The Contractor shall assume all liability, financial or otherwise, in connection with this Contract and it shall protect and hold harmless the Owner and the Architect from any and all damages or claims that may arise because of any inconvenience and/or delay which it may cause other Contractors. If the Contractor experiences a loss because of the operations of other Contractors working adjacent to or within his work area, the Contractor shall bear such loss.

 - 6.2.7 The Contractor shall be responsible for the control of the activities of its Subcontractors. It hereby warrants that they shall consult, cooperate and coordinate with Contractors as requested by others and shall lay out and install their work in a manner that will avoid any delays in, or interference with, the Work of others. Any increase in the cost of, or delay in the Project incurred by the failure of the Contractor to insure the cooperation of its Subcontractors, shall be borne by the Contractor.

7. ARTICLE 7 – CHANGES IN THE WORK:
 - A. 7.2 CHANGE ORDERS
 1. Add the following new subparagraphs:
 - 7.2.2 The Contractor’s proposal for changes in the work shall be itemized completely and in detail shall include material costs and quantities; labor rate which includes: time, insurance and pensions, equipment rental and other direct expenses and the number of additional calendar days, if any, which are required to complete the change.
 - .1 Where unit prices have been established, the proposal shall state quantity involved and the applicable unit price.

 - 7.2.3 For additional work that may be authorized and performed by the Prime Contractor, the cost to the Owner may include an allowance for overhead and profit, not to exceed a total of 10 percent of the net cost of work. For additional work that may be authorized and performed by Subcontractors, the Prime Contractor’s overhead and profit shall not exceed a total of 5 percent of the Subcontractor’s net cost and the Subcontractors overhead and profit shall not exceed 10 percent of the net costs.

8. ARTICLE 8 – TIME:
 - A. 8.1 DEFINITIONS
 1. Add the following sentence to the end of subparagraph 8.1.3:

...The Project shall be substantially complete within the amount of calendar days stated in the project schedule.

B. 8.3 DELAYS AND EXTENSIONS OF TIME

1. Delete 8.3.3 in its entirety and substitute in its place the following “To the extent there are delays, regardless of whether or not caused by the Contractor, Contractor’s sole remedy for said delay is an extension of time. Contractor shall not be entitled to monetary damages for any delay. Contractor hereby waives all claims for damages or additional payment of any kind for delays to the Work..”

9. ARTICLE 9 – PAYMENT AND COMPLETION:

A. 9.3 APPLICATION FOR PAYMENT

1. Amend subparagraph 9.3.1. as follows:

9.3.1 The Contractor shall submit to the Architect a pencil copy Application for Payment no later than the twenty-fifth day of the month of the application period. Within forty-eight hours of notification of approval or approved as noted from the Architect, the Contractor shall submit to the Architect an original corrected and notarized Application for Payment.

2. Add the following new subparagraph:

9.3.1.3 Payments shall be for 95% of the estimated value of the work completed, and 95% of the value of material and equipment delivered and stored at the site or suitably warehoused off-site. The remaining 5% will be retained by the Owner until final acceptance of the Project in accordance with the Contract Documents. The Town holds the retainage for one calendar year following substantial completion date. Application for payment for material and equipment stored on or off-site shall be accompanied by certificates of insurance indicating complete coverage as required by the Contract. Applications for Payment for material and equipment stored off-site shall be accompanied by an affidavit establishing the Owner’s title to such items and assuring their delivery to the site in accordance with the Contract. Each Application for Payment will include a lien waiver for monies paid on the previous Application for Payment.

3. Add the following new subparagraph:

9.3.2.1 The Contractor may include in its Applications for Payment the delivered cost of equipment and non-perishable materials delivered and stored at the site but not incorporated in the work under the following conditions:

- .a Items to be protected from fire, theft, vandalism, weather, and other damage.
- .b Storage procedures and areas to be approved.
- .c Items to be available at all time for inspection by the Architect.

4. Add the following new subparagraph:

9.3.4 The Contractor shall furnish with its Applications for Payment invoices establishing the value of materials and equipment stored at the site, along with a statement of amounts to be paid to vendors.

- .1 Such stored items are subject to inspection by the Architect before payment is recommended.
- .2 The Contractor shall furnish the Owner with certificates of insurance in accordance with Contract Documents for the full value of the items stored at the site.

B. 9.4 CERTIFICATES OF PAYMENT

1. Amend Subparagraph 9.4.2 by adding the following language at the end of the first sentence...”and that the Contractor’s work is on schedule.”

C. 9.6 PROGRESS PAYMENTS

1. Add the following new subparagraph:

9.6.2.1 The Contractor shall furnish the Owner with satisfactory evidence of payment to vendors supplying material and equipment for approved storage per lien waivers as required in the specifications. This shall be done within 30 days after the date of the progress payment. Satisfactory evidence of payment shall be one of the following:

.a The Contractor’s canceled check in the correct amount with identification of invoices paid.

.b A letter or fax from the vendor with an authorized signature stating amounts and invoices paid.

.c A receipted invoice.

2. Add the following new subparagraph:

9.6.5.1 Payment for material and equipment delivered and stored shall not relieve the Contractor of responsibility for furnishing equipment and material required for the work in the same manner as if such payment were not made.

3. Add the following new subparagraph:

9.6.8 If the Contractor does not submit evidence of payment to his vendors for material and equipment stored, the Architect will recommend deductions of the amount previously allowed for the items stored from the current or subsequent Application for Payment.

D. 9.8 SUBSTANTIAL COMPLETION

1. Add the following Paragraph at the end of 9.8.4:

9.8.4 The required Date of Substantial Completion is: June 14, 2013

E. 9.10 FINAL COMPLETION AND FINAL PAYMENT

1. Add the following new subparagraph:

9.10.6 A prerequisite to final payment shall be that the Contractor furnish proof that it has completed all specification requirements covering the following items as applicable: Warranties and Project Record Documents.

10. ARTICLE 10 – PROTECTION OF PERSONS AND PROPERTY:

A. 10.2 SAFETY OF PERSONS AND PROPERTY

1. Add the following to the end of subparagraph 10.2.4:

...The Contractor shall not bring hazardous materials onto the site nor use in the Work without compliance with the following conditions:

.1 The Contractor shall be solely responsible for the handling, storage, and use of explosive or other hazardous materials involved in his work, when use is permitted. For such use, the Contractor shall obtain and forward necessary permits to the Owner for review before proceeding with use.

.2 The Contractor shall obtain insurance for use of hazardous materials and furnish certificates of insurance in keeping with Conditions of the contract.

2. Add the following new subparagraphs:

10.2.9 Protect all work and material from damage by water and weather; provide, maintain and operate all pumps, equipment and enclosures necessary to prevent accumulations of water and freezing. Provide and maintain all bracing, shoring, ladders, walkways, and scaffolding as necessary for safety and the proper execution of the work.

10.2.10 Provide and maintain fire protection equipment as required and approved by fire authorities. Build no fire on premises.

10.2.11 In order to protect the lives and health of its employees under the contract, the Contractor shall comply with all pertinent provisions of the Contract Work House and Safety Standard Act, as amended, commonly known as the Construction Safety Act as pertains to health and safety standards; and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction, safety and health standards promulgated by the Secretary of Labor. The Contractor alone shall be responsible for the safety, efficiency and adequacy of its plan, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

10.2.12 It shall be understood that the Owner will continue to occupy and use all areas not being worked on by the Contractor.

11. ARTICLE 11 – INSURANCE AND BONDS

A. 11.1 CONTRACTOR'S LIABILITY INSURANCE

1. Add the following to the end of subparagraph 11.1.1:

...Provide insurance in accordance with the instruction to Bidders and Appendix I.

