

TOWN OF RIDGEFIELD
Director of Facilities

RIDGEFIELD, CONNECTICUT

East Ridge Middle School
Front Stairs and Entry Renovations

10 East Ridge Road

DETAILED SPECIFICATIONS:

BIDDING REQUIREMENTS
CONDITIONS OF AGREEMENT
CONSTRUCTION SPECIFICATIONS
PLANS



RUDY MARCONI
FIRST SELECTMAN

Bid Number 2020-15

LEGAL NOTICE

INVITATION to BID

The **Town of Ridgefield** invites all interested parties to submit sealed bids on the following:

BID DUE DATE: March 19, 2020

BID DUE TIME: 11:00 AM

BID ITEM: East Ridge Middle School Front Stairs and Entry Renovations

BID NUMBER: 20-15

Terms and conditions as well as the description of items being bid are stated in the specifications. **Specifications may be obtained at the following address:**

**Town of Ridgefield
Jacob Muller
400 Main Street
Ridgefield, CT 06877
203 - 431 - 2720**

The return bid envelope must be marked and addressed to the following:

**TOWN OF RIDGEFIELD
DIRECTOR OF PURCHASING
BID NUMBER: 20-15
400 MAIN STREET
RIDGEFIELD, CT. 06877**

Bids must be received no later than the date and time stated above at the Purchasing Director's office on the second floor. **For further information,** please call **Jacob Muller** at (203) 431-2720 or E-Mail at **purchasing@ridgefieldct.org**

Bid Documents available at www.ridgefieldct.org in the Purchasing section under Departments

Results may be viewed at www.ridgefieldct.org in the Purchasing Section under Departments after the bid opening.

TOWN OF RIDGEFIELD CONNECTICUT

BOARD OF SELECTMEN

INSTRUCTIONS TO BIDDERS

1. Submit proposals in a sealed envelope plainly marked with bid number to identify this particular proposal.
2. Withdrawals of or amendments to bids received later than the time and date specified for bid opening will not be considered.
3. The Board of Selectmen of the Town of Ridgefield reserves the right to accept or reject any or all options, bids or proposals; to waive any technicality in any bid or part thereof, and to accept any bid deemed to be in the best interest of the Town of Ridgefield, Connecticut.
4. Bidders may be present at the opening of bids.
5. Bids may be held by the Town of Ridgefield for a period not to exceed sixty (60) days from the opening of bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to the awarding of the contract.
6. Insurance requirements, if any, must be submitted with the bid. This includes any Hold Harmless requirements as well as Certificates of Insurance for the full amounts specified. **Unauthorized changes** to these forms, i.e. adding, striking out and/or changing any words, language or limits **will cause the bidder to be disqualified**.

Please Note: Certificates of Insurance, if required, **MUST** name the Town of Ridgefield as **Additional Insured**. Failure to do so will mean disqualification from the Bid. There will no exceptions.

7. **Permits:** It is the Contractor's responsibility to obtain any necessary permits prior to the start of construction. All work shall be completed in compliance with the latest edition of the prevailing fire prevention and building codes in effect in the State of Connecticut, the latest edition of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Town of

Ridgefield Road Construction Standards, or as set forth in these specifications.

8. **Emergency Work:** The Contractor shall file with the Engineer a telephone number of a person authorized by him who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public safety. The person shall be readily available and have full authority to deal with any emergency that may occur.
9. **Sales Tax:** In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.
12. **Contractor's Qualification Statement:** The Contractor's Qualification Statement must be filled out as part of the bid package and the experience and references listed therein will be one to the determining factors in the awarding of the bid.
13. **Hold Harmless Agreement:** In order for the bid to be considered valid, the Contractor **must** sign the enclosed hold harmless agreement. Bids submitted without the signed hold harmless agreement will be rejected.
14. **Prevailing Wage Rates:** This project **is not** subject to the State of Connecticut's prevailing wage rates.
15. **SBE/MBE and Contract Compliance Requirements:** This project **is not** subject to the State of Connecticut SBE/MBE set aside and contract compliance requirements.
16. **Time of Completion:** All work must be completed within **90 days** from receipt of the notice to proceed
17. **Bonds:** A Payment and Performance bond in the full amount of the Proposal will be required of the successful bidder. The bond must be in the form of a surety bond of a type satisfactory to the Town of Ridgefield. All sureties must be listed on the most recent IRS Circular 570. The bond shall be delivered to the Office of the Town Engineer before commencing the work.
18. **Bid Bond:** A Bid Bond in the amount 5% of the base bid in a format similar to that required for both the payment and performance bonds is required.

19. **Project Location:** The project is located at East Ridge Middle School, 10 East Ridge Road, Ridgefield, Connecticut. **If the bidder would like to preview the project site prior to submitting their, the bidder MUST contact Brian Hubbard at (203) 994-0347 to schedule an appointment.**
20. Questions regarding bid procedures and technical should be directed via email to Jacob Muller, Director of Purchasing, purchasing@ridgefieldct.org
21. **Bid Submissions:** The following items shall be submitted for a bid to be considered complete:
 - (a) Executed proposal sheets, pages P-1 to P-7
 - (b) Executed Hold Harmless Agreement
 - (c) Executed Fracking Waste Ordinance Notice
 - (d) Certificates of Insurance in conformance to Item 6 above
 - (e) Contractor's List of Subcontractor's (if none, state none)
 - (f) Contractor's Qualification Statement
 - (g) Bid Bond in the amount of 5% of the base bid

Supplemental Information for Bidders and General Contract Provisions

1. PREPARATION OF PROPOSALS

Proposals must be made upon forms contained herein or as directed elsewhere. The blank spaces in the Proposal must be filled in correctly where indicated. The Bidder must state the prices for which he proposes to do each item of the work contemplated. In case of discrepancy where both words and the numerals are requested, the words shall govern. Ditto marks are not considered writing or printing and shall not be used. The Bidder shall sign his Proposal correctly. If the Proposal is made by an individual, his name, post office addresses and telephone number must be shown. If made by a firm, partnership, or corporation, the Proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show the post office address and telephone number of the firm, partnership, or corporation. Failure to do so may disqualify the bid.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, post office address, bid number, and name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to: The Purchasing Director, Town Hall, 400 Main Street, Ridgefield, CT 06877.

All information shall be entered in ink or by typewriter. Mistakes may be crossed out and corrections inserted before submission of your bid. The person signing the bid shall initial corrections in ink.

Corrections and/or modifications received after the closing time specified will not be accepted.

2. SUBMISSION OF PROPOSALS

Descriptive literature containing complete specifications must accompany each bid. If a bidder wishes to furnish additional information, more sheets may be added.

3. INCURRING COSTS

The Town of Ridgefield is not liable for any cost incurred for the preparation of proposals or submission of samples by the firms submitting proposals for the work requested in this bid document or request for proposals.

4. FAMILIARITY WITH THE WORK

Each bidder is considered to have examined the work to fully acquaint him with the exact existing conditions relating to the work and has fully informed himself as to the work involved and the difficulties and restrictions attending the performance of this bid. The

submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

5. CONSIDERATION OF PRIOR SERVICE

Previous performance, quality of service and merchandise will be considered.

6. ADDENDA AND INTERPRETATIONS & ALTERNATE PROPOSALS

At the time of the opening of bids each bidder will be presumed to have inspected the work and to have read and to be thoroughly familiar with all of the Contract Documents (including all addenda). The failure or omission of any bidder to receive or examine any form, instruction or document shall in no way relieve any bidder from any obligation in respect to his bid.

If any person contemplating submitting a proposal is in doubt as to the true meaning of any part of these specifications, he may submit a written request for an interpretation to the Purchasing Director. No interpretations as to the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Town of Ridgefield, Purchasing Director, 400 Main Street, Ridgefield, Connecticut 06877, and to be given consideration, must be received at least five (5) days prior to the date fixed for the opening of Bids. Any and all such interpretations and any supplementary instructions will be in the form of written Addenda to the Specifications which, if issued, will be mailed by Registered Mail with Return Receipt Requested to all prospective bidders at the respective addresses furnished for such purposes, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such Addendum or interpretations shall not relieve any bidder from any obligations under his bid as submitted. All Addenda so issued shall become part of the Contract Documents. Oral explanations will not be binding on the Town.

The specifications listed are to be interpreted as meaning the minimum acceptable by the Town of Ridgefield. Bidders are requested to submit quotations on the basis of these specifications. Alternative bids providing a broader scope and/or services than requested in these specifications may receive consideration providing such equipment and/or service is clearly explained. Any exceptions to the specifications requested herein must be clearly noted in writing and are to be included as a part of your bid proposal. If none are included it will be assumed that there are none.

Definition of the word "complete" means that each unit of the equipment proposed shall include all appurtenances, fasteners, parts, accessories, and services ordinarily catalogued.

An item equal to that named or described in the specifications may be furnished by the Bidder, except where expressly noted as "no substitutions." The naming of any

commercial name, trademark, or other identification shall not be construed to exclude any item of any manufacturer not mentioned by name, nor limit competition, but shall establish a standard of equality only. An item shall be considered equal to the item so named or described if:

- a. It is at least equal in quality, durability, appearance, strength and design.
- b. It will perform at least equally the function imposed by the design for the work being contracted for or the material being purchased.
- c. It conforms substantially, even with deviations, to the detailed requirements for the item in the specifications.

The Bidder shall hold the Town of Ridgefield, its officers, agents, servants, and employees, harmless from liability of any nature or kind because of use of any copyrighted or uncopyrighted compositions, secret process, patented or unpatented inventions, articles or appliances furnished or used under this bid, and agrees to defend, at his own expense, any and all actions brought against the Town of Ridgefield or himself because of the unauthorized use of such articles.

7. QUOTATION LIMITATION

Bidders shall offer only **ONE ITEM AND PRICE** for each line item bid. If an or-equal item is to be bid, the bidder is to select the brand and model that meets or exceeds the specified item, and submit his bid for that item.

8. ESTIMATE OF WORK

For bidding purposes, the work has been subdivided into unit price items. The quantities shown are to be considered as approximate only. The Purchasing Agent does not expressly or by implication agree that the actual quantity will correspond therewith, but reserves the right to increase or decrease the amount of any item or portion of the work as deemed necessary.

9. SAMPLES

Samples of articles, when required shall be furnished free of cost of any sort to the Town of Ridgefield. Samples received may be retained by the Town for future comparison. Samples which are not destroyed by testing, or which are not retained for future comparison will be returned upon request at the bidder's expense.

10. WITHDRAWAL OF BID

Bidders may withdraw their proposals at any time prior to the bid date. No agent/broker shall withdraw or cancel their proposal for a period of sixty (60) days after the bid closing date. The successful agent/broker shall not withdraw, cancel or modify their proposal.

11. POWER OF ATTORNEY

Attorneys-in-fact who sign contract bonds must file, with each bond, a certified and effectively dated copy of their power of attorney.

12. SUBCONTRACTORS

Each bidder contemplating the use of any subcontractor shall submit a list of subcontractors as listed on the Bid Form. The apparent low bidder shall file with the Town of Ridgefield, within five (5) days after the date of bid opening, a complete list of the names and addresses of competent, responsible and qualified subcontractors who are actually to perform major portions of the work. This in no way restricts or limits the requirement that all subcontractors must be approved by the Town. Subcontractors listed on the Bid Form or those previously approved may not be changed without the approval of the Town of Ridgefield. Local subcontractors, material suppliers, and labor in the Town of Ridgefield should be considered and sought insofar, as is practical in the performance of this project.

13. QUALIFICATION OF BIDDER

In determining the qualifications of a bidder, the Town may consider his record in the performance of any contracts for similar work into which he may have previously entered; and the Town expressly reserves the right to reject the bid of such bidder if such record discloses that such bidder, in the opinion of the Town, has not properly performed such contracts or has habitually, and without just cause, neglected the payment of bills or has otherwise disregarded his obligations to subcontractors, suppliers, state or local codes, men or employees of subcontractors. The Town may make such investigation as he deems necessary to determine the ability of the bidder to perform the work and the bidder shall furnish to the Town all such information and data for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by or the investigation of such bidder fails to satisfy the Town that such bidder is properly qualified, or that such bidder misrepresented material facts in the bid documents.

14. DISQUALIFICATION OF BIDDERS

More than one proposal from an individual, firm, partnership, corporation, or an association under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any or all proposals in which such Bidder is interested will be rejected if there is reason for believing that collusion exists among the Bidders and all participants in such collusion will not be considered in future proposals for the same work. Proposals in which the prices are obviously unbalanced may be rejected. No Contract will be awarded except to competent Bidders capable of performing the class of work contemplated.