B. 11.4 PERFORMANCE BOND AND PAYMENT BOND

1. Amend subparagraph 11.4.1 as follows:

11.4.1 The Owner shall require the Contractor to furnish Bonds as stipulated in other section of this specifications.

12. ARTICLE 13 – MISCELLANEOUS PROVISIONS:

A. 13.5.1 TESTS AND INSPECTIONS

1. Delete the second sentence and replace with the following: “The contractor shall make arrangements for testing, inspections and approvals, by the owners testing agent, the owner shall pay for testing”.

B. 13.6 INTEREST

2. Delete from paragraph 13.6.1 the following: “or, in the absence thereof, at the legal rate prevailing from time to time at the place where the project is located.

13. ARTICLE 15.4 – ARBITRATION

- A. 15.4 Amend subparagraph 15.4.1 by deleting in the first sentence therein the language “American Arbitration Association in accordance with its Construction Industry Arbitration Rules” and in its place substitute the language “Alternate Dispute Resolution Center, East Hartford, CT in accordance with its Rules of the Dispute Resolution in effect on the date of the agreement and if the ADRC is not available, then the American Arbitration Association.”

TOWN OF WETHERSFIELD
Purchasing Office
505 SILAS DEANE HIGHWAY
WETHERSFIELD, CT 06109

“NO BID” RESPONSE

Name of Bid/RFP/RFQ: _____

Date of Bid Opening: _____

For tracking, audit, and record-keeping purposes, we would very much appreciate knowing the reason why you have chosen not to submit a proposal for the above-referenced Public Bid, RFP or RFQ.

Would you please take a moment to provide a brief explanation below for not submitting a proposal to us for this purchase?

Please also indicate if you would like to continue to receive bids and quotes from us in the future for above-referenced related purchases. If we do not receive this form back, we will assume you are no longer interested in receiving bids and quotes from us.

Please continue to send me bids, quotes, and RFPs. Yes _____ No _____

Company name _____

Mailing address _____

Phone _____ Fax _____ Email _____

Your name _____ Date _____

This may be mailed, faxed, or e-mailed back to us at:

Town of Wethersfield
Attn: Purchasing Office
505 Silas Deane Highway
Wethersfield, CT 06109
Fax: 860 721-2997
E-mail: tammy.ohanesian@wethersfieldct.com

Thank you for your response.

**TOWN OF WETHERSFIELD
MILL WOODS PARK BEACH MAINTENANCE**

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of the Contract.
 - 3. Use of premises.
 - 4. Work restrictions.
 - 5. Specification formats and conventions.
 - 6. Schedule.
 - 7. Special Conditions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Mill Woods Park Beach Maintenance
 - 1. Project Location: Mill Woods Park, Wethersfield, CT.
- B. Owner: Town Of Wethersfield, Connecticut.
- C. Civil Engineer / Landscape Architect: TO Design, LLC.
- D. The Work consists of the following:
 - 1. The Work includes removal of existing sand and clay, installation of drainage piping, catch basin, new sand layer, and associated site work.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract.

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1.5 USE OF PREMISES

- A. Driveways and Entrances: Keep driveways, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - 1. Schedule deliveries to minimize use of driveways and entrances.
 - 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, accept otherwise indicated.
- B. Existing Utility Interruptions: Do not interrupt utilities serving existing facilities unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Landscape Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Landscape Architect's written permission.

1.7 SPECIAL CONDITIONS

- A. The pond will be drained from April 15, 2013 through May 30,2013
- B. It is anticipated that Town staff will be spreading chlorine on the pond bottom on May 20,2013. The site contractor shall take adequate precautions if working during this period. Coordinate final date with the project representative

1.8 SCHEDULE

- A. Site construction must be complete by June 14, 2013

PART 2 - PRODUCTS (Not Used)

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PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

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SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

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- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 – Beach Sand instead of mason sand.
- B. Alternate No. 2 – Lawn renovation Spring 2013.
- C. Alternate No. 3 – Lawn Renovation Fall 2013.
- D. Alternate No. 4 – New sand at south end of beach.

END OF SECTION 012300

**TOWN OF WETHERSFIELD
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SECTION 020000 – GENERAL SITEWORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 REFERENCES

- A. Form 816: State of CT Dept. of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.

1.3 SUMMARY

- A. The Work includes removal of existing sand and clay, installation of drainage piping and catch basin, new sand layer, and associated site work.

1.4 QUALITY ASSURANCE

- A. Obtain and pay for all required inspections, permits and fees. Provide notices required by governmental authorities.
- B. Comply with all applicable local, state and federal requirements regarding materials, methods of work and disposal of excess and waste materials.

1.5 GENERAL JOB CONDITIONS

- A. Locate and identify existing underground and overhead services and utilities within contract limit work areas. Provide adequate means of protection of utilities and services designated to remain. Repair utilities damage during sitework operations at Contractor's expense.
- B. Protect and maintain all existing utility appurtenances and improvements except items designated for removal.

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- C. When uncharted or incorrectly charted underground piping or other utilities and services are encountered during sitework operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active service operation.
- D. Locate, protect and maintain bench marks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Contractor's expense.
- E. Perform sitework operations to assure minimum interference with streets, walks and other adjacent facilities.
- F. Obtain written permission when required to close or obstruct driveways, walks or adjacent facilities. Provide alternative routes around closed or obstructed traffic ways when required.
- G. Control dust caused by the work with calcium chloride conforming to ASTM D-98, or water. Special care shall be taken by the Contractor to control dust and debris due to construction. Dampen surfaces prior to significant earthwork or other grading operations and clean the site on a regular basis to minimize unsightly or dangerous debris.
- H. Protect existing building, paving and other services or facilities on site and adjacent to the site from damage caused by sitework operation. Cost of repair and restoration of damaged items shall be at the Contractor's expense.
- I. All required submittals shall be in accordance with Division 1 submittal requirements.
- J. Coordinate all work of each section with related work of other sections. Failure to coordinate properly will not reduce the obligation to meet the standards of acceptance of the various elements of work contained herein.
- K. Examine all work that the work of each section is contingent upon and report any deficiencies to the Owner's Representative. Commencement of work will be construed to mean complete acceptance of the preparatory work of others. No adjustment will be made for discrepancies brought to the Owner's Representative attention after work has begun.

1.6 TRAFFIC MAINTENANCE, SAFETY AND PROTECTION

- A. The Contractor shall provide for maintenance and protection of traffic, including permits and plans as required per the Town of Wethersfield.

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- B. Provide, place, move, maintain and dismantle such barricades, warning signs and lights as necessary to adequately protect the work and provide for public safety.
- C. Furnish flagmen or police as required for the proper direction and control of traffic during the construction period.

1.7 REFERENCE SPECIFICATIONS

- A. All reference to the Standard Specifications refers to CT DOT Form 816. A copy of these specifications shall be available on site at all times.

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. As selected by Contractor, except as indicated.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Examine the areas and conditions under which sitework is performed. Do not proceed with the work until unsatisfactory conditions are corrected.

END OF SECTION 020000

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SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Removing existing vegetation.
 - 2. Remove sand and clay.
 - 3. Removing benches and trash receptacles.
 - 4. Topsoil stripping.
- B. Related Sections include the following:
 - 1. Division 31 Section "Erosion Control" for soil stabilization.
 - 2. Division 31 Section "Earth Moving" for excavating, backfilling, and site grading.
 - 3. Division 32 Section "Seeding" for finish grading, seeding and sodding.

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter, and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

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1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

1.6 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B. Utility Locator Service: Engage a utility locator service before site clearing.
- C. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.

3.2 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.

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- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Strip surface soil of unsuitable topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Do not stockpile topsoil within drip line of remaining trees.
 - 3. Dispose of excess topsoil as specified for waste material disposal.
- D. Stockpile surplus topsoil and allow for respreading deeper topsoil

3.3 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove curbing and aggregate base, as indicated.
 - 1. Neatly saw-cut length of existing curb to remain before removing existing pavement. Saw-cut faces vertically.

3.4 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off of the Owner's property.
 - 1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 311000

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SECTION 311100 – EROSION CONTROL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. The work of this Section includes, but is not limited to the furnishing of all labor, materials and equipment required to provide silt fences, erosion control linings and any other measures necessary to prevent erosion and resulting sedimentation in areas adjacent to the site improvements.

1.3 REFERENCES

- A. Form 816: "State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction".
- B. CT Guidelines for Soil Erosion and Sediment Control-2002 published by CT Council on Soil and Water Conservation in cooperation with the CT Department of Environmental Protection.
- C. Qualifications: Engaged firm shall be able to demonstrate experience in the installation of the erosion and sedimentation controls described in the Contract Documents.

1.4 SUBMITTALS

- A. Provide written certification of compliance to the specification for the following:
 - 1. Silt Fence.
 - 2. Silt Sack.

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1.5 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Environmental Requirements: Protect adjacent properties and water resources from erosion and sediment damage throughout Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Silt Fences:

1. Filter Fabric Fence: The fabric used shall be LS125 polypropylene silt fence, 36-inch, as supplied by ACF Environmental, Richmond, VA (www.acfenvironmental.com) fastened to stakes, or approved equal.
2. Posts: Provide wood or metal posts of the length shown in the Contract Documents and of sufficient strength to support the wire backing and filter fabric.

- B. Straw hay bales for catch basin protection shall be free of weed seed.

C. Siltsack.

1. Siltsack shall be manufactured from a specially designed woven polypropylene geotextile and sewn by a double needle machine, using a strength nylon thread – ACF Environmental or equal.
2. Siltsack will be manufactured to fit the opening of the catch basin or drop inlet. Siltsack will have the following features: two dump straps attached at the bottom to facilitate the emptying of Siltsack; Siltsack shall have lifting loops as an integral part of the system to be used to lift Siltsack from the basin; Siltsack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this yellow cord is also a visual means of indicating when the sack should be emptied. Once the cord is covered with sediment, Siltsack should be emptied, cleaned and placed back in the basin.
3. Siltsack seams shall have a certified average wide width strength per ASTM D-4884.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Comply with Form 816, Section 2.10.

B. Silt Fences:

1. Install silt fences in the locations shown and as detailed and described in the Contract Documents. Silt fence shall be installed with end runs turned up grade at 45° for a distance of 2' (foot).
2. Drive the support posts firmly into the ground so as to maintain the silt fence in a vertical position.

B. Hay Bales:

1. Hold in place by (2) 2" x 2" x 36" stakes, as detailed on drawings.

D. Siltsack

1. To install Siltsack in the catch basin, remove the grate and place the sack in the opening. Hold approximately six inches of the sack outside the frame. This is the area of the lifting straps. Replace the grate to hold the sack in place.
2. When the restraint cord is no longer visible, Siltsack is full and should be emptied.
3. To remove Siltsack, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of Siltsack.
4. To empty Siltsack, place unit where the contents will be collected. Place the rebar through the lift straps (connected to the bottom of the sack) and lift. This will lift Siltsack from the bottom and empty the contents. Clean out and rinse. Return Siltsack to its original shape and place back in basin.

3.2 MAINTENANCE AND CLEANING

- A. General: All temporary erosion and sedimentation control devices shall be maintained and cleaned as required from the time of their installation until their final removal. Permanent erosion control devices shall be maintained and cleaned as required until their final acceptance.

B. Erosion Control Supervisor:

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1. The Contractor shall name one (1) individual as his sediment and erosion control supervisor whose responsibility will be maintenance and repair of all on-site erosion and control measures. He will keep a daily log of his activities and an updated schedule of proposed construction activities. The log shall be made available to the local authority as well as any State/ Federal Inspectors.

C. Silt Fences: Remove silt as required maintaining the integrity of silt fences. If required, remove the silt fence completely and remove all accumulated silt, then reinstall.

D. Silt Sacks: Remove silt as required, maintaining the integrity of silt sacks.

3.3 ADJUSTMENTS AND CLEANUP

A. At the end of construction and after project areas have been stabilized with vegetation or other permanent site improvements as noted on the drawings, remove and legally dispose of, off site, all non-permanent erosion control devices and restore the damaged areas. Leave the site neat and clean.

END OF SECTION 311100

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SECTION 312000 –EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Excavating and backfilling.
- B. Related Sections include the following:
 - 1. Division 31 Section "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements.
 - 2. Division 31 Section "Sand" for trench backfill material.
 - 3. Division 32 Section "Seeding" for finish grading.

1.3 REFERENCES

- A. Form 816: State of CT Dept. of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.

1.4 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Landscape Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

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2. Bulk excavation: excavation more than 10 feet in width and more than 30 feet in length.
 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Landscape Architect. Unauthorized excavation, as well as remedial work directed by Landscape Architect, shall be without additional compensation.
- D. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation or 3/4 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
1. Excavation of Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- wide, maximum, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,090 lbf and stick-crowd force of not less than 18,650 lbf; measured according to SAE J-1179.
 2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 48,510-lbf breakout force with a general-purpose bare bucket; measured according to SAE J-732.
- E. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- F. Utilities: On-site underground pipes, conduits, ducts, and cables.
- 1.5 SUBMITTALS
- A. Product Data: For the following:
1. Each type of plastic warning tape.
 2. Geotextile.
- B. Samples: 12-by-12-inch sample of geotextile fabric.
- C. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

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1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving existing facilities unless permitted in writing by Landscape Architect and then only after arranging to provide temporary utility services according to requirements indicated.
 - 1. Notify Landscape Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Landscape Architect's written permission.
 - 3. Contact utility-locator service for area where Project is located before excavating.

PART 2 - PRODUCTS

2.1 CRUSHED STONE

- A. Shall meet the requirements of form 816, M.02.06 Grading A.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect and maintain erosion and sedimentation controls.
- C. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

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1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXCAVATION WITHIN TREE PROTECTION ZONE

- A. Excavation and trenching within Tree Protection Areas shall be prohibited, except under the following conditions:

1. For all work to be done within the Tree Protection Areas (including demolition, trenching for utilities, etc.) the Landscape Architect will be present, and shall be given ten (10) days notice.
2. Exercise extreme care during excavation to prevent damage to roots of tree, which are to remain. When excavating or grading within the critical root zone of the trees to remain, do so in an approved manner which will cause minimum damage to the root system. Injured roots will be pruned cleanly and the excavation area backfilled (with soil or mulch) as soon as possible to provide cover for the exposed roots. Make all attempts to preserve roots two inches (2") in diameter and larger.
3. All removals, trenching, and excavation within the Tree Protection Areas shall be performed by hand, unless otherwise approved by Landscape Architect. All work shall be performed in a manner to prevent compaction, siltation, and disturbance of the root mat of all trees in the area.
 - a. Excavate and open utility trenches only when utility work can be installed immediately, so that excavation can be backfilled as soon as possible.
4. Replace protection fencing immediately after work within Tree Protection Area is done.

3.4 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
1. Clearance: 12 inches each side of pipe or conduit or as indicated on drawings.