15. DELIVERY

Inasmuch as this work concerns a needed public improvement, the provisions of this bid relating to the time of delivery, performance and completion of the work are of the essence of this bid. Accordingly, the successful bidder shall commence work **upon receipt of the signed Purchase Order** unless the Town shall authorize or direct a further delay. Time of delivery shall be stated as the number of calendar days following receipt of the Purchase Order by the Bidder to receipt of the goods or services by the Town of Ridgefield. Prices quoted must include delivery to the Town of Ridgefield as specified on the Purchase Order. No charges will be allowed for parking, crating, freight, express or cartage unless specifically stated and included in this bid.

Time of delivery may be considered in the award.

16. PAYMENT

The Town, after inspection and acceptance of workmanship, and in consideration of the faithful performance by the Bidder of all and singular his covenants, promises, and agreements contained herein, agrees to pay the Bidder for the full completion by him of the work embraced in this Contract, within (30) Thirty Days of the receipt of the final invoice. When subcontractors or suppliers are utilized, the successful Bidder for this project shall be required to submit a Mechanics Lien Waiver, acceptable to the Town, with each progress payment and/or at time of final payment prior to any payment being made.

Time, in connection with any discount offered, will be computed from the date of delivery to the Town or from the date a correct invoice is received by the Town's Finance Department, if the latter date is later than the date of delivery. Prices will be considered as **NET**, if no cash or payment discount is shown.

The successful bidder shall submit invoices to the following address:

Town of Ridgefield
Office of the Town Engineer
66 Prospect Street
Ridgefield, CT 06877

IT IS UNDERSTOOD AND AGREED THAT SHOULD A BID BE ACCEPTED, IT WILL AUTOMATICALLY BECOME THE CONTRACT OR AN ADDENDUM TO ANY CONTRACT AGREED UPON.

Notification of the bid award will be made by issuance of a purchase order. Bidders are to list their bids on the appropriate attached sheets. Bidders may attach a letter of explanation. A clear notification should be made on the standard bid sheets at the appropriate point of explanation that there is a letter of explanation attached. All bids

must be NET prices.

The successful bidder shall submit an itemized invoice to the Town of Ridgefield for the work as described herein.

The bidder shall be required to submit a Mechanics Lien Waiver, acceptable to the Town of Ridgefield, with each progress payment and at time of final payment prior to any payment being made.

At the time of award, the successful bidder shall be required to supply the Town of Ridgefield a Certificate of Good Standing, certifying that the corporation is in fact a valid corporation and presently licensed to conduct business in the State of Connecticut.

17. SALES TAX

Certain materials and supplies incorporated in the work of this project are exempt from Connecticut Sales Tax. The Bidder shall familiarize himself with current regulations of the State Tax Department. The tax on materials or supplies exempted by such regulations shall not be included as part of the bid. The Town will furnish the successful Bidder sales tax exemption authorization.

18. CARE AND PROTECTION OF PROPERTY

The Bidder shall take particular care to avoid damages to all private and public property and to private or public improvements within the Town's right of way. He shall make good any damages to the satisfaction of the Town. There shall be no additional compensation for the repair or restoration of private or public property improvements.

19. COMPLIANCE WITH FEDERAL, STATE AND LOCAL CODES

The Bidder shall be responsible for full compliance with any Federal, State and/or Local codes, laws, regulations and standards, as applicable.

20. AWARD

The Town of Ridgefield reserves the right to accept or reject any bid to best serve its interests, or to hold the bids for sixty (60) days before decision.

The Town reserves the right to reject any and all bids (or any part thereof), to waive defects in proposals, or to accept any proposal deemed to be in its best interest.

Exceptions will be considered to the specification provided, providing they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS"

Each exception will be considered as to its degree of impact and total effect on the bid. The purchaser shall determine which (if any taken) exceptions are acceptable, and this determination shall be final.

The Town of Ridgefield reserves the right:

- a. To award bids received on the basis of individual items, or groups of items, or on the entire list of items.
- b. To reject any or all bids, or any part thereof.
- c. To waive any informality in the bids.
- d. To accept the bid that is in the best interest of the Town of Ridgefield. The Purchasing Agent's decision shall be final.

21. INSURANCE

Insurance requirements are detailed under the attached "Insurance Requirements."

22. GUARANTEE

The bidder shall unconditionally guarantee for a period of one (1) year, except as specifically noted within these documents, from the date of acceptance, all materials, supplies, equipment, and services; including but not limited to its workmanship, delivery and installation. If within the guarantee period there are any defects or signs of deterioration the bidder shall repair, adjust or replace the item(s) to the complete satisfaction of the Town. These repairs, adjustments, or replacements are at the sole expense of the bidder and shall be made at such times that are agreeable to the Purchasing Agent so that it is least detrimental to instructional programs.

23. PERMITS

When required all licenses and permits for complying with any applicable Federal, State, and Municipal laws, codes, regulations in connection with the prosecution of the work shall be obtained by the Bidder, at no additional cost to the Town.

24. NONDISCRIMINATION IN EMPLOYMENT

The successful bidder shall agree and warrant that, in the performance of this contract, he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, sex, religion, or national origin in any manner prohibited by State, Federal, County, or Municipal law. A certification of Non-Segregated Facilities and a Certification Regarding Equal Employment Opportunity shall be considered a part of this contract.

25. MECHANICS LIEN WAIVERS

The successful Bidder shall be required to submit a Mechanics Lien Waiver, acceptable to the Town of Ridgefield, with each progress payment, and/or at time of final payment, prior to any payment made.

APPENDIX - INSURANCE REQUIREMENTS

Each bidder shall carry and maintain the following insurance coverage during the period of the contract: The Certificate of Insurance for the Limits of Liability stated below should be submitted with your bid to the Purchasing Department at Town Hall. **Bidders may not perform any work until all insurance requirements are met.**

1. **Comprehensive General Liability Insurance** as will protect him, the Town, and any subcontractor performing work covered by this Contract, from claims for damages for personal injury, including accidental or wrongful death, as well as claims for property damages, which may arise from operations under this Contract whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. Liability insurance shall include premises and operations, products, contractual, owners, and contractors protective. The minimum amounts of such insurance shall be as follows:
 - Bodily Injury Liability and Property Damage Liability:
\$1,000,000 each occurrence.
 - **The Town shall be named as an Additional Insured**
This **MUST** be stated explicitly on the Certificate or you will be **disqualified**
2. **Worker's Compensation Insurance and Employer's Liability** for all of his employees, employed at the site and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all employees of the later unless such employees are covered by the protection afforded by the Contractor.
 - Worker's Compensation and Employer Liability:
Statutory Limits
3. **Comprehensive Auto Liability Insurance:**
 - **Bodily Injury Insurance and Property Damage Insurance** covering the operation of all Motor Vehicles owned, hired and/or non-owned by the Contractor, or used by the Contractor in the Prosecution of the work under the Contract, shall be in the minimum of **\$1,000,000 each occurrence.**

All policies relating to this Contract shall be so written so that the Town shall be notified of cancellation or change at least thirty (30) days prior to the effective date for each policy and type of coverage except for nonpayment which shall be ten (10) days prior to the cancellation. Renewal certificate covering the renewal of all policies expiring during the life of the Contract shall be filed with the Town not less than ten (10) days before the expiration of such policies. Failure to do so will result in work stoppage and possible contract cancellation.

Purchasing Department, Town of Ridgefield, 400 Main Street, Ridgefield, CT.

06877

203-431-2720 & purchasing@ridgefieldct.org

HOLD HARMLESS AGREEMENT

The undersigned covenants and agrees to and shall at all times indemnify, protect and save harmless the Town of Ridgefield from and against all costs or expenses resulting from any and all losses, damages, detriments, claims, demands, cost and charges including attorneys fees the Town of Ridgefield may directly or indirectly suffer, sustain or be subjected to by reason or on account of the work to be performed pursuant to this Contract or any activities in connection with said Contract whether such losses and damages be suffered or sustained by the Town of Ridgefield directly or by its employees, licenses or invitees or be suffered or sustained by other persons or corporations who may seek to hold the Town of Ridgefield liable therefore.

The Contractor shall comply with the Provisions of the Immigration Reform and Control Act of 1986 effective and enforceable as of June 6, 1987 which Act makes unlawful the hiring for employment or subcontracting individuals failing to provide documentation of legal eligibility to work in the United States. The Contractor shall hold the Town of Ridgefield harmless for the failure of the Contractor to comply with the provisions of said Act.

IN WITNESS WHEREOF, the parties hereto have set their hand and seal this on the _____ day of _____

Signed, Seated and Delivered in the
Presence of:

Signed:

Notary Public

FRACKING WASTE ORDANINCE NOTICE

On January 9, 2019, The Town of Ridgefield approved and adopted an Ordinance prohibiting the storage, disposal or use of fracking waste on Town of Ridgefield land and/or projects. The complete Ordinance can be viewed at the Town Clerk's Office located at 400 Main Street, Ridgefield, CT or on the town website at the following link;

<https://ecode360.com/RI2176/laws/LF1067113.pdf#search=fracking>

Bidders shall follow this Ordinance in preparation and submission of their bid.

- 1.) No materials containing natural gas or oil waste shall be utilized in providing and retaining services to construct or maintain publicly owned and/or maintained road or real property with the Town of Ridgefield.
- 2.) No materials containing natural gas or oil waste shall be utilized in the purchase or acquisition of materials to construct or maintain publicly owned and/or maintained road or real property with the Town of Ridgefield.
- 3.) We _____ hereby submit a bid for materials, equipment and/or labor for the Town of Ridgefield. The bid is for bid documents titled _____. We hereby certify under penalty of perjury that no natural gas waste or oil waste will be used by the undersigned bidder or any contractor, sub-contractor, agent or vendor agent in connection with the bid; nor will the undersigned bidder or any sub-contractor, agent or vendor agent thereof apply any natural gas waste or oil waste to any road or real property within the Town of Ridgefield as a result of the submittal of this bid if selected.

4.) The successful bidder shall submit certificates of origin for project materials, fill and other.

Signed and sealed in
the presence of:

Contractor

By _____

Date _____

IN WITNESS WHEREOF, the parties hereto have set their hand and seal this
day on the _____ day of _____

Signed, Seated and Delivered in the
Presence of:

Signed:

Notary Public

CONTRACTOR'S QUALIFICATION STATEMENT

List below references for similar projects, including all information requested. This page must be completed and submitted with the bid.

1. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

2. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

3. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

4. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

Company: _____ Bid Title: _____

Street: _____ Bid No.: _____

City, State: _____ Telephone No.: _____

CONTRACTOR'S LIST OF SUBCONTRACTORS

List below the subcontractors intended to be utilized for this project. This page must be completed and submitted with the bid.

1. Firm: _____

Firm's Address: _____

Contact: Name _____ Telephone _____

Type of Work to be Performed: _____

2. Firm: _____

Firm's Address: _____

Contact: Name _____ Telephone _____

Type of Work to be Performed: _____

3. Firm: _____

Firm's Address: _____

Contact: Name _____ Telephone _____

Type of Work to be Performed: _____

4. Firm: _____

Firm's Address: _____

Contact: Name _____ Telephone _____

Type of Work to be Performed: _____

Company: _____

Bid Title: _____

Street: _____

Bid No.: _____

City, State: _____

Telephone No.: _____

PROPOSAL

Proposal of: _____
to furnish and deliver all materials and to do and perform all works in accordance with the Contract Documents for **East Ridge Middle School Front Stair and Entry Renvations**, the plans and specifications prepared by Jacob Muller, Facilities Director, the works being situated within the Town of Ridgefield, Connecticut.