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C. Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.5 SUBGRADE INSPECTION

A. Notify Landscape Architect when excavations have reached required subgrade.

B. If Landscape Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Landscape Architect, without additional compensation.

3.6 STORAGE OF SOIL MATERIALS

A. Store soil materials in areas as approved by the Project Representative.

3.7 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Place and compact initial backfill to a height of 12 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

D. Backfill voids with gravel while installing and removing shoring and bracing.

E. Place and compact final backfill of gravel to final subgrade elevation.

F. Install warning tape directly above utilities, 12 inches below finished grade.

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3.8 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.9 COMPACTION OF SUBGRADE

- A. No compaction of the subgrade is required in beach areas.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLSAT UTILITY TRENCHES

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 - 1. For utility trenches, compact each layer of initial and final backfill soil material at 92 percent.

3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water toward drainage basins and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Lawn or Unpaved Areas: Plus or minus 1 inch.

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3.12 FIELD QUALITY CONTROL

- A. Testing Agency: Owner may engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

3.13 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Landscape Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.
- B. Material must be handled in accordance with applicable CT DEEP regulations concerning fill, solid waste, and remediation standards.

END OF SECTION 312000

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SECTION 312100 – SAND

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Sand for beach.
- B. Related sections:
 - 1. Division 31 Section "Earth Moving" for grading requirements.

1.3 REFERENCES

- A. Form 816: "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction".

1.4 SUBMITTALS

- A. Provide written certification of compliance to the Specification for:
 - 1. Sand

PART 2 - PRODUCTS

2.1 MATERIALS

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A. Masons Sand (Base bid)

| Sieve | Percent passing |
|-------|-----------------|
| #4 | 100 |
| #8 | 95-100 |
| #50 | 15-40 |
| #100 | 0-10 |

B. Beach Sand (alternate)

| Sieve | Percent passing |
|-------|-----------------|
| #16 | 95-100 |
| #30 | 85-100 |
| #50 | 65-85 |
| #100 | 10-30 |
| #200 | 10 |

1. Beach sand shall be white to light tan in color.
2. Available from Volleyballusa.com, 425.501.8338 or Red Wing Sand, 914.475.7890

C. All sand shall be clean, washed sand

PART 3 - EXECUTION

3.1 PRE-INSTALLATION REQUIREMENTS

- A. Secure approval of subgrade by Owner's Representative prior to commencing installation of sand

3.2 INSTALLATION

- A. Rake and roll sand to provide an even surface.
- B. Sand shall be spread upon the prepared, sub-grade to such depth that this course will be to the specified depth after rolling.

END OF SECTION 312100

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SECTION 321775 – CONCRETE CURBS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Provide and install precast concrete curbs.
- B. Related Sections include the following:
 - 1. Division 31 Section "Earth Moving" for excavation, backfilling and grading.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Precast curb units shall be delivered to the job adequately protected from damage during transit.
- B. Curbing shall be protected against staining, chipping, and other damage. Cracked, badly chipped, or stained units will be rejected and shall not be employed in the work.

PART 2 – PRODUCTS AND MATERIALS

2.1 CONCRETE CURB

- A. The concrete for concrete curbing shall have a minimum compressive strength of 4,000 psi at 28 days, and shall contain 5 to 6 percent entrained air.
- B. Finish and Color: Curb units shall be rub finished in the following manner:

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1. After the concrete has properly hardened, the exposed surfaces shall be rubbed with a #16 carborundum stone or an abrasive of approved equal in a manner to fully remove cement enamel finish and expose a durable sand grain finish satisfactory to the Engineer. No cement shall be used in the rubbing process.
 2. The finish of these units shall be uniform and shall conform to those of adjacent work in their final position.
- C. Concrete curb section shall be furnished with sockets in each end to receive dowels to maintain the horizontal and vertical alignment of the curb. The dowel socket shall be 11/16 inch by 2-1/2 inches. 5/8 inch by 4 inch dowels shall be provided. Dowels shall have a minimum yield strength of 36,000 psi, and shall be supplied by the curb manufacturer.

PART 3 - EXECUTION

3.1 CONCRETE CURB

- A. Concrete units delivered to the site shall be inspected for damage, unloaded and placed along excavated trench or other designated location with the minimum amount of handling.
1. Materials shall be handled in such a manner as to insure delivery to trench in a sound and undamaged condition.
 2. All individual pieces of curbed curbing shall be marked to correspond to the radius and location where curbing is to be set.
- B. Excavation shall be made in accordance with details on the plans and shall extend 6 inches below and behind finished curb sections.
1. Screened gravel base shall be compacted to a firm, even surface.
- C. Installation of concrete curb shall be completed within the prepared trench such that each section is doweled to the next continuously and conforming to the line, grade, and cross section shown on the plans, unless otherwise directed by the Architect/Engineer. Installation shall be completed in such a manner as to prevent damage to the precast units.
- D. After the curb is set, trench shall be backfilled immediately with approved material. The first layer to be 4 inches in depth, thoroughly rammed, the other layers to be not more than 6 inches in depth and thoroughly rammed until the trench is filled. Care is to be taken not to affect the line or grade of the curb during this procedure.

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- E. All curb joints shall be filled with caulking compound (color-cement mortar grey) or preformed expansion joint. One joint every 50-feet shall be left clean of caulk to allow for expansion.

- F. 1 cubic foot of concrete shall be placed at all curb joints.

END OF SECTION 321775

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SECTION 329200 – SEEDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hydroseeding.
- B. Related Sections:
 - 1. Division 31 Section "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Division 31 Section "Earth Moving" for excavation, filling and backfilling, and rough grading.
 - 3. Division 32 Section "Planting Soil".

1.3 REFERENCES

- A. Form 816: State of CT Dept. of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- C. Product Certificates: For soil amendments and fertilizers from manufacturers.

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1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 2. Experience: Five years' experience in turf installation in addition to requirements in Division 1 Section "Quality Requirements."
 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 4. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of the soil.
1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
 2. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
 3. Report suitability of tested soil for turf growth.
 - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

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1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 - 3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

1.7 PROJECT CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.
 - 1. April 15th – June 14th, Spring.
 - 2. September 15th – October 15th, Fall.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

1.8 MAINTENANCE SERVICE

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
 - 1. Seeded Turf: 60 days from date of Substantial Completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

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PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
 - 1. Proportioned by weight as follows:
 - a. 33.3% Kentucky bluegrass.
 - b. 33.3% Creeping red fescue.
 - c. 33.3% Turf type perennial ryegrass.

2.3 INORGANIC SOIL AMENDMENTS

- A. Limestone is used to raise pH and neutralize acidic soils. In first paragraph below, insert percentages of carbonates, calcium, and magnesium if required. Revise to a pelleted form of limestone with a water-soluble binder that speeds breakdown if required.
- B. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
- C. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.
- D. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- E. Aluminum Sulfate: Commercial grade, unadulterated.
- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.

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2.4 FERTILIZERS

- A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 10 percent phosphoric acid.
- B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

2.5 MULCHES

- A. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

2.6 PESTICIDES

- A. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 - 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
 - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. Limit turf subgrade preparation to areas to be planted.
- B. Unchanged Subgrades:

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1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 2. Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to soil test and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture. Final depth of topsoil shall be 4 inches minimum.
 - a. Apply fertilizer directly to surface soil before loosening.
 3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- D. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- E. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- F. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply fertilizer directly to subgrade before loosening.
 2. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend topsoil.
 3. Spread planting soil to a depth of 6 inches but not less than required to meet finish grades after lights rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
 - a. Spread 2 inches of topsoil over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of topsoil.
 - b. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
 - c. Mix lime with dry soil before mixing fertilizer.

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3.4 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, fiber mulch and pre-emergent pesticides in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
- B. Apply mulch at a rate of 25 pounds per 1000 SF (40 pounds per 1000 SF on slopes 2:1 or over).

3.5 MAINTENANCE

- A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
 - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 - 2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

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1. Mow to a height of 1-1/2 to 2 inches.

D. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. to turf area.

3.6 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Landscape Architect:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.7 HERBICIDE AND PESTICIDE APPLICATION

A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

B. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

3.5 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

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- C. Contractor is responsible for protecting new lawn areas until grass is established, by whatever method necessary to ensure a full stand of grass.
- D. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 329200

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SECTION 329201- PLANTING SOIL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:

- 1. Preparing and placing planting soil mix.
- 2. Testing of blended soil mix and all components

- B. Related sections:

- 1. Division 31 Section "Earth Moving" for general grading, compaction and trenching requirements.
- 2. Division 32 Section "Seeding" for hydroseeding .

1.5 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Topsoil: A mineral soil taken from the A Horizon of a well-drained site and having a USDA soil texture classification of a Clay Loam, Sandy Loam or Loam as specified.
- C. Planting Soil: Native, imported or manufactured soil mixed with soil amendments as specified.
- D. Subgrade: Surface or elevation of subsoil remaining after completing excavation or backfill immediately beneath planting soil.
- E. Debris: Elements including, but not limited to, concrete, concrete masonry, wood, excavated rock and rock fragments, rubble, overburden soils, abandoned utility structures, trash, refuse and litter.

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1.6 SUBMITTALS

- A. Refer to and comply with division 1 of specifications for procedures and additional submittal criteria.
- B. Product Data: Submit technical descriptive data, to include sieve analysis, for each manufactured or packaged product of this Section including
 - 1. Topsoil.
 - 2. Sand.
 - 3. Compost.
 - 4. Planting mix.
- C. Submit physical samples of all listed materials to the Landscape Architect for review:
 - 1. Organic Amendment (Compost), 5 lb. packaged.
 - 2. Sand, 5 lb packaged.
 - 3. Topsoil, 5 lb packaged.
 - 4. Planting Mixes, 5 lb. packaged.

1.7 QUALITY ASSURANCE

- A. Planting Mixes are comprised of the topsoil, sand, additional organic amendment and other soil amendment materials. Each component of each Planting Mix must meet the specification herein and be verified by testing as specified herein, prior to delivery at the site.
- B. No mix component will be accepted unless it meets all submittal, testing and certification requirements including the testing and certification reports in the format specified herein.
- C. It shall be the responsibility of the Contractor to see that the specifications are being adhered to. Failure of the Landscape Architect to immediately reject unsatisfactory workmanship or to notify the Contractor of his/her deviation from the specifications shall not relieve the Contractor of his/her responsibility to repair and/or replace unsatisfactory work.
- D. Testing
 - 1. All testing required in this Section or additionally required by the Landscape Architect shall be furnished and paid for by Contractor.

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2. The Landscape Architect reserves the right to take and analyze at any time samples of materials as deemed necessary for verification of conformance to specification requirements. Contractor shall furnish samples for this purpose upon request and shall perform testing as requested.
3. Testing: Contractor shall engage an independent testing agency to perform quality control tests on all planting components and mixes including, topsoil, sand, compost and final planting mix.
 - a. The Contractor shall submit representative samples of all soil materials and organic material components which are intended to be used for planting soil mixes and all final planting soil mixes to an agricultural soil testing laboratory acceptable to the Landscape Architect.
 - b. All soil tests shall be performed in accordance with the current methods provided by NER493 or NCR22, unless otherwise noted.
 - c. All reports prepared by the testing laboratory shall be sent to the Landscape Architect for approval.
 - d. Deficiencies in the soils, organic materials, or other mix components shall be corrected by the Contractor,
 - e. See compost specification for additional testing (2.2.-C)
 - f. All compost testing shall be done in conformance with the U.S. Compost Council's publication *Test Methods for the Examination of Composting and Compost* (TMECC) unless otherwise specified above
4. All mix components as well as the final planting mix shall be tested and include the following:
 - a. pH and Buffer pH Test.
 - b. Analysis for levels of toxic elements and compounds including arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, and zinc
 - c. Particle size analysis performed and compared to the USDA Soil Classification System per ASTM D422 (hydrometer test). The USDA sand and gravel classifications shall be determined on material retained on the #270 sieve following a wet washing procedure.
 - d. Percent of organic matter determined by ASTM F1647 Procedure Method A, loss on ignition at 360°C.
 - e. Analysis for nutrient levels in parts per million including Nitrate nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Iron, Manganese, Zinc, Copper, Boron and Extractable Aluminum per NER493 or NCR221. (Planting Mix)
 - f. Soluble salts by electrical conductivity of a 1:2 soil/water sample reported in milliohms per cm. per NER493.

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- g. Cation Exchange Capacity (CEC) per NER493 or NCR221 using the pH 7 ammonium acetate method.
 - h. Carbon to Nitrogen Ratio (C:N Ratio).
 - i. Recommendations for soil nutrient additives, including organic and inorganic soil amendments, necessary to accomplish turf grass growth.
 - j. Compost shall be tested for, pH, salinity, total nitrogen, C:N Ratio, phosphorus, potassium, calcium, magnesium, sodium and boron by saturated media extraction (SME per NCR-221), moisture, bulk density, particle size analysis, organic matter content and Solvita Maturity Index. USEPA 503, heavy metals, fecal coliforms and salmonella.
 - k. Fineness modulus and coefficient of uniformity (sand)
5. Testing Agencies: The following firms are acceptable testing agencies for the various components.
- a. Soil physical analysis on all components and planting soil mixes including particle size analysis shall be determined by an A2LA Accredited Lab, such as Hummel & Co, 35 King Street, Trumansburg, NY 14886, tel. 607-387-5694, fax 607-387-9499 or other qualified laboratory approved by the Landscape Architects.
 - b. Compost testing may be performed by Woods End Research Laboratory, PO Box 297, Mt. Vernon, ME 04352, tel. 800-451-0337, fax 207-293-2488 or other qualified laboratory approved by the Landscape Architects.
- E. Settlement methodology: Submit a plan with a schedule describing the proposed method intended for settling installed work.
- F. Qualifications
- 1. Foreman on the job shall be competent supervisor experienced in soil installation and maintenance. Perform work with personnel familiar with planting soil preparation and lawn and planting installations under the supervision of a foreman experienced with landscape work.
- G. Pre-Installation Conferences: Person responsible for soil preparation and mixes of this Section shall attend Pre-Installation Conference to coordinate with work of other sections.
- 1.8 REGULATORY REQUIREMENTS

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- A. Comply with all rules, regulations, laws and ordinances of local, state and federal authorities having jurisdiction. Provide labor, materials, equipment and services necessary to make Work comply with such requirements without additional cost to Owner.
- B. Procure and pay for permits and licenses required for work of this section.

1.9 PROJECT CONDITIONS

- A. Environmental Requirements for Soil:
 - 1. Perform both off-site mixing and on-site soil work only during suitable weather conditions. Do not disc, rototill, or work soil when frozen, excessively wet (as defined by Landscape Architect), or in otherwise unsatisfactory condition.
 - 2. Mixes shall not be handled, hauled or placed during rain or wet weather or when near or above the point where maximum compaction will occur (as defined by Landscape Architect).
- B. Sequencing and Scheduling: Adjust, relate together and otherwise coordinate work of this Section with work of Project and all other Sections of Project Specifications.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials to the location where soils are to be mixed, in unopened bags or containers, each bearing the name, guarantee, and trademark or the producer, material composition, manufacturer's certified analysis, and the weight or the material. Retain packages for the Landscape Architect.
- B. Store and handle packaged materials in strict compliance with manufacturer's instructions and recommendations. Protect all materials from weather, damage, and theft.
- C. Soil or amendment materials stored on site temporarily in stockpiles prior to placement shall be protected from intrusion of contaminants and erosion. All temporary storage means and methods shall be approved by the Landscape Architect.
- D. After mixing, soil mixtures shall be covered with a tarpaulin until time of actual use and protected from contamination or erosion.