The undersigned bidder has carefully examined the Contract Documents referred to in the "Information for Bidders", and also the site of the work, and will provide all necessary labor, machinery, tools, apparatus, and other means of construction, and do all the work and furnish all material called for by the Contract Documents in the manner prescribed therein and in said Contract, and in accordance with the requirements of the Engineer under them for the following sums:

Estimated Quantities

<u>Item</u>	<u>Estimated Quantity</u>	<u>Computed Total</u>
<u>Item 1: Base Bid - Stairs, Handicap Ramp and Railings</u> the lump sum price of:		
_____dollars		
and _____cents		
(\$_____) Lump Sum	1 LS	\$_____

Grand Total, Base Bid Inclusive

\$_____

Additional Bid Items

Add Alternate 1: Wall Pack Lighting

the lump sum price of:

_____dollars		
and _____cents		
(\$_____) Lump Sum	1 LS	\$_____

Add Alternate 2: Additional Conc Sidewalk Replacement

the unit price of:

_____dollars

and _____cents

(\$_____) per SF 1 LS \$_____

Add Alternate 3: Bluestone Treads and Landing

the unit price of:

_____dollars

and _____cents

(\$_____) per SF 1 LS \$_____

Add Alternate 4: Additional For Monolithic Concrete Curbing

the unit price of:

_____dollars

and _____cents

(\$_____) per LF 60 LF \$_____

Add Alternate 5: Concrete Sidewalk

the unit price of:

_____dollars

and _____cents

(\$_____) per SF 2,500 SF \$_____

Add Alternate 6: Concrete Handicap Ramp

the unit price of:

_____dollars

and _____cents

(\$_____) per SF 350 SF \$_____

Add Alternate 7: Bit. Conc. Pavement

the unit price of:

_____dollars

and _____cents

(\$_____) per SY 50 SY \$_____

Add Alternate 8: Lawn Restoration

the unit price of:

_____dollars

and _____cents

(\$_____) SY 500 SY \$_____

Grand Total, Items Add Alternates Items 1-8 Inclusive

\$_____

The Lump Sum price shown above is for all labor, tools, materials, and equipment necessary to complete the improvements shown on the plans depicting the stairs, handicap ramp and hand rails or as specified herein.

For purposes of comparison, the computed Grand Total, the Base Bid will serve as the basis of comparison of all bids. The computed total is not an official part of this proposal.

The Town reserves the right to eliminate any item or portion of the work that it deems to be in the best interest of the Town.

All costs of excavation of unsuitable material as shown on the plans or specified in the field are to be carried under each specific item.

Any inconsistencies between the plans and specifications shall be reported to the Facilities Director. The Facilities Director shall make the final decision on any inconsistencies and their intent.

The Undersigned Also Agrees as Follows:

First: To do any extra work not covered by the above schedule of prices, which may be ordered by the Engineer and to accept as full compensation therefor such prices as may be agreed upon in writing by the Engineer and the Contractor in accordance with Article 5, "General Conditions".

Second: Within **seven (7)** days from the date of the "Notice to Proceed", to execute the Contract and to furnish to the Owner a satisfactory performance and payment bond in the sum of the full amount of the contract.

Dated: _____

Signature of Bidder: _____

By: _____

Title: _____

Business Address: _____

GENERAL CONDITIONS

1. CONTRACTOR'S UNDERSTANDING:

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character quality and quantity of materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this Contract. No verbal agreement or conversation with any officer, agent or employee of the Owner, either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

2. DEFINITIONS:

OWNER:

The word "Owner" when it appears in the Contract Documents shall mean The Town of Ridgefield, Connecticut.

ENGINEER:

The word "Engineer" when it appears in the contract Documents shall mean: Jacob Muller, Director of Facilities, or his specifically designated Agent.

CONTRACTOR:

The word "Contractor" when it appears in the Contract Documents shall mean the party to whom the Contract has been awarded.

3. MATERIALS, APPLIANCES AND EMPLOYEES:

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times endorse strict discipline and good order among his employees, and shall not employ on the work any unfit person or any one not skilled in the work assigned to him.

4. PROTECTION OF WORK AND PROPERTY:

The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act at his discretion, to prevent such threatened loss or injury, and he shall so act, without appeal, if so instructed or authorized. Any compensation claimed by the Contractor on account of emergency work, shall be determined by agreement or arbitration.

5. CHANGES IN THE WORK:

The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Engineer shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency, endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Engineer, and no claim for an addition to the Contract Sum shall be valid unless so ordered.

The value of any such extra work or change shall be determined in one or more of the following ways:

- (a) By estimate and acceptance in a lump sum.
- (b) By unit prices named in the Contract subsequently agreed upon.

- (c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the Contractor, provided he receives an order as above, shall proceed with the work. In such case, and also under case (c), he shall keep and present in such form as the Engineer may direct, a correct account of the net cost of labor and materials, together with vouchers. In any case, the Engineer shall certify to the amount, including reasonable allowance for overhead and profit, due to the Contractor. Pending final determination of value, payments on account of changes shall be made on the Engineer's estimate.

6. CLAIMS FOR EXTRA COST:

If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this Contract, he shall give the Engineer written notice thereof within a reasonable time after the receipt of such instructions and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made.

7. SUSPENSION OF WORK:

The Owner may at any time suspend the work, or any part thereof by giving 24 hours notice to the Contractor in writing. The work shall be resumed by the Contractor within ten (10) days after the date fixed in the written notice from the owner to the Contractor to do so. The Owner shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this contract as a result of such suspension.

8. THE OWNER'S RIGHT TO DO WORK:

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner, after three days written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

9. PAYMENTS WITHHELD:

The Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect him from loss on account of the following:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claims.

- (c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
- (d) A reasonable doubt that the Contract can be completed for the balance then unpaid.
- (e) Damage to another Contractor.

When the above grounds are removed, payment shall be made for amount withheld because of them.

10. CONTRACTOR'S LIABILITY INSURANCE:

The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance shall be filed with the engineer, if he so requires and shall be subject to his approval for adequacy of protection.

11. INDEMNITY:

The Contractor shall indemnify and save harmless the Owner from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against him, by reason of any act or omission of the said Contractor, his agents or employees, in the execution of the work or in the guarding of it.

The Contractor shall, and is hereby authorized to maintain and pay for such insurance, issued in the name of the Owner, as will protect the Owner from his contingent liability under this Contract, and the Owner's right to force against the Contractor any provision of this article shall be contingent upon the full compliance by the Owner with the terms of such insurance policy or policies, a copy of which shall be deposited with the Owner.

12. DAMAGES:

Any claim for damage arising under this Contract shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and shall be adjusted by agreement or arbitration.

13. ASSIGNMENT:

Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any

moneys due to or to become due to him hereunder, without the previous written consent of the Engineer.

14. ENGINEER'S STATUS:

The Engineer shall have general supervision and direction of the work. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. He shall also have authority to reject all work and materials which do not conform to the Contract, to direct the application of forces to any portion of the work, as in his judgment is required, and to order the force increased or diminished, and to decide questions which arise in the execution of the work.

15. METHOD OF PAYMENT:

At the end of each calendar month, the Contractor shall submit to the Engineer a requisition for payment which requisition shall be based upon the actual amount of the work performed during the previous month. The requisition may include materials stored on the site but not installed. The Engineer shall, within ten (10) days, check the requisition against his review of the work which has been done and submit it to the Owner, a written statement as to the validity of the requisition. The Owner shall then pay to the Contractor one **hundred percent (100%)** of the amount stated in the Engineer's report. **No payment shall be made until the Contractor has satisfied all prevailing wage reporting requirements if prevailing wages are a part of this contract.**

In the event that this contract is subject to the State of Connecticut SBE/MBE set aside and contract compliance requirements, the Contractor's attention is directed to Appendix "B", State of Connecticut SBE/MBE requirements regarding the withholding of 2% of the State Funded portion of the contract value each month if the contract value exceeds \$500,000, pending the review and approval of the Contractor's Affirmative Action Plan by CHRO.

16. FINAL PAYMENT:

When the Contract has been completed, the Contractor shall notify the Engineer in writing. Upon receipt of this notification, the Engineer shall proceed to make final measurements of the work done under the provisions of this Contract. The Engineer shall then submit to the Owner a written statement setting forth these final measurements and the amount due the Contractor consistent with the unit prices and lump sum bid in the Proposal. The Owner shall within sixty (60) days pay to the Contractor this sum except that he may deduct any moneys which are to be retained under the terms of the Contract for repairs or otherwise.

17. ORDER OF THE WORK:

The order of the work shall be subject to the approval of the Engineer in all cases. The Contractor may be required to submit a work schedule in writing to the Engineer for his approval.

18. (OMITTED)

19. PROTECTION TO PUBLIC:

The Contractor shall conduct the work in such a manner as to offer minimum disturbance to the traveling public. He shall not close off traffic without specific permission of the Engineer and shall provide flagmen if such becomes necessary, in the opinion of the Engineer. Proper barricades, lights, and other protective devices shall be supplied at the Contractor's expense and properly maintained during the entire course of the work.

20. GUARANTEE:

The Contractor guarantees that the work to be done under this Contract and the materials furnished by him and used in the construction of the project are free from defects or flaws. The guarantee is for a term of one (1) year from and after the date upon which the final estimate of the Engineer is formally approved by the party of the first part. It is hereby agreed and understood that this guarantee shall not include any repairs made necessary by any cause or causes other than defective materials furnished by or defective work done by the Contractor.

21. RATE OF PROGRESS AND TIME OF COMPLETION:

The Contractor shall commence work within seven (7) days after receipt of the Notice to Proceed and, unless an extension of time shall be made in the manner herein provided, shall progress therewith to final completion within ***ninety (90) consecutive calendar days*** after receipt of the Notice to Proceed.

22. EXTENSION OF TIME:

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time specified, he has taken into consideration and made allowance for all of the ordinary delays and hindrances incident to such work, whether growing out of delays in securing materials, workmen, or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the engineer, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection of war, or by the abandonment of the work by the workmen engaged therein, through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the town, then the

Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Engineer in writing, and thereupon, and otherwise, the Contractor shall be allowed such additional time for the completion of the work, as the Engineer in his discretion shall award in writing, and his decision shall be final and conclusive upon the parties. Such additional time shall be the sole and exclusive remedy for any delay claimed by the Contractor.

23. SALES TAX:

In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.

24. Termination of the Contract:

If the Owner fails to make payment thereon for a period of 30 days, the Contractor may, upon seven additional days written notice to the Owner, terminate the Contract and recover from the Owner payment for work executed and for proven loss with respect to materials, equipment tools, and construction equipment and machinery, including reasonable overhead, profit and damages applicable to the project.

If the contractor defaults or persistently fails or neglects to carry out the work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor and without prejudice to any other remedy the Owner may have, may make good such deficiencies and may deduct the cost thereof, including compensation for the Engineer's services and expenses made necessary thereby, from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and upon certification by the Engineer that sufficient cause exists to justify such action, the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer's services and expenses made necessary thereby, such excess shall be paid to the Contractor, but if such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

SPECIAL CONDITIONS

1. Contract Documents and Working Drawings:

The work is shown on the attached appendices, if any, or the accompanying Contract Drawings. Such additional working drawings as are required because of changes or to provide greater detail will be provided by the Engineer.

2. Planimeter:

The use of the planimeter shall be considered satisfactory for estimating quantities where geometric and analytic methods would be comparatively laborious.

3. Soil and Groundwater Conditions:

The Town assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project. The Contractor agrees that he will make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concession because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

4. Existing Structures:

All known surface structures immediately adjacent to the work, are shown on the Plans. This information is shown for the convenience of the contractor in accordance with the best information available, but is not guaranteed to be correct or complete. Underground structures in the path of the project are **not** shown. The Contractor shall explore the route ahead of trenching and shall uncover all known obstructing pipes sufficiently to determine their location. Necessary changes in location may be made by the Engineer to avoid unanticipated obstruction.

The Contractor shall, at his own expense, sustain in their places and protect from direct or indirect injury all utilities, pipes, poles, conduits, walls, buildings, and other structures, utilities, and property in the vicinity of his work. Such sustaining and protecting shall be done carefully by the Contractor and as required by the party owning or controlling the structure. Before proceeding with such work, the Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning said structure. The Contractor shall take all risks attending the presence or proximity of pipes, poles, conduits, walls, buildings, wires, or other structures, utilities, and property in the vicinity of his work, and he shall be responsible for all damage and assume

all expense for direct or indirect injury caused by his work to any of them or to any person or property by reason of injury to them.

The Contractor must notify “Call Before You Dig” at 1-800-922-4455 prior to start of construction.

5. Dust Control:

The Contractor shall take all necessary precautions to prevent and abate nuisance caused by dust arising from his operation, by the application of water spray.

6. Sedimentation and Erosion Control:

The Contractor shall control sedimentation and erosion in accordance with the publication entitled, “Erosion and Sedimentation Control Handbook,” latest edition, U. S. Department of Agriculture, Soil Conservation Service, Storrs, Connecticut, and as approved by the Engineer.

7. Payment for Miscellaneous Work:

No direct or separate payment will be made for furnishing and providing miscellaneous temporary works, plant and services, including Contractor’s office, sanitary requirements, water supply, power, tools, equipment, lighting, telephone systems, store houses, store yards, safety devices, and watchmen, or other items specified under these special conditions. Compensation for all such services and materials shall be considered as having been included in the prices stipulated for the Items of the Contract.

8. Clean-up of Site:

During the progress of the work, the Contractor shall keep the site in a generally neat condition. Lunch papers, bottles, lumber cut-offs, drinking cups, and like rubbish shall be removed from the site daily. The work shall be cleaned up as the various portions of the project are completed.