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PART 2 - PRODUCTS

2.1 SOIL MIXES

A. General

1. No components for plant mixes shall be used until certified test reports by an approved testing laboratory have been received and approved by the Landscape Architect.
2. As necessary, make any and all mix amendments to achieve the required specification and resubmit tests reports indicating amendment changes until approved.

2.2 MATERIALS

A. SAND

1. The sand shall be a clean, sharp, washed natural sand. Suitable sands may be referred to in commerce as uniform, ASTM-33 concrete sand (preferred) or a coarse mason's sand or a coarse U.S.G.A. root zone sand. The selected sand must meet the following particle size distribution when tested in accordance with the ASTM D-422 using U.S.D.A. particle size classifications.
2. The allowable particle size distribution is as follows:

| <u>U.S.D.A. Particle Class</u> | <u>Particle Size (mm)</u> | <u>Percent Retained</u> |
|---|-------------------------------|-----------------------------|
| Gravel | > 3.34 | 0 - 3 |
| Fine Gravel | 2.00 - 3.34 | 0 - 10 |
| (Not more than 12% combined Gravel + Fine Gravel) | | |
| V. Coarse Sand | 1.00 - 2.00 | 10 - 25 |
| Coarse Sand | 0.50 - 1.00 | 20 - 40 |
| Medium Sand | 0.25 - 0.50 | 20 - 40 |
| Fine Sand | 0.10 - 0.25 | 0 - 10 |
| Very Fine Sand | 0.05 - 0.10 | 0 - 10 |
| Silt + Clay | < 0.05 | 0 - 10 (Combined Silt+Clay) |

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3. Other Characteristics must fall within the limits specified below:
 - a. Fineness Modulus (FM) – 2.5 to 3.2.
 - b. Coefficient of Uniformity – 2.5 to 3.5 preferred (< 4.1 acceptable).
 - c. The pH shall be 5.5 to 7.5.
 - d. The soluble salts shall be less than 0.5 mmoh/cm.
 - e. The organic matter content shall be less than 1.0%.
 - f. The material drainage rate (ASTM F1815) shall be greater than 20 inches per hour.

4. Provide certification from the supplier that the sand does not contain any toxic substances harmful to plant growth.

B. BORROW TOPSOIL COMPONENT

1. A loamy, friable mineral soil essentially free from heavy or stiff clay lumps, stones, cinders, concrete, brick, roots, sticks brush, litter, plastics, metals, refuse or other deleterious materials in accordance with ASTM D 5286-92. The soil shall be free of herbicides, petroleum-based materials or other substances of a hazardous or toxic nature which may inhibit plant growth. The soil shall be free of noxious weeds, seeds or vegetative parts of weedy plants that cannot be selectively controlled in the planting.

2. The soil shall be taken from the A Horizon of a well-drained site and have a USDA soil texture classification of a Sandy Loam, Clay Loam or Loam. The topsoil shall have the following particle size distribution:

| <u>U.S.D.A.</u> <u>Particle Name</u> | <u>Size (mm)</u> | <u>Allowable</u> |
|---|------------------|------------------|
| Sand | 0.05 – 2.00 | 70 – 75 % |
| Silt | 0.002 – 0.05 | 10 – 20 % |
| Clay | minus 0.002 | 10 – 20 % |

3. The topsoil component shall meet the following specifications. Perform the following tests and submit test reports showing the following criteria are met:
 - a. The particle size analysis/distribution as defined above.
 - b. The pH shall be 5.5 to 7.5.
 - c. The soluble salts shall be less than 1.5 mmoh/cm.
 - d. The organic matter content shall be 4.0 to 8.0%.

4. Provide certification from the supplier that the topsoil does not contain any toxic substances harmful to plant growth.

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C. COMPOST COMPONENT

1. The organic amendment shall be a stable, mature aerobically bulked compost.
 - a. The compost shall be a homogeneous material essentially free of soil clods, lumps, roots and stones.
 - b. The compost shall have a man-made foreign material (hard plastics, metal, glass, etc.) content less than 1.5% as material retained on a U.S. Std.No.5 (4 mm) sieve (TMECC 03.06).
 - c. The compost shall be screened such that a minimum of 90% passes a U.S. Std. 3/4" sieve and that no more than 10% passes a U.S. Std. No.10 sieve on a dry weight basis.
 - d. The compost shall have a pH of 7.0 to 8.0.
 - e. The compost shall have a soluble salts content less than 6.0 milliohms per cm. when determined on a 1:5 compost/water slurry.
 - f. The compost shall have an organic matter content of not less than 35%, by weight determined by ASTM D2974-87 Method C on material passing a U.S. Std.1/4" sieve.
 - g. The compost shall have a carbon to nitrogen (C:N) ratio less than 36:1.
 - h. The compost shall have a Solvita® Maturity Index between 6 and 7.
 - i. The compost shall have a moisture content of 35% to 65%.
 - j. The compost shall have a dry bulk density of 0.17 to 0.35 grams per cubic centimeter (g/cc).
 - k. The compost shall be tested for nitrate nitrogen, phosphorus, potassium, calcium, magnesium iron, manganese, zinc, copper, boron and sodium using the SME-DTPA extraction method (NER493 or NCR-221).
 - l. The heavy metal content as determined by TMECC 04.06 shall not exceed the following limits:

| <u>Element</u> | <u>Concentration Limits</u> |
|----------------|-----------------------------|
| Arsenic | 41 |
| Cadmium | 39 |
| Chromium | 1200 |
| Copper | 1500 |
| Lead | 300 |
| Mercury | 17 |
| Molybdenum | 50 |
| Nickel | 420 |
| Selenium | 36 |
| Zinc | 2800 |

2. The compost shall meet all applicable state regulations based on the feedstock type or U.S. E.P.A. 503 Regulations for biosolids compost.

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2.3 PLANTING SOIL

- A. The Mix shall be a mix of 2 parts of the approved Sand, 1 part of the approved Topsoil and 6-8% organic material by weight
- B. Prepare the Mix by thoroughly blending the sand ,compost and topsoil component. Add amendments per the attached report.
- C. The Mix shall have a granular consistency essentially free of soil lumps larger than 1". Topsoil shall be screened.
- D. The saturated hydraulic conductivity of the Mix shall be 3 to 8 inches per hour. Adjust the proportion of the approved Sand and the approved Topsoil in the manufactured Mix to meet these criteria.

2.4 SOIL AMENDMENT MATERIALS

- A. Ground Limestone: Ground Limestone as a soil amendment material will only be used pending results of analysis.
 - 1. Provide a Ground Agricultural Limestone with a minimum of 88% of calcium and magnesium carbonates.
 - 2. Ground Limestone material shall have total 100% passing the 10 mesh sieve, minimum of 90% passing the 20 mesh sieve and a minimum of 60% passing the 100 mesh sieve.
- B. Sulfur: Granular, biodegradable with a minimum 99 percent passing through No. 6 sieve and a maximum 10 percent passing through No. 40 sieve.
- C. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

PART 3 - EXECUTION

3.1 VERIFICATION

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- A. Prior to construction and soil placement, ascertain the location of all electric cables, conduits, under drainage systems and utility lines. Take proper precaution so as not to disturb or damage sub-surface elements. Contractor failing to take these precautions shall be responsible for making requisite repairs to damaged utilities at Contractor's own expense.
- B. Verify that required underground utilities are available, located, and ready for use. Coordinate with other trades.
- C. Verify that all work requiring access through or adjacent to areas where plant mixes are to be placed has been completed and no further access will be required. In the event that access will be required, this must be coordinated with the Contractor.