Upon completion of the work and before acceptance and final payment will be made, the Contractor shall, except as otherwise expressly directed or permitted in writing, clean and remove from the site all surplus and discarded materials, rubbish, and temporary structures. He shall restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work, and leave the whole in a neat and presentable condition. He shall also remove all plant, surplus, and waste materials from the site.

9. Emergency Work:

The Contractor shall file with the Engineer a telephone number of a person authorized by him who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public safety. The person shall be readily available and have full authority to deal with any emergency that may occur.

10. Work in Bad Weather:

During freezing, stormy, or inclement weather, no work shall be done except that which can be done satisfactorily and in a manner as to secure first-class construction throughout.

11. Night, Saturday, and Sunday Work:

Unless otherwise permitted or stipulated under a State or Town encroachment permit, no work shall be done between the hours of 6:00 p.m. and 7:00 am, nor on Saturday or Sunday, except as necessary for the proper care and protection of the work already performed. If it shall become absolutely necessary to perform work at night or on Saturday or Sunday, the Engineer shall be informed at least twenty-four (24) hours in advance of the beginning of performance or such work. Only such work shall be done at night as can be done satisfactorily and in a first-class manner. Good light and other necessary facilities for performing and inspecting the work shall be provided and maintained at all points where such work is being done.

12. Explosives and Blasting:

Explosives for blasting shall be stored, handled, and used in accordance with the laws, ordinances, and regulations of the State of Connecticut, all local regulations, and with such additional regulations as the Engineer may require. Blasting shall be conducted so as not to endanger persons or property and, unless otherwise permitted, shall be covered or otherwise satisfactorily confined. The Contractor shall be responsible and shall make good any damage of whatever nature caused by blasting or accidental explosions. It shall be the Contractor's responsibility to obtain all required permits for blasting.

13. Traffic Control:

The Contractor shall maintain traffic during the progress of the work. Barricades, flagmen, uniformed police officers on any other type of traffic control necessary to ensure the safety of the public shall be utilized by the Contractor. All methods of traffic control are subject to the approval of the Chief of Police who may direct other methods to be employed. No direct payment for traffic control will be made. It is the Contractor's responsibility to schedule all uniformed police officers as may be required. Payment for all traffic control other than

uniformed police officers shall be covered under the various items of these specifications.

14. Material Disposal:

The Contractor shall be responsible for the disposal of all construction debris generated by the project. The Town cannot accept the disposal of any material at this time.

15. Wage Rates:

This project **IS NOT** subject to prevailing wage rates.

16. State of Connecticut SBE/MBE Set Aside Requirements:

This project is not subject to the State of Connecticut SBE/MBE set aside requirements.

17. Permits:

It is the Contractor's responsibility to obtain all necessary building or construction permits, including those that may be required from either the Town of Ridgefield or the State of Connecticut, prior to the start of construction. All work shall be completed in compliance with the latest edition of the prevailing fire prevention and building codes in effect in the State of Connecticut or the State of Connecticut department of Transportation Standard Specifications, latest edition, as applicable.

18. Concrete Testing:

Concrete testing **is** required.

19. Materials:

Materials normally delivered labeled shall be received with manufacturer's original label and instruction, or else shall be subject to rejection. Materials shall be stored under adequately clean and dry condition, and all work shall be preformed according to the best practice of the trades. Manufacturer's specifications and instructions for products specified herein or approved equals, become part of these specifications and all such instructions are to be followed accordingly.

20. Lines and Grades:

It is the intent of these plans and specifications to illustrate the approximate location of the proposed sidewalk. It is the Contractor's responsibility to locate in the field the project's location according to the constraints as shown on the plans or listed under these specifications.

21. Accommodation of Traffic:

During the progress of the work, all roads shall be kept open for the passage of traffic and pedestrians and shall not be unnecessarily obstructed unless authorized by the authority having jurisdiction over same. Driveways, sidewalks and crossings shall be closed as short a time as possible while pipe is being placed, and passage shall be restored as soon as possible thereafter by properly placed backfill or approved bridging. The Contractor shall take such measures at his own expense as may be necessary to keep the roads open for traffic, and shall give advance notice to the Department of Transportation (D.O.T.), town public works department, local police and state police as required.

Warning signs shall be provided along all roads where work is in progress. The Contractor shall notify and make all arrangements with the D.O.T., town public works department, local police and state police for direction of traffic past the equipment, machinery, or construction operations. Barricades and lights shall be provided to protect traffic. Where trenches have been cut in road shoulders on which traffic may pass at times, warning signs shall be placed at frequent intervals and maintained until the shoulder is safe for travel. All such work and operations shall be in accordance with the requirements of the D.O.T., public works department, local police and state police.

Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in these Specifications, the Engineer may immediately and without notice, arrange for furnishing, installing and maintaining barricades or lights, and any other precaution deemed necessary. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.

The Contractor shall be held responsible for any damages that may have to be paid as a consequence of the Contractor's failure to protect the public.

SPECIMEN CONTRACT

This Agreement made as of the _____ day of _____
the year _____ by and between the Town of Ridgefield, 400 Main
Street, Ridgefield, Connecticut, (herein after called the Owner), and
_____, doing business at
_____, (herein after called the
Contractor).

Witnesseth that the Owner and the Contractor in consideration of the mutual
covenants herein after set forth, agree as follows:

Article 1. Work:

The contractor will perform all work as shown in the Contract Documents for the
completion of the Project generally described as follows:

East Ridge Middle School Front Stair and Entry Renovations

The work to be done consists of the furnishing of all labor, materials, tools, and
equipment necessary to construct the project as shown on the plans and as
described in the specifications prepared by Jacob Muller, Facilities Director and
Studer Design Associates Inc.

Article 2. Engineer:

Jacob Muller, Facilities Director, will act as the Engineer in connection with
completion of the Project in accordance with the Contract Documents.

Article 3. Contract Time:

The work shall be completed within **ninety (90) calendar days** after the date which the Contractor is to start the work as provided in the Contract Documents.

Article 4. Contract Price:

The Owner will pay the Contractor for performance of the Work and completion of the Project in accordance with the Contract Documents subject to adjustment by modifications as provided therein in current funds as follows:

Article 5. Progress and Final Payments:

The Owner will make progress payments on account of the Contract Price as provided in the General Conditions. Progress and final payments will be on the basis of the Contractor's application for payment as approved by the Engineer.

Article 6. Contract Documents:

The Contract Documents which comprise the contract between the Owner and the Contractor are attached hereto and made a part hereof and consist of the following:

- A. This agreement
- B. Exhibits to this Agreement
- C. Contractor's Bid and Bid Bonds
- D. Specifications
- E. Drawings as referenced by the Specifications or attached hereto
- F. Addenda numbers: _____
- G. Any modifications, including change orders, duly delivered after execution of this agreement.

Article 7. Miscellaneous:

- A. Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- B. Neither the Owner nor the Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents and, specifically, the Contractor shall not assign any moneys due or to become due without the prior written consent of the Owner.
- C. The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto in respect of all covenants, agreements and obligations contained in the Contract Documents.
- D. The Contract Documents constitute the entire agreement between the Owner and the Contractor and may only be altered, amended or repealed by a duly executed written instrument.

In witness whereof, the said parties hereto have caused this instrument to be signed by their respective duly constituted officers, attested, and sealed pursuant to proper resolutions.

Signed and sealed in
the presence of:

Town of Ridgefield

By _____

Date _____

Contractor

By _____

Date _____

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Unit prices for rock excavation are included in Section 012000 "Price and Payment Procedures."
- B. Unauthorized excavation consists of excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
- C. Utility Locator Service: Notify "Call Before You Dig" at 1-800-922-4455 for area where Project is located before beginning earth moving operations.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, or other deleterious matter.
- B. Unsatisfactory Soil: ASTM D 2487 Soil Classification Groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.
- C. Backfill and Fill: Satisfactory soil materials.
- D. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.
- G. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Protect and maintain erosion and sedimentation controls during earth moving operations.
- B. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.
- C. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- D. Explosives: Do not use explosives.
- E. Excavate to subgrade elevations regardless of character of materials and obstructions encountered.
- F. Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by Architect. The Contract Sum will be adjusted for rock excavation according to unit prices included in the Contract Documents.
- G. Excavate for structures, building slabs, pavements, and walkways. Trim subgrades to required lines and grades.
- H. Utility Trenches: Excavate trenches to indicated slopes, lines, depths, and invert elevations.
 - 1. Place, compact, and shape bedding course to provide continuous support for pipes and conduits over rock and other unyielding bearing surfaces and to fill unauthorized excavations.
 - 2. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Place and compact final backfill of satisfactory soil material to final subgrade.
- I. Proof-roll subgrade below the building slabs and pavements to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- J. Plow strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal to receive fill.
- K. Place backfill and fill in layers not more than 8 inches in loose depth at optimum moisture content. Compact each layer under structures, building slabs, pavements, and walkways to 95 percent of maximum dry unit weight according to ASTM D 698; elsewhere to 90 percent.
- L. Grade areas to a smooth surface to cross sections, lines, and elevations indicated. Grade lawns, walkways, and unpaved subgrades to tolerances of plus or minus 1 inch and pavements and areas within building lines to plus or minus 1/2 inch.
- M. Under pavements and walkways, place subbase course material on prepared subgrades and compact at optimum moisture content to required grades, lines, cross sections, and thicknesses.

- N. Under slabs-on-grade, place drainage course on prepared subgrade and compact to required cross section and thickness.
- O. Allow testing agency to inspect and test each subgrade and each fill or backfill layer and verify compliance with requirements.
- P. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

2.2 COMMERCIAL-GRADE DEVICES

- A. Devices that are manufactured for use with modular plug-in connectors may be substituted under the following conditions:
 - 1. Connectors shall comply with UL 2459 and shall be made with stranding building wire.
 - 2. Devices shall comply with the requirements in this Section.
- B. Device Color:
 - 1. Wiring Devices Connected to Normal Power System: Ivory unless otherwise indicated or required by NFPA 70 or device listing.
 - 2. Wiring Devices Connected to Emergency Power System: Red.
- C. Convenience Receptacles: NEMA WD 1, NEMA WD 6, Configuration 5-20R, and UL 498.
- D. Duplex GFCI Convenience Receptacles: 125 V, 20 A, straight blade, **feed** -through type. NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
- E. Toggle Switches: NEMA WD 1 and UL 20. Single-pole, 120/277 V, 20 A.
- F. Momentary Contact Toggle Switches: NEMA WD 1 and UL 20. Single-pole, double-throw, momentary contact, center-off switches, 120/277 V, 20 A; for use with mechanically held lighting contactors.
- G. Pilot-Light Switches, 20 A: Single pole, with neon-lighted handle, illuminated when switch is "off."

2.3 DECORATOR-STYLE DEVICES

- A. Device Color:
 - 1. Wiring Devices Connected to Normal Power System: Ivory unless otherwise indicated or required by NFPA 70 or device listing.
 - 2. Wiring Devices Connected to Emergency Power System: Red.
- B. Convenience Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, NEMA WD 6 Configuration 5-15R, and UL 498.
- C. Tamper-Resistant and Tamper-Resistant and Weather-Resistant Convenience Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, NEMA WD 6 Configuration 5-15R, and UL 498.: Labeled to comply with NFPA 70, "Receptacles, Cord Connectors, and Attachment Plugs (Caps)" Article, "Tamper-Resistant Receptacles in Dwelling Units" Section.
- D. GFCI, Feed-Through Type, Convenience Receptacles: Square face, 125 V, 15 A; comply with NEMA WD 1, NEMA WD 6 Configuration 5-15R, UL 498, and UL 943 Class A.
- E. Toggle Switches, Square Face, 120/277 V, 15 A: Comply with NEMA WD 1, UL 20, and FS W-S-896.
- F. Lighted Toggle Switches, Square Face, 120 V, 15 A: Comply with NEMA WD 1 and UL 20. With neon-lighted handle, illuminated when switch is "off."

2.4 RESIDENTIAL DEVICES

- A. Device Color: Ivory unless otherwise indicated or required by NFPA 70 or device listing.
- B. Tamper-Resistant and Tamper-Resistant and Weather-Resistant Convenience Receptacles, 125 V, 15 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-15R, and UL 498.: Labeled to comply with NFPA 70, "Receptacles, Cord Connectors, and Attachment Plugs (Caps)" Article, "Tamper-Resistant Receptacles in Dwelling Units" Section.
- C. Fan Speed Controls: 120-V, full-wave, solid-state units with integral, quiet on-off switches and audible frequency and EMI/RFI filters. Comply with UL 1917.
 - 1. Continuously adjustable rotary knob, 5 A.
 - 2. Three-speed adjustable rotary knob, 1.5 A.

2.5 WALL-BOX DIMMERS

- A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters.
- B. Control: Continuously adjustable rotary knob; with single-pole or three-way switching. Comply with UL 1472.
- C. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.

2.6 WALL PLATES

- A. Wall Plates, Finished Areas: Smooth, high-impact thermoplastic, fastened with metal screws having heads matching plate color.
- B. Wall Plates, Unfinished Areas: Smooth, high-impact thermoplastic with metal screws.
- C. Wall Plates, Damp Locations: Thermoplastic with spring-loaded lift cover, and listed and labeled for use in wet locations.

2.7 FLOOR SERVICE FITTINGS

- A. Modular, above-floor, dual-service units suitable for wiring method used.
- B. Compartments: Barrier separates power from voice and data communication cabling.
- C. Service Plate: Rectangular, with satin finish.
- D. Power Receptacle: NEMA WD 6, Configuration 5-20R, gray finish, unless otherwise indicated.

2.8 MULTIOUTLET ASSEMBLIES

- A. Components produced by a single manufacturer designed for use as a complete, matching assembly of raceways and receptacles. Metal, with manufacturer's standard finish raceway with No. 12 AWG wire. One receptacle per 12 inches.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
- B. Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
- C. Select device colors and wall plates as follows:
 - 1. For plastic covers, match device color.
 - 2. In dark-paneled walls, use brown devices.
 - 3. Above kitchen counters, use white devices with stainless-steel wall plates.
- D. Install unshared neutral conductors on line and load side of dimmers.
- E. Mount devices flush, with long dimension vertical, and grounding terminal of receptacles on top unless otherwise indicated. Group adjacent devices under single, multigang wall plates.

END OF SECTION 262726

SECTION 055200 - METAL RAILINGS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings.

PART 2 - PRODUCTS

2.1 RAILING SYSTEMS

- A. Manufacturers: One of the following or approved equal:

1. Steel Pipe and Tube Railings:
 - a. Pisor Industries, Inc.
 - b. Wagner, R & B, Inc.; a division of the Wagner Companies.
2. Steel and Iron Decorative Railings:
 - a. Architectural Iron Designs, Inc.
 - b. Artezzi.
 - c. Bavarian Iron Works Co.; TT Triebenbacher.
 - d. Blum, Julius & Co., Inc.
 - e. Braun, J. G., Company; a division of the Wagner Companies.
 - f. Indital USA; a division of Ind.i.a. SPA.
 - g. Lawler Foundry Corporation.
 - h. Livers Bronze Co.
 - i. Olin Wrought Iron.
 - j. Regency Railings.
 - k. Wagner, R & B, Inc.; a division of the Wagner Companies.
 - l. Wiemann Ironworks.
3. Aluminum Pipe and Tube Railings:
 - a. ATR Technologies, Inc.
 - b. Blum, Julius & Co., Inc.
 - c. Braun, J. G., Company; a division of the Wagner Companies.
 - d. CraneVeyor Corp.
 - e. Hollaender Manufacturing Company.
 - f. Kee Industrial Products, Inc.
 - g. Moultrie Manufacturing Company.
 - h. Pisor Industries, Inc.
 - i. Sterling Dula Architectural Products, Inc.; Div. of Kane Manufacturing.

- j. Superior Aluminum Products, Inc.
- k. Thompson Fabricating, LLC.
- l. Tri Tech, Inc.
- m. Tubular Specialties Manufacturing, Inc.
- n. Tuttle Railing Systems; Div. of Tuttle Aluminum & Bronze, Inc.
- o. Wagner, R & B, Inc.; a division of the Wagner Companies.

4. Aluminum Decorative Railings:

- a. Architectural Metal Works.
- b. Architectural Railings & Grilles, Inc.
- c. ATR Technologies, Inc.
- d. Blum, Julius & Co., Inc.
- e. Blumcraft of Pittsburgh.
- f. Braun, J. G., Company; a division of the Wagner Companies.
- g. CraneVeyor Corp.
- h. Laurence, C. R. Co., Inc.
- i. Livers Bronze Co.
- j. Newman Brothers, Inc.
- k. Pisor Industries, Inc.
- l. Platers Polishing Company; a division of Rippel Architectural Metals.
- m. Poma Corporation.
- n. Sterling Dula Architectural Products, Inc.; Div. of Kane Manufacturing.
- o. Superior Aluminum Products, Inc.
- p. Wagner, R & B, Inc.; a division of the Wagner Companies.
- q. Wylie Systems.

- B. Provide railings capable of withstanding a uniform load of 50 lbf/ft. and a concentrated load of 200 lbf applied to handrails and top rails of guards in any direction. Uniform and concentrated loads need not be assumed to act concurrently.
- C. Provide railing infill capable of withstanding a concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft. Infill load and other railing loads need not be assumed to act concurrently.

2.2 METALS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513.
- C. Steel Pipe: ASTM A 53, Schedule 40.
- D. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- E. Iron Castings: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

- F. Aluminum, Extruded Bars, Shapes, and Tubing: ASTM B 221, Alloy 6063-T5/T52.
- G. Aluminum Extruded Structural Pipe and Round Tubing: ASTM B 429/B 429M, Alloy 6063-T6.
- H. Aluminum Plate and Sheet: ASTM B 209,
- I. Aluminum Castings: ASTM B 26/B 26M, Alloy A356.0-T6.
- J. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 OTHER MATERIALS

- A. Wood Rails: Hardwood rails of species and profile indicated; with manufacturer's standard transparent finish, and secured to recessed metal subrail.
- B. Nonshrink, Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.

2.4 FABRICATION

- A. Assemble railing systems in shop to the greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Form changes in direction of railing members by bending.
- C. Fabricate railing systems and handrails for connecting members by welding.
- D. Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.
- E. Provide wall returns at ends of wall-mounted handrails.

2.5 FINISHES

- A. Steel Railings: Hot-dip galvanized after fabrication, ASTM A 123.
- B. Aluminum Railings: Class I, clear anodic finish; complying with AAMA 611.
- C. All railings to be painted black, satin finish with two coats of approved paint unless otherwise specified.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fit exposed connections accurately together to form tight, hairline joints.
- B. Set railings accurately in location, alignment, and elevation and free of rack.
- C. Coat concealed surfaces of aluminum that will be in contact with cementitious materials or dissimilar metals, with a heavy coat of bituminous paint.
- D. Anchor posts in concrete by forming or core-drilling holes 5 inches deep and 3/4 inch greater than OD of post. Fill annular space between post and concrete with nonshrink, nonmetallic grout.
- E. Attach handrails to wall with wall brackets.

END OF SECTION 055200

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Allowances: Furnish face brick under the Face Brick Allowance specified in Section 012000 "Price and Payment Procedures."
- B. See Section 055000 "Metal Fabrications" for furnishing steel lintels and shelf angles for unit masonry.
- C. Submittals:
 - 1. Samples for decorative concrete masonry units concrete facing brick face brick hollow brick and colored mortar.
 - 2. Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements.
- D. Sample Panels: Construct a sample wall panel approximately 48 inches long by 48 inches high to demonstrate aesthetic effects and set quality standards for materials and execution.

PART 2 - PRODUCTS

2.1 UNIT MASONRY

- A. Comply with ACI 530.1/ASCE 6/TMS 602.

2.2 MASONRY UNITS

- A. Concrete Masonry Units: ASTM C 90; Density Classification, Normal Weight.
 - 1. Integral Water Repellent:
 - 2. Products:
 - a. ACM Chemistries; RainBloc.
 - b. BASF Aktiengesellschaft; Rheopel Plus.
 - c. Grace Construction Products, W. R. Grace & Co. - Conn.; Dry-Block.
 - 3. Special shapes for lintels, corners, jambs, sash, control joints, and other special conditions.
 - 4. Bullnose units for outside corners unless otherwise indicated.
- B. Decorative Concrete Masonry Units: ASTM C 90; Density Classification, Normal Weight.

1. Finish: Exposed faces with ground finish.
2. Integral Water Repellent:
3. Products:
 - a. ACM Chemistries; RainBloc.
 - b. BASF Aktiengesellschaft; Rheopel Plus.
 - c. Grace Construction Products, W. R. Grace & Co. - Conn.; Dry-Block.
4. Special shapes for lintels, corners, jambs, sash, control joints, and other special conditions.

C. Building (Common) Brick: ASTM C 62,,

D. Hollow Brick: ASTM C 652, Grade SW Grade MW or SW,

1. Size: 5-5/8 inches thick by 3-5/8 inches high by 11-5/8 inches long.
2. Special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
3. Solid brick with exposed surfaces finished for ends of sills and caps.

2.3 MORTAR AND GROUT

A. Mortar: ASTM C 270, proportion specification.

1. Use portland cement-lime mortar.
2. Do not use calcium chloride in mortar.
3. For masonry below grade or in contact with earth, use Type M.
4. For reinforced masonry, use Type S.
5. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions, and for other applications where another type is not indicated, use Type N.
6. Colored Mortar: For decorative concrete masonry units concrete facing brick, use colored cement or cement-lime mix of color selected.
7. Water-Repellent Additive: For mortar used with concrete masonry units made with integral water repellent, use product recommended by manufacturer of units.

B. Grout: ASTM C 476 with a slump of 8 to 11 inches.

C. Refractory Mortar: Ground fireclay mortar or other refractory mortar that passes ASTM C 199 test and is acceptable to authorities having jurisdiction.

2.4 REINFORCEMENT, TIES, AND ANCHORS

A. Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Joint Reinforcement: ASTM A 951.

1. Coating: Hot-dip galvanized at both interior and exterior walls.

2. Wire Size for Side Rods: 0.148-inch diameter.
 3. Wire Size for Cross Rods: 0.148-inch diameter.
 4. Wire Size for Veneer Ties: 0.148-inch diameter.
 5. For single-wythe masonry, provide either ladder design or truss design.
 6. For multiwythe masonry, provide ladder design with three side rods.
- C. Veneer Anchors: Hot-dip galvanized steel, two-piece adjustable masonry veneer anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to studs, and acceptable to authorities having jurisdiction.
1. Products: One of the following:
 - a. Dayton Superior Corporation, Dur-O-Wal Division; D/A 213.
 - b. Heckmann Building Products Inc.; 315-D with 316 .
 - c. Hohmann & Barnard, Inc.; DW-10.
 - d. Wire-Bond; 1004, Type III.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded strips complying with ASTM D 1056, Grade 2A1.
- B. Preformed Control-Joint Gaskets: Designed to fit standard sash block and to maintain lateral stability in masonry wall; made from styrene-butadiene rubber or PVC.
- C. Weep Holes: Cellular-plastic extrusion, full height and width of head joint.
- D. Cavity Drainage Material: Free-draining polymer mesh, full depth of cavity with dovetail shaped notches that prevent mortar clogging.
1. Products: One of the following:
 - a. Advanced Building Products Inc.; Mortar Break.
 - b. Archovations, Inc.; CavClear Masonry Mat.
 - c. Dayton Superior Corporation, Dur-O-Wal Division; Polytitle MortarStop.
 - d. Mortar Net USA, Ltd.; Mortar Net.
- E. Loose-Granular Perlite Insulation: ASTM C 549, Type II or IV.
- F. Molded-Polystyrene Insulation Units: ASTM C 578, Type I; specially shaped units designed for installing in cores of masonry units.
1. Products: One of the following:
 - a. Concrete Block Insulating Systems; Korfil.
 - b. Shelter Enterprises Inc.; Omni Core.
- G. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV or X.

- H. Polyisocyanurate Board Insulation: ASTM C 1289, Type I, Class 2; aluminum-foil faced.
- I. Proprietary Acidic Masonry Cleaner: Product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units.
 - 1. Manufacturers: One of the following:
 - a. Diedrich Technologies, Inc.
 - b. EaCo Chem, Inc.
 - c. ProSoCo, Inc.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cut masonry units with saw. Install with cut surfaces and, where possible, cut edges concealed.
- B. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.
- C. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- D. Stopping and Resuming Work: Rack back units; do not tooth.
- E. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- F. Build non-load-bearing interior partitions full height and install compressible filler in joint between top of partition and underside of structure above.
- G. Tool exposed joints slightly concave when thumbprint hard unless otherwise indicated.
- H. Keep cavities clean of mortar droppings and other materials during construction.
- I. Set firebox brick in full bed of refractory mortar with full head joints. Make joints approximately 1/8 inch wide and tool smooth.
- J. Set clay flue liners in full beds of refractory mortar to comply with ASTM C 1283.