3.2 MIXING AND SAMPLING

- A. Mix the compost, topsoil and sand in proportions to achieve the minimum of 4% organic matter in the topsoil. The compost is to be thoroughly mixed throughout the topsoil to achieve a homogeneous mixture, final blend to be approved by the Landscape Architect. If the compost is not thoroughly blended with the topsoil, mixing will continue until thorough blending of the two components is accomplished to the satisfaction of the Landscape Architect.
- B. Mixing shall be done using equipment designed for soil blending and screening. Wind rowing/ tilling on an approved hard surface area may also be used as an alternative. Do not mix components when frozen or wet.
- C. The Mix shall have one sample tested from each 500 cu. yds. of soil

3.3 PLACING SOIL MIXES

- A. Remove all large clods, lumps, brush, roots, stumps, litter, and other foreign material and stones one-half inch (1/2") in diameter or larger. Dispose of removed material legally off-site.
- B. Place planting soil using a wide track dozer. No rubber tired vehicles will be allowed.
- C. Place and spread planting soil mix to a depth sufficiently greater than the depth required for planting areas so that after settlement, the completed work will conform to the lines, grades, and elevations shown or otherwise indicated.

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1. Very carefully settle soils to eliminate air pockets and to minimize future settling. Lightly scarify previously placed surfaces prior to placing subsequent lifts. Proposed method of compaction shall be as previously approved by the Landscape Architect. Method may include, but is not limited to, natural settlement over an approved period of time or light hand-tamp, light water misting of each layer and/or light rolling. Do not over compact Planting Soil Mixes.
2. Roll the whole surface of lawn bed with a hand roller weighing approximately one hundred pounds (100 lb.) per foot (12") of roller width. During the rolling, fill all depressions caused by settlement with additional planting soil and then re-grade. Lightly roll and rake until the surface presents a smooth, even, and uniform finish that is at required grade.
3. Allow plant mix in lawn areas to remain undisturbed until fully settled in accordance with settlement methodology. After any additional settlement has occurred, restore areas to finished grade prior to sodding or hydroseeding.

- D. Grading Tolerances: Planting areas shall be fine graded within $\pm 1/10$ (0.10) feet of grades indicated on drawings. Maintain all flat areas and slopes to allow free flow of surface drainage without ponding.

3.6 DISPOSAL AND CLEAN UP

- A. Promptly remove soil and debris created by soil work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Legally dispose of off-site all refuse and debris for these operations. Do not dump or burn materials on site.
- C. Maintain the site in an orderly condition during the progress of the Work. Continuously and promptly remove excess waste materials; keep lawn areas, walks, and roads clear. Store materials and equipment where directed. Promptly remove equipment, surplus materials, and debris and trash resulting from operations under this Contract upon completion and prior to initial acceptance or Work.

END OF SECTION 329201

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SECTION 334100 – STORM DRAINAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes gravity-flow, nonpressure storm drainage outside the building, with the following components:
 - 1. Precast concrete yard drains.
 - 2. Iron frames and grates.
 - 3. Piping
- B. Cleaning of all existing and proposed storm pipes and structures within the project limits and any downstream structures as directed upon the completion of the construction activities.
- C. Connection to and/or modifications to the existing pipes or structures as shown on the drawings or as required.

1.3 REFERENCES

- A. Form 816: State of CT Dept. of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.

1.4 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic.

1.5 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Nonpressure, Drainage-Piping. Pipe joints shall be at least silttight, unless otherwise indicated.

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1.6 SUBMITTALS

- A. Product Data: For the following:
 - 1. Yard drain frame and grate
 - 2. Piping

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect pipe, pipe fittings, and seals from dirt and damage.
- B. Handle yard drains according to manufacturer's written rigging instructions.

1.8 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Construction Manager no fewer than two days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 PVC PIPE AND FITTINGS

- A. PVC Piping:
 - 1. Pipe: ASTM D 1785, Schedule 40 PVC, with plain ends for solvent-cemented joints.
 - 2. Fittings: ASTM D 2466, Schedule 40 PVC, socket type.

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2.3 PERFORATED-WALL PIPES AND FITTINGS

- A. Perforated PVC Sewer Pipe and Fittings: ASTM D 2729, bell-and-spigot ends, for loose joints.

2.4 NONPRESSURE-TYPE PIPE COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
 - 1. For Concrete Pipes: ASTM C 443 (ASTM C 443M), rubber.
 - 2. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - 3. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

2.5 CONCRETE

- A. General: Cast-in-place concrete according to ACI 318/318R, ACI 350R, and the following:
 - 1. Cement: ASTM C 150, Type II.
 - 2. Fine Aggregate: ASTM C 33, sand.
 - 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 - 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water-cementitious materials ratio.
 - 1. Reinforcement Fabric: ASTM A 185, steel, welded wire fabric, plain.
 - 2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed steel.
- C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water-cementitious materials ratio.
 - 1. Reinforcement Fabric: ASTM A 185, steel, welded wire fabric, plain.
 - 2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed steel.

2.6 YARD DRAINS

- A. Precast concrete structure.

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1. 2-feet by 2-feet inner dimension rectangular H-20 rated precast concrete structure.
- B. Frame and Grates:
1. Heavy-duty frames and grates manufactured by East Jordan Iron Works or approved equal.
 2. ADA compliant grates in areas where handicap accessibility is required.

PART 3 - EXECUTION

3.1 EARTH MOVING

- A. Excavation, trenching, and backfilling are specified in Division 31 Section "Earth Moving."

3.2 PIPING INSTALLATION

- A. Install gravity-flow, nonpressure drainage piping according to the following:
1. Install piping pitched down in direction of flow, at minimum slope of 1 percent, unless otherwise indicated.
 2. Install PVC water service piping according to ASTM D 2321 and ASTM F 1668.

3.3 PIPE JOINT CONSTRUCTION

- A. Basic pipe joint construction is specified in Division 2 Section "Piped Utilities - Basic Materials and Methods." Where specific joint construction is not indicated, follow piping manufacturer's written instructions.
- B. Join gravity-flow, nonpressure drainage piping according to the following:
1. Join PVC water service piping according to ASTM D 2855 for solvent-cemented joints for elastomeric gasket joints.
- C. Join dissimilar pipe materials with pressure-type couplings.

3.4 YARD DRAIN INSTALLATION

- A. Construct yard basins to sizes and shapes indicated.
- B. Set frames and grates to elevations indicated.

**TOWN OF WETHERSFIELD
MILL WOODS PARK BEACH MAINTENANCE**

3.5 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318/318R.

3.6 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches (610 mm) of backfill is in place, and again at completion of Project.
1. Submit separate reports for each system inspection to owner, developer and contractor.
 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to authorities having jurisdiction.
 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 4. Submit separate report for each test.
 5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

**TOWN OF WETHERSFIELD
MILL WOODS PARK BEACH MAINTENANCE**

3.7 CLEANING

- A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.

END OF SECTION 334100

MATERIALS TEST REPORT FOR
Mill Woods Park Beach

REPORT TO: Phil Barlow
TO Design
114 West Main Street
New Britain, CT 06051

DATE RECEIVED: January 2, 2013
TEST DATE: January 2 - 7, 2013
REPORT DATE: January 8, 2013
Condition of sample: Normal

PARTICLE SIZE ANALYSIS (ASTM F-1632)

| Lab ID No. | Sample | Gravel No. 10 2 mm | Soil Separate % | | | Sieve Size/Sand Fraction Sand Particle Diameter % Retained | | | | |
|------------|---------|--------------------------|--------------------|------|------|--|----------------------------|-----------------------------|----------------------------|-------------------------------|
| | | | Sand | Silt | Clay | No. 18 V. coarse 1 mm | No. 35 Coarse 0.5 mm | No. 60 Medium 0.25 mm | No. 140 Fine 0.10 mm | No. 270 V. fine 0.05 mm |
| 32032-1 | Topsoil | 3.3 | 36.3 | 51.3 | 12.4 | 2.2 | 4.7 | 7.0 | 10.3 | 12.2 |

Dispersion Method: Reciprocating shaker

ORGANIC MATTER/TEXTURAL CLASS

| Lab ID No. | Sample | Organic Matter ¹ (%) | Textural Class |
|------------|---------|------------------------------------|----------------|
| 32032-1 | Topsoil | 4.33 | Silt loam |

¹ ASTM F1647, method 1

Comments: The soil sample (Lab ID No. 32032-1) was tested as received. We have no specifications but my understanding is that this will be for a lawn area adjacent to a beach.

The results show that the soil would be classified as a silt loam, per the U.S. Department of Agriculture soil classification system. There was little gravel in the soil.

Silt loams are fine textured soils that can be good grass growing soils due to their high water and nutrient storage capacities. Silt loams are prone to compaction and can be poorly drained when they are. Therefore, they are not well suited for use on high traffic areas. Since vertical drainage is likely to be limited, it will be very important that any area built with this soil is pitched to shed excess surface water from rainfall or snow melt. If that is not the case, water is likely to pond in even minor irregularities in grade.

Organic matter is another component of topsoil quality. For fine turf areas we recommend an organic matter content of between 4 and 8%. You can see that the Topsoil had an organic matter content within this range.

If the soil is used as is, care should be taken during any renovation or construction work to prevent excessive compaction. Never handle the soil when wet. Only equipment with low ground pressure should be used to spread and grade the soil. You may want to specify a maximum compaction level.

If the town is willing, you could amend the topsoil with sand and organic matter to improve it as a growing medium for high traffic lawns. A good soil texture to target would be a sandy loam soil with 70 to 75% sand. Using a sand target of 70 to 75% sand, you would need to amend the topsoil with sand in a ratio of 3:2 sand to soil. The sand used should be a washed natural (not manufactured) or classified sand meeting the following particle size distribution as determined by ASTM F1632 or C117 and C136.

| Sieve | Sieve Size | % Passing |
|---------|------------|-----------|
| No. 4 | 4.75 mm | 100% |
| No. 8 | 2.38 mm | 90 - 100% |
| No. 16 | 1.19 mm | 80 - 100% |
| No. 30 | 0.60 mm | 25 - 60 |
| No. 50 | 0.30 mm | 0 - 25% |
| No. 100 | 0.15 mm | 0 - 5 |
| No. 200 | 0.075 mm | 0 - 3 |

In addition, the sand shall have a coefficient of uniformity (D60/D10) of less than 4.0.

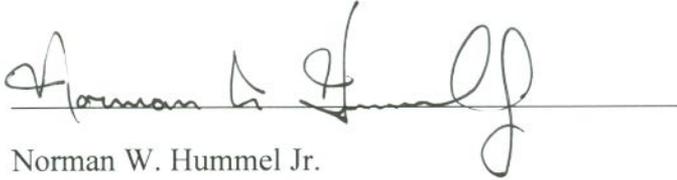
Since the organic matter will be diluted by the sand, a high quality compost will be needed to increase the organic matter content into the desired range. The amount of compost will depend on the quality of the compost. This is important since often adding just sand to soils doesn't produce the desired effect. This soil modification could be done in place.

TO Design/Mill Woods Park
January 8, 2013
Page 3 of 3

Even a sandy loam soil will not be free draining, so it will be important that the area still have good surface drainage designed into it. Again, care should be taken during construction to prevent excessive compaction.

A sample was forwarded for chemical analysis. We will provide these results when completed.

I hope that this information is helpful to you. Please let me know if you have any questions on these results. Thank you.

A handwritten signature in cursive script, reading "Norman W. Hummel Jr.", is written over a horizontal line. The signature is fluid and somewhat stylized, with the first name being the most prominent.

Norman W. Hummel Jr.
President

REPORT TO: T223
 HUMMEL & CO., INC.
 35 KING STREET/POB 606
 TRUMANSBURG, NY 14886

TURF AND ORNAMENTAL SOIL TEST AND RECOMMENDATION REPORT

SUBMITTED BY/FOR: TO DESIGN
 RE: MILL WOODS PARK BEACH
 LAB ID# 32032,

VI 17 13
CLC LABS®
 325 VENTURE DRIVE
 WESTERVILLE, OHIO 43081
 614 888-1663

| REPORT REF. NUMBER | RESULTS OF ANALYSIS | | | | | | | CALCULATED VALUES | | | | | RESULTS OF ANALYSIS | | | | | | | |
|--------------------|---------------------|---------|-----------|------------------------------------|----|-----|-----|--------------------------|-------------------|----|-------|---|---------------------|------------------------------------|------|-----|----|--|--|--|
| | LAB NO. | Soil pH | Buffer pH | Pounds per Acre Available Nutrient | | | | Cation Exchange Capacity | % Base Saturation | | | | | Pounds per Acre Available Nutrient | | | | | | |
| | | | | P | K | Ca | Mg | | K | Ca | Mg | H | Na | Fe | Mn | Zn | Cu | | | |
| 1 | 114600 | 5.4 | 6.36 | 78 | 76 | 759 | 142 | 10.3 | 0.9 | 18 | 674.6 | | 96 | 39 | 13.2 | 2.3 | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 11 | AVERAGE RESULTS → | | | 78 | 76 | 759 | 142 | 10.3 | 0.9 | 18 | 674.6 | | 96 | 39 | 13.2 | 2.3 | | | | |

DISPLAY OF AVERAGE RESULTS

| | | | | | | | | | | | | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SURPLUS | | | | | | | | | | * | | | | | | | | | | |
| HIGH | * | | | | | | | | | * | | | | * | * | | | | | |
| MEDIUM | * | | | | | | * | | | * | | * | * | * | * | * | | | | |
| LOW | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |

| REPORT REF. NUMBER | SAMPLE INFORMATION | | | | FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT. | | | | | | | | | | |
|--------------------|---------------------------------------|-----------------|-----------|-------------------|--|-----------|----------|------------|-------------------------------|------------------|----|----|----|----|----------|
| | SAMPLE IDENTIFICATION | PLANT TYPE | AREA TYPE | FERT/MAINT. LEVEL | LIME LBS/M | LIME TYPE | NITROGEN | APP. FREQ. | P ₂ O ₅ | K ₂ O | Mg | Fe | Mn | Zn | COMMENTS |
| 1 | BEACH LAWN | COOL SEASON MIX | LAWN | MED. | 100 | Mg | 3.0 -4.5 | S | 0.0 | 2.5 | | | | | See All |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | RECOMMENDATIONS FOR AVERAGE RESULTS → | | | | | | 3.0 -4.5 | S | 0.0 | 2.5 | | | | | See All |