3.2 LINTELS

- A. Install lintels where indicated.
- B. Minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.3 FLASHING AND WEEP HOLES

- A. Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.
- B. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing before covering with mortar.
 - 1. Extend flashing 4 inches into masonry at each end and turn up 2 inches to form a pan.
- C. Trim wicking material used in weep holes flush with outside face of wall after mortar has set.

3.4 PARGING

- A. Parge masonry walls, where indicated, in two uniform coats with a steel-trowel finish. Form a wash at top of parging and a cove at bottom. Damp cure parging for at least 24 hours.

3.5 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections required by authorities having jurisdiction.
 - 1. Inspections: Level 1 special inspections according to the IBC.
 - 2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.

3.6 CLEANING

- A. Clean masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly cured, clean exposed masonry.
 - 1. Wet wall surfaces with water before applying acidic cleaner, then remove cleaner promptly by rinsing thoroughly with clear water.
 - 2. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 042000

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data concrete mix designs and submittals required by ACI 301.
- B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.
- C. Form 817: State of CT Dept of Transportation Standard Specifications for Roads, Bridges and Incidental Construction

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ACI 301, "Specification for Structural Concrete," and with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

2.2 MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, as drawn, flat sheet.
- D. Portland Cement: ASTM C 150, Type I or II.
- E. Fly Ash: ASTM C 618, Class C or F.
- F. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- G. Silica Fume: ASTM C 1240, amorphous silica.
- H. Aggregates: ASTM C 33, coarse aggregate or better, graded.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
 - 2. Maximum Aggregate Size for Concrete in Insulating Concrete Forms: 3/4 inch.
- I. Air-Entraining Admixture: ASTM C 260.

- J. Chemical Admixtures: ASTM C 494, water reducing high-range water reducing water reducing and accelerating and water reducing and retarding. Do not use calcium chloride or admixtures containing calcium chloride.
- K. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures.
1. Manufacturers: One of the following:
- a. ChemMasters.
 - b. Davis Colors.
 - c. Dayton Superior Corporation.
 - d. Hoover Color Corporation.
 - e. Lambert Corporation.
 - f. QC Construction Products.
 - g. Rockwood Pigments NA, Inc.
 - h. Scofield, L. M. Company.
 - i. Solomon Colors, Inc.
- L. Synthetic Fiber: ASTM C 1116/C 1116M, Type III, polypropylene fibers, 1/2 to 1-1/2 inches long.
- M. Vapor Retarder: Reinforced sheet, ASTM E 1745, Class A.
1. Products: One of the following:
- a. Carlisle Coatings & Waterproofing, Inc.; Blackline 400.
 - b. Fortifiber Building Systems Group; Moistop.
 - c. Grace Construction Products, W. R. Grace & Co.; Florprufe 120.
 - d. Insulation Solutions, Inc.; Viper.
 - e. Meadows, W. R., Inc.;
 - f. Raven Industries Inc.; Vapor.
 - g. Reef Industries, Inc.; Griffolyn.
 - h. Stego Industries, LLC; Stego.
- N. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- O. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- P. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
1. Products: One of the following:
- a. BASF Construction Chemicals - Building Systems; Kure-N-Seal 25 LV.
 - b. ChemMasters; Spray-Cure & Seal Plus.
 - c. Conspec by Dayton Superior; Sealcure 1315.
 - d. Dayton Superior Corporation; Day-Chem Cure and Seal (J-22UV).
 - e. Edoco by Dayton Superior; Cureseal 1315.

- f. [Euclid Chemical Company \(The\), an RPM company](#); Super Diamond Clear; LusterSeal 300.
 - g. [Kaufman Products, Inc.](#); Sure Cure 25.
 - h. [Lambert Corporation](#); UV Super Seal.
 - i. [L&M Construction Chemicals, Inc.](#); Lumiseal Plus.
 - j. [Meadows, W. R., Inc.](#); CS-309/30.
 - k. [Metalcrete Industries](#); Seal N Kure 30.
 - l. [Right Pointe](#); Right Sheen 30.
 - m. [Vexcon Chemicals, Inc.](#); Certi-Vex AC 1315.
- Q. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
- 1. [Products](#): One of the following:
 - a. [BASF Construction Chemicals - Building Systems](#); Kure 1315.
 - b. [ChemMasters](#); Polyseal WB.
 - c. [Conspec by Dayton Superior](#); Sealcure 1315 WB.
 - d. [Edoco by Dayton Superior](#); Cureseal 1315 WB.
 - e. [Euclid Chemical Company \(The\), an RPM company](#); Super Diamond Clear VOX; LusterSeal WB 300.
 - f. [Kaufman Products, Inc.](#); Sure Cure 25 Emulsion.
 - g. [Lambert Corporation](#); UV Safe Seal.
 - h. [L&M Construction Chemicals, Inc.](#); Lumiseal WB Plus.
 - i. [Meadows, W. R., Inc.](#); Vocomp-30.
 - j. [Metalcrete Industries](#); Metcure 30.
 - k. [Right Pointe](#); Right Sheen WB30.
 - l. [Symons by Dayton Superior](#); Cure & Seal 31 Percent E.
 - m. [Vexcon Chemicals, Inc.](#); Vexcon Starseal 1315.
- R. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.3 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301.
- B. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 4500 psi at 28 days.
 - 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 - 3. Slump Limit: <6" plus or minus 1 inch.
 - 4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent.
- C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M.
 - 1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 CONCRETING

- A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and for other concrete surfaces.
- B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches and sealed.
- C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
- E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
- F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
- G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.
- H. Slab Finishes: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
 - 1. Scratch finish for surfaces to receive mortar setting beds.
 - 2. Float finish for surfaces to receive waterproofing, roofing, or other direct-applied material.
 - 3. Troweled finish for floor surfaces and floors to receive floor coverings, paint, or other thin film-finish coatings.
 - 4. Trowel and fine-broom finish for surfaces to receive thin-set tile.
 - 5. Nonslip-broom finish to exterior concrete platforms, steps, and ramps.
- I. Cure formed surfaces by moisture curing for at least seven days.
- J. Begin curing concrete slabs after finishing. Apply membrane-forming curing and sealing compound to concrete.
- K. Contractor will engage a testing agency to perform field tests and to submit test reports.
- L. Protect concrete from damage. Repair and patch defective areas.

END OF SECTION 033000

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: [**Product Data**] [**concrete mix designs**] [**and**] [**submittals required by ACI 301**].
- B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ACI 301, "Specification for Structural Concrete," and with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

2.2 MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, **Grade 60** (**Grade 420**), deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, as drawn, flat sheet.
- D. Portland Cement: ASTM C 150, Type I or II.
- E. Fly Ash: ASTM C 618, Class C or F.
- F. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- G. Silica Fume: ASTM C 1240, amorphous silica.
- H. Aggregates: ASTM C 33, [**Class 3S**] [**Class 3M**] [**Class 1N**] **<Insert class>** coarse aggregate or better, graded[, **with at least 10 years' satisfactory service in similar applications**].
 - 1. Maximum Coarse-Aggregate Size: [**1-1/2 inches (38 mm)**] [**1 inch (25 mm)**] [**3/4 inch (19 mm)**] nominal.
 - 2. Maximum Aggregate Size for Concrete in Insulating Concrete Forms: [**3/4 inch (19 mm)**] [**1/2 inch (13 mm)**] [**3/8 inch (10 mm)**] [**1/4 inch (6 mm)**].
- I. Air-Entraining Admixture: ASTM C 260.

- J. Chemical Admixtures: ASTM C 494, [water reducing] [high-range water reducing] [water reducing and accelerating] [and] [water reducing and retarding]. Do not use calcium chloride or admixtures containing calcium chloride.
- K. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures.
1. Manufacturers: [One of the following:]
 - a. ChemMasters.
 - b. Davis Colors.
 - c. Dayton Superior Corporation.
 - d. Hoover Color Corporation.
 - e. Lambert Corporation.
 - f. QC Construction Products.
 - g. Rockwood Pigments NA, Inc.
 - h. Scofield, L. M. Company.
 - i. Solomon Colors, Inc.
 - j. <Insert manufacturer's name>.
- L. Synthetic Fiber: ASTM C 1116/C 1116M, Type III, polypropylene fibers, 1/2 to 1-1/2 inches (13 to 38 mm) long.
- M. Vapor Retarder: Reinforced sheet, ASTM E 1745, Class A.
1. Products: [One of the following:]
 - a. Carlisle Coatings & Waterproofing, Inc.; Blackline 400.
 - b. Fortifiber Building Systems Group; Moistop [Ultra 15] [Ultra 10].
 - c. Grace Construction Products, W. R. Grace & Co.; Florprufe 120.
 - d. Insulation Solutions, Inc.; Viper [VaporCheck 16] [VaporCheck 10] [VaporCheck 6.5].
 - e. Meadows, W. R., Inc.; [Perminator 15 mil] [Perminator 10 mil].
 - f. Raven Industries Inc.; Vapor [Block 15] [Block 10].
 - g. Reef Industries, Inc.; Griffolyn [Type-105] [Type-65G] [15 mil Green] [10 mil Green].
 - h. Stego Industries, LLC; Stego [Wrap 15 mil Class A] [Wrap 10 mil Class A].
 - i. <Insert manufacturer's name; product name or designation>.
- N. Penetrating Liquid Floor Treatments for Polished Concrete Finish: Clear, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and is suitable for polished concrete surfaces.
1. Products: [One of the following:]
 - a. Advanced Floor Products; Retro-Plate 99.
 - b. L&M Construction Chemicals, Inc.; FGS Hardener Plus.
 - c. QuestMark, a division of CentiMark Corporation; DiamondQuest Densifying Impregnator Application.
 - d. <Insert manufacturer's name; product name or designation>.

- O. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- P. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- Q. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

1. Products: [**One of the following**:]

- a. BASF Construction Chemicals - Building Systems; Kure-N-Seal 25 LV.
- b. ChemMasters; Spray-Cure & Seal Plus.
- c. Conspec by Dayton Superior; Sealcure 1315.
- d. Dayton Superior Corporation; Day-Chem Cure and Seal (J-22UV).
- e. Edoco by Dayton Superior; Cureseal 1315.
- f. Euclid Chemical Company (The), an RPM company; Super Diamond Clear; LusterSeal 300.
- g. Kaufman Products, Inc.; Sure Cure 25.
- h. Lambert Corporation; UV Super Seal.
- i. L&M Construction Chemicals, Inc.; Lumiseal Plus.
- j. Meadows, W. R., Inc.; CS-309/30.
- k. Metalcrete Industries; Seal N Kure 30.
- l. Right Pointe; Right Sheen 30.
- m. Vexcon Chemicals, Inc.; Certi-Vex AC 1315.
- n. **<Insert manufacturer's name; product name or designation>.**

- R. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

1. Products: [**One of the following**:]

- a. BASF Construction Chemicals - Building Systems; Kure 1315.
- b. ChemMasters; Polyseal WB.
- c. Conspec by Dayton Superior; Sealcure 1315 WB.
- d. Edoco by Dayton Superior; Cureseal 1315 WB.
- e. Euclid Chemical Company (The), an RPM company; Super Diamond Clear VOX; LusterSeal WB 300.
- f. Kaufman Products, Inc.; Sure Cure 25 Emulsion.
- g. Lambert Corporation; UV Safe Seal.
- h. L&M Construction Chemicals, Inc.; Lumiseal WB Plus.
- i. Meadows, W. R., Inc.; Vocomp-30.
- j. Metalcrete Industries; Metcure 30.
- k. Right Pointe; Right Sheen WB30.
- l. Symons by Dayton Superior; Cure & Seal 31 Percent E.
- m. Vexcon Chemicals, Inc.; Vexcon Starseal 1315.
- n. **<Insert manufacturer's name; product name or designation>.**

- S. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.3 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301.
- B. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: [4500 psi (31 MPa)] [4000 psi (27.6 MPa)] [3500 psi (24.1 MPa)] [3000 psi (20.7 MPa)] <Insert value> at 28 days.
 - 2. Maximum Water-Cementitious Materials Ratio: [0.50] [0.45] [0.40] <Insert ratio>.
 - 3. Slump Limit: [4 inches (100 mm)] [5 inches (125 mm)] [8 inches (200 mm)] for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture] <Insert dimension>, plus or minus 1 inch (25 mm).
 - 4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent.
 - 5. Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than [40] <Insert number> percent.
 - 6. For concrete exposed to deicing chemicals, limit use of fly ash to 25 percent replacement of portland cement by weight and granulated blast-furnace slag to 40 percent of portland cement by weight; silica fume to 10 percent of portland cement by weight.
- C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M[and ASTM C 1116].
 - 1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 CONCRETING

- A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch (3.2 mm) for concrete exposed to view and [Class B, 1/4 inch (6 mm)] [Class C, 1/2 inch (13 mm)] for other concrete surfaces.
- B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches (150 mm) and sealed.
- C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
- E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
- F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.

- G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.
- H. Slab Finishes: Comply with ACI 302.1R for screeding, restrecting, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
 - 1. Scratch finish for surfaces to receive mortar setting beds.
 - 2. Float finish for surfaces to receive waterproofing, roofing, or other direct-applied material.
 - 3. Troweled finish for floor surfaces and floors to receive floor coverings, paint, or other thin film-finish coatings.
 - 4. Trowel and fine-broom finish for surfaces to receive thin-set tile.
 - 5. Nonslip-broom finish to exterior concrete platforms, steps, and ramps.
- I. Cure formed surfaces by moisture curing for at least seven days.
- J. Begin curing concrete slabs after finishing. [**Keep concrete continuously moist for at least seven days**] [**Apply membrane-forming curing compound to concrete**] [**Apply membrane-forming curing and sealing compound to concrete**].
- K. Polished Concrete Floor Treatment: Apply polished concrete finish system to cured and prepared slabs.
 - 1. Machine grind floor surfaces level and smooth[**and to depth required to reveal aggregate**].
 - 2. Apply penetrating liquid floor treatment according to manufacturer's written instructions.
 - 3. Continue polishing with progressively finer polishing pads to gloss level required.
 - 4. Neutralize and clean polished floor surfaces.
- L. Owner will engage a testing agency to perform field tests and to submit test reports.
- M. Protect concrete from damage. Repair and patch defective areas.

END OF SECTION 033000

SECTION 02989 – MISCELLANEOUS WORK AND CLEAN UP

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

Furnish all labor, materials, equipment and incidentals required to do all miscellaneous work and cleaning up not otherwise specified. The work of the Section includes, but is not limited to, the following:

1. Continual clean up of site.
2. Cleaning up.
3. Incidental work.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

GRADING	SECTION 02212
SEDIMENTATION AND EROSION CONTROL	SECTION 02270

PART 2 – PRODUCTS-

2.1 MATERIALS-Not applicable

PART 3 - EXECUTION

3.1 CLEANUP

A. Maintain the site of the work as neat as possible, free of debris and rubbish. At the conclusion of the work, the Contractor shall remove all construction material, excess excavation, equipment and all other debris remaining on the job as a result of construction operations unless otherwise specified herein or directed by the Engineer.

3.2 INCIDENTAL WORK

A. Do all incidental work not otherwise specified but obviously necessary to the proper completion of the Contract as specified and as shown on the Drawings.

END OF SECTION 02989

SECTION 02900 – LOAMING AND SEEDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

- A. Furnish all labor, materials, equipment and incidentals necessary to loam, fertilize, seed, mulch and maintain all seeded areas as shown on the Drawings and/or specified herein, and any other areas disturbed by the Contractor's operations.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

CLEARING AND GRUBBING	SECTION 02130
GRADING	SECTION 02212
TRENCHING, BACKFILLING AND COMPACTING	SECTION 02221
LANDSCAPING	SECTION 02481

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage experienced trained personnel in this type of work.

1.5 DELIVERY, STORAGE & HANDLING

- A. Fertilizer shall be delivered to the site in the original unopened containers each showing the manufacturers guaranteed analysis, and stored so that when used it shall be dry and free flowing.
- B. Lime shall be delivered and maintained in a dry, free flowing condition.
- C. Seed shall be delivered in sealed containers bearing the dealer's guaranteed analysis and stored in a dry, protected place.

1.6 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Warrant all lawn areas where seed is installed for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents which are beyond Contractor's control.
- C. If the Engineer deems an area of seeding to be unsatisfactory, the contractor shall rake and reseed and mulch as required for proper germination.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Loam shall be fertile, natural soil, typical of the locality, substantially free of stones, roots, sticks, clay, peat, weeds and sod, and obtained from naturally well-drained areas.
 - 1. It shall not be excessively acid or alkaline, nor contain toxic material harmful to plant growth. Any topsoil stockpiled as a result of operations under Section 02212 may be used, but the Contractor shall furnish any additional loam at his own expense.
- B. Fertilizer shall be complete commercial fertilizer, 10-10-10 grade.
- C. Lime shall be ground limestone containing not less than 85% calcium and magnesium carbonates.
- D. Seed shall be from the same or previous year's crop and shall have not more than 1% weed content. Seed shall also meet the following requirements:
 - 1. Grass seed of the specified mixture shall be furnished in fully labeled, standard, sealed containers.
 - 2. Percentage and germination of each seed type in the mixture, purity, and weed seed content of the mixture shall be clearly stated on the label.
- E. Hay mulch shall consist of mowed and properly cured grass or legume mowings, free from swamp grass, weeds, twigs, debris or other deleterious material. It shall be free from rot or mold.

PART 3 - EXECUTION

3.1 GENERAL

- A. Rake the subgrade of all areas to be loamed for seed or ground cover and remove all rubbish, sticks, roots and stones larger than 2 inches. Spread and lightly compact the loam to finished grade as shown on the Drawings. When finished grades are not indicated, they shall be uniform between the points to existing grades, except that the top and bottom of slopes shall be rounded.
- B. After the loam is placed and before it is raked to true lines and rolled, spread limestone evenly over loam surface and thoroughly incorporate into the loam by heavy raking to at least one-half the depth of the loam.
- C. Uniformly spread fertilizer and immediately mix with the upper 2 inches of loam. Immediately following this preparation, uniformly apply the seed and lightly rake the seed into the surface. Lightly roll the surface and water with a fine spray.
- D. Seeding and fertilizing shall be done between April 1 and June 1, between August 15 and October 15, or as directed or permitted. Seeding shall not be done during windy weather or when the ground is frozen, excessively wet, or otherwise untillable. Promptly thereafter, or within 24 hours after the seeding operation, lightly and uniformly mulch the area with hay.
- E. Protect against washouts by an approved method. Any washout which occurs shall be regarded and reseeded at the Contractor's expense until a good sod is established.

3.2 APPLICATION RATES

Place loam to a minimum depth of 6 inches.
Apply lime at the rate of 50 to 100 lbs. per 1,000 square feet.
Apply fertilizer at the rate of 30 pounds per square feet.
Seed shall be applied at the rate of 4-6 pounds per 1,000 square feet.
Apply mulch at the rate of 90 lbs. per 1,000 square feet.

3.3 MAINTENANCE

- A. Keep all seeded areas watered and in good condition, reseeding if and when necessary until a good, healthy, uniform growth is established over the entire area seeded, and maintain these areas in an approved condition until final acceptance of growth by the Engineer. The maintenance shall include repairs for damage caused by erosion.
- B. Inspection of the work of seeding will be made upon the establishment of the specified growth. Notice requesting inspection shall be submitted to the Engineer at least five days prior to the anticipated date.

END OF SECTION 02900

SECTION 02785 – BLUESTONE PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. The work includes all labor, material, equipment and incidentals required to construct bluestone paving, complete in place as shown on the Drawings and as specified.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

GRADING	SECTION 02212
SITE CONCRETE	SECTION 02540
TRENCHING, BACKFILL AND COMPACTION	SECTION 02221

1.4 SUBMITTALS AND CODES

A. Certifications and/or manufacturer's product data of materials listed in part 2.

B. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

C. In accordance with the General Requirements, submit copies of materials certificates signed and certified that the material item complies with, or exceeds, specified requirements.

D. Samples: submit samples for initial selection purposes in the form of actual units or sections of units showing full range of colors, textures, and patterns available.

E. Qualification data: submit qualification data for firms to demonstrate their capabilities and experience in installing bluestone pavements and steps. Include a list of completed projects with project names, addresses, names of Architects and Owners, plus other information as appropriate.

1.5 QUALITY ASSURANCE

A. Installer qualifications: engage an experienced installer who has successfully completed bluestone pavement installations similar in material, design, and extent to that indicated for this project.

B. Single-source responsibility: obtain each color, type and variety of paver units and jointing materials from a single source with resources to provide products and materials of consistent quality in appearance and physical properties without delaying the progress of the work.

C. Field-constructed mock-ups: construct a 10' x 10' (minimum) area of bluestone pavement at a location as approved by the Engineer. Demonstrate quality of workmanship that will be produced in the final unit of work.

Obtain the Engineer's approval of mock-up before continuing with the work. Approved mock-ups, if approved and in undisturbed condition at the time of substantial completion, may become part of the completed work.

1.6 JOB CONDITIONS

A. Protection: protect materials during storage and construction against wetting by rain, snow or groundwater and against damage or contamination from earth and other materials.

B. Weather: do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace paver work damaged by frost or freezing.

C. Grade control: establish and maintain required lines and elevations.

PART 2 - PRODUCTS

2.1 MATERIALS - Specifications unless specified on the plans.

A. General: use locally available materials and gradations which exhibit a satisfactory record of previous installations.

B. Bluestone pavers: shall be durable, rectangular, bluestone pavers conforming to the following;

1. Size: thickness of pavers shall be 2-1/2" nominal. (2" minimum) Face size of pavers shall be as required to create patterns as shown on the drawings. Edges of pavers shall be sawn.
2. Finish: shall be natural cleft.
3. Color: pavers shall be grey to blue in color. No red or green colored pavers shall be used.

C. Bedding sand: clean, non-plastic sand manufactured from crushed rock. Do not use limestone screenings, stone dust or other materials with particles that pass the No. 200 sieve. Bedding sand shall conform to the following gradation when tested in accordance with ASTM C 136.

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95 - 100
No. 8 (2.36 mm)	85 - 100
No. 16 (1.18 mm)	50 - 85
No. 30 (0.600 mm)	25 - 60
No. 50 (0.300 mm)	10 - 30

D. Joint sand: clean, non-plastic sand manufactured from crushed rock. Joint sand shall conform to the following gradation when tested in accordance with ASTM C 136.

<u>Sieve Size</u>	<u>Percent Passing</u>
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	95 - 100
No. 16 (1.18 mm)	70 - 100
No. 30 (0.600 mm)	40 - 100
No. 50 (0.300 mm)	20 - 40
No. 100 (0.150 mm)	10 - 25
No. 200 (0.075 mm)	0 - 10

- E. Base course: processed aggregate conforming to the requirements of CTDOT Form 816, Section M.05, Article M.05.01.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the existing slab to remain and areas and conditions under which work of this Section will be installed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 EXISTING CONCRETE SLAB

A. Place processed aggregate base over existing concrete slab to proper elevation.

3.3 INSTALLATION OF BLUESTONE PAVEMENTS - GENERAL

A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be visible or cause staining in the finished work.

B. Cut pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

C. Lay pavers in joint pattern shown. Set pavers with hand-tight (buted) joints to 1/4" maximum joint spacing.

3.4 INSTALLATION OF BLUESTONE PAVEMENTS

A. Bluestone pavers: set pavers by hand in setting bed to create pattern as shown on the Drawings. Trim pavers as necessary to achieve desired pattern and joint spacing.

B. Select pavers to achieve a uniform appearance throughout the pavement area.

C. Align paver pattern with the existing building face.

D. Spread joint sand and fill joints immediately after setting pavers into setting bed. Brush sand until joints are completely filled, then remove surplus sand.

E. Do not allow traffic onto installed pavers until joints have been filled.

3.6 REPAIR, CLEAN-UP AND PROTECTION

A. Protect from traffic during all operations.

3.7 FINISH TOLERANCES

A. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units with same joint treatment to eliminate evidence of replacement.

B. Provide final protection and maintain conditions in a manner acceptable to installer, which ensures paver work being without damage or deterioration at time of substantial completion.

END OF SECTION 02785

SECTION 02730 – STORM DRAINAGE SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

- A. The work includes the complete installation of storm drainage systems as indicated on the plans. The placement of pipe culvert, culvert ends, construction of catch basins, U-drains (curtain drains), manholes, detention system, hydrodynamic separators, all related trench excavation, bedding material, compaction, dewatering, line and grade and the furnishing of all labor and materials for this work is included.

1.3 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

TRENCHING, BACKFILLING AND COMPACTING	SECTION 02221
CUTTING AND PATCHING	SECTION 02230
RIPRAP	SECTION 02261
ROCK AND BOULDER REMOVAL	SECTION 02211

1.4 SUBMITTALS AND CODES

- A. Certifications and/or manufacturers product data of materials listed in part 2.
- B. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

PART 2 - PRODUCTS

2.1 MATERIALS-Specifications unless specified on the plans.

- A. Bedding material shall be sand which passes a 3/8 inch sieve, and not more than 10% passes a No. 200 sieve. When "Fine Aggregate is used on the plans it shall mean Bedding Material. When ground water is encountered the use of 3/4 inch stone conforming to Section M.01.01 of the D.O.T. Specifications may be permitted upon approval of the Engineer. All material shall conform to Section M.08.0121.
- B. Bank Run Gravel shall conform to Grading "A" of Section M.02.06 of the D.O.T. Specifications.
- C. Pipe culverts shall be the type, size and class as specified on the plans. PVC shall be Polyvinyl Chloride Plastic Pipe in accordance with Article M.08.02.27 of the D.O.T. Specifications. RCP shall mean Reinforced Concrete Pipe in accordance with Article M.08.01.6. When no class is specified on the plans class IV or better shall be used. CPEP-S shall mean corrugated polyethylene pipe with smooth interior culvert in accordance with Article M.08.01.25 as manufactured by Hancor "Hi-Q" or ADS "N-12" or approved equivalent. All structures shall meet Connecticut DOT specifications.
- D. Gaskets shall be preformed plastic gaskets or flexible, watertight, rubber-type gaskets conforming to Article

M.08.01 of the D.O.T. Specifications.

- E. Concrete and reinforcement shall conform to Article M.03.01, Class “C” and M.06.01 of the D.O.T. Specifications.
- F. Mortar: Shall conform to the requirements of Section M.11.04 of the D.O.T. Specifications.
- G. 1” Stone: Shall conform to the requirements of Section M.01.01, grading No.4 of the D.O.T. Specifications.
- H. 1/2” Stone: Shall conform to the requirements of Section M.01.01, grading No.6 of the D.O.T. Specifications.
- I. Filter Fabric: Shall be non-woven with minimum physical properties of 1.5 ounce per square yard (per ASTM D-3776) and a flux of 100 gallons per square foot minimum (per ASTM D-4491).
- J. Catch basins and manholes shall conform to the requirements of Section M.08.02 of the D.O.T. Specifications.
- K. Contech Engineered Solutions – CDS Hydrodynamic Separators.

PART 3 - EXECUTION

3.1 STORM DRAINAGE CONSTRUCTION, GENERAL

- A. Construction Methods for this work shall generally conform to the requirements of Section 2.05, Section 5.07, Section 6.01, Section 6.02, Section 6.51 and Section 6.52 of the D.O.T. Specifications.
- B. Trench excavation shall be to the depths as indicated on the plans. When a drainage structure or pipe is to be eliminated it shall be completely removed and all pipes plugged with cement masonry or removed completely and the excavation backfilled. All excavation and backfilling shall be in accordance with Section 2.05 of the D.O.T. Specifications
- C. Pipe bedding shall be placed in accordance with the details on the plans. Bedding material under the pipe shall be four inches and pre-shaped to 10 % of the pipe diameter. After the pipe is installed bedding material shall be placed in accordance with the details on the plan. When poor foundation material is encountered installation shall be in accordance with Section 6.51.03 of the D.O.T. Specifications
- D. Pipe installation shall start at the downstream end and progress upstream. Pipe shall be installed true to lines and grade as shown on the plans. Hubs shall be upgrade with the spigot ends fully entered into the adjacent hubs. Pipe installation under the building shall conform to the plumbing.
- E. Install plastic marker tape 12” above all storm drains and culverts.
- F. Concrete Culvert Ends shall be placed on a six inch bank run gravel base. They shall be accurately aligned and the joints sealed as specified in Article 6.51.03 of the D.O.T. Specifications.
- F. Catch basins and manholes shall be constructed in accordance with the plans and Section 5.07 of the D.O.T. Specifications. Inlet and outlet pipes shall be flushed with the inside of the catch basin/manhole and be watertight. All concrete and reinforcement shall be in accordance with Sections 6.01 and 6.02 of the D.O.T. Specifications. Previous material shall be used for backfill the upper portion of the excavation.
- G. All catch basins, culverts, manholes, tanks etc. shall be completely cleaned of sediment or other debris prior to contractor vacating the site.

END OF SECTION 02730

SECTION 02513 – BITUMINOUS CONCRETE PAVEMENT AND CURBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. The work includes all labor, material, equipment and incidentals required to construct bituminous concrete paving and curbing, complete in place as shown on the Drawings and as specified.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

GRADING

SECTION 02212

PAVEMENT MARKINGS AND SIGNS

SECTION 02577

1.4 SUBMITTALS AND CODES

A. Certifications and/or manufacturer's product data of materials listed in part 2.

B. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

1.5 QUALITY ASSURANCE

A. Qualifications of Workmen: Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

B. For actual finishing of bituminous concrete and curbing and operation of the required equipment, use only personnel who are thoroughly trained and experienced in the skills required.

1.6 JOB CONDITIONS

A. Apply prime and tack coats when ambient temperature is above 50 degrees F and when temperature has not been below 35 degrees F for 12 hours immediately prior to application.

B. Construct bituminous concrete courses when atmospheric temperature is above 40 degrees F and when base course is dry and frost free. Base and sub-base courses may be placed when air temperature is above 30 degrees F.

C. Grade control: establish and maintain required lines and elevations.

PART 2 - PRODUCTS

2.1 MATERIALS - Specifications unless specified on the plans.

- A. Sub-Base: 3" Minus Controlled Fill conforming to the requirements of Section M.02.06, Grading B of the DOT Specifications.
- B. Base: Processed Aggregate Base conforming to the requirements of Section M.05.01-1, 2, &3 of the DOT Specifications.
- C. Gravel Surfaces: Processed Gravel conforming to the requirements of Section M.02.06, Grading C of the DOT Specifications.
- D. Pavement Materials: Bituminous concrete mixtures conforming to the requirements of Section M.04 of the DOT Specifications.
- E. In Section M.04, reference is made to the Chief, Materials Testing Section, to the Materials Testing Section, and to the Laboratory; none of which will be involved in this work. The Contractor shall do the work of the Chief, the Section, and the Laboratory; or arrange for the producer of the bituminous concrete to do this work. Make the determinations, verifications, rejections, approvals, tests, and inspections as specified by Section M.04 and as necessary to produce satisfactory bituminous mixtures.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be installed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 FINAL PREPARATION OF SUBGRADE

A. After preparation of subgrade as shown in these plans, thoroughly scarify and sprinkle the entire area to be paved, and then compact by rolling to a smooth, hard, even surface of 95 percent compaction to receive sub-base. Finish to the required grades, with due allowance for the thickness of base and bituminous concrete courses to be placed thereon.

B. Equipment: Compact by rolling with an accepted power roller having minimum compression of 300 pounds per inch of tread width on the rear wheel and weighing not less than 7 tons, except that equivalent vibratory roller or compactor may be used when specifically accepted by the Engineer.

3.3 CONSTRUCTION OF SUBBASE AND BASE COURSE

A. Construct processed aggregate base in accordance with the requirements of Article 3.04.03 of the DOT Specifications. This will include placing, compacting, wetting, and brooming of one course of the processed aggregate base material.

B. Make final compacted depth of processed aggregate base as shown on the Drawings with tolerances as specified under Article 3.04.04 of the DOT Specifications.

3.4 CONSTRUCTION OF BITUMINOUS CONCRETE PAVEMENT AND CURBING

A. Construct pavement in courses as called for on the Drawings. Use a class of bituminous concrete for each course as indicated on the Drawings. Thickness of each course: As shown on the Drawings.

Construct the bituminous concrete pavement in accordance with Article 4.06.03 and Article 8.15.03 for curbing of the DOT Specifications.

C Article 4.06.03-1 Samples: Samples will not be taken by Materials Testing Section. Arrange for the producing plant to take its own samples to ascertain that mixtures are proper. Provide certifications. The Contractor will have the ultimate responsibility. Owner reserves rights to conduct referee testing, as he in his sole opinion deems appropriate.

D. Article 4.06.03-2 Mixing Plant Inspection: Inspections, verifications, determinations, and approvals at the mixing plants will not be made by the Chief, Materials Testing Section. The Contractor will be responsible for mixtures and shall take whatever steps are required to ensure production of satisfactory mixtures. He shall certify that mixtures do meet specifications. Weights of completed mixtures will not be required.

E. Article 4.06.03-3 Mixing Plant Inspection - Field Laboratory: Delete in its entirety.

F. Article 4.06.03-3: In the fourth paragraph on Sheet 6, delete "Chief, Materials Testing Section" and substitute "Contractor."

G. Article 4.06.03-5: Delete "Chief, Materials Testing Section" wherever it appears and substitute "Contractor."

H. Certifications: Furnish certified test reports, material certificates, and certificates of compliance in accordance with the requirements of Article 1.06.07 of the DOT Specifications.

3.5 CONSTRUCTION OF GRAVEL SURFACES

A. Examine the subgrade and the conditions under which the gravel surfaces are to be installed. Do not install gravel surfaces until any unsatisfactory conditions have been corrected.

B. Subgrade preparation and Processed Aggregate Base: grade subgrade and base to required elevations and firmly compact.

C. Gravel Surface: Place processed gravel and compact by rolling with a 600-pound roller.

3.6 PROTECTION

A. Protect from traffic during all operations.

3.7 FINISH TOLERANCES

A. Finish surfaces to the following tolerances.

B. Processed Aggregate Base: Plus 0.00 feet to minus 0.05 feet from line grade shown on the Drawings.

C. Bituminous Concrete Surface Course: Plus or minus 0.05 feet at any point from line and grade shown on the Drawings.

D. Painting: Apply the marking paint in strict accordance with the manufacturer's published recommendations, using all means necessary to protect the painted surfaces until dry. Width: 4 inches unless otherwise indicated on the Drawings.

END OF SECTION 02513

SECTION 02481 – LANDSCAPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. The work includes all labor, material, equipment and incidentals required to do all landscaping work complete as shown on the Drawings and/or specified herein.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

TRENCHING, BACKFILLING AND COMPACTING
LOAMING & SEEDING

SECTION 02221
SECTION 02900

1.4 SUBMITTALS AND CODES

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specifications Sections.
- B. Product certificates signed by manufacturers certifying that their products comply with specified requirements.
 - 1. Manufacturer's certified analysis for standard products.
 - 2. Analysis for other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- C. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and address of architects and owners, and other information specified.
- D. Planting schedule indicating anticipated dates and locations for each type of planting.
- E. Maintenance instructions recommend procedures to be established by Owner for maintenance of landscape work during entire year. Submit before expiration of required maintenance periods.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to the indicated for this Project and with a record of successful tree and shrub establishment.
 - 1. Installer's Field Supervisions: Require Installer to maintain an experienced full-time supervisor on the Project site during times that tree and shrub planting is in progress.
- B. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Engineer's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.
- C. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable

requirements of ANSI Z60.1 “American Standard for Nursery Stock.”

1. Selection of trees and shrubs purchased under allowances, if any, will be made by Engineer, who will tag stock at their place of growth before they are prepared for transplanting.
- D. Topsoil Analysis: Furnish a soil analysis made by a qualified independent soil-testing agency stating percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious material, pH, soluble salts and mineral and plant-nutrient content of topsoil.
 1. Report suitability of topsoil for growth of applicable planting material. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate or other soil amendments to be added to produce satisfactory topsoil.
- E. Measurements: Measure trees and shrubs according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches (150mm) above ground for trees up to 4-inch (100mm) caliper size, and 12 inches (300mm) above ground for larger sizes. Measure main body of tree or shrub for height and spread: do not measure branches or roots tip-to-tip.
- F. Observation: The Engineer may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size and quality. Engineer retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site and replace.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Divisions 1 Section “Project Meetings.”

1.6 DELIVERY, STORAGE & HANDLING

- A. Deliver freshly dug trees and shrubs. Do not prune before delivery, except as approved by Engineer. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.
- B. Handle balled and burlapped material by the root ball.
- C. Deliver trees and shrubs after preparations for planting have been completed and install immediately. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist.
 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 2. Do not remove container-grown stock from containers before time of planting.
 3. Water root systems of trees and shrubs stored on site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.7 COORDINATION AND SCHEDULING

- A. Coordinate planting of trees and shrubs during normal planting seasons for such work in location of Project.
 1. Plant frost-tender trees and shrubs during normal planting seasons for such work in location of Project.
- B. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns, unless otherwise acceptable to Engineer.
 1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Warrant living trees and shrubs for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents which are beyond Contractor's control.
- C. Remove and replace dead trees and shrubs immediately unless required to plant in the succeeding planting season.
- D. Replace trees and shrubs that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
- E. A limit of one replacement of each tree and shrub will be required, except for losses or replacements due to failure to comply with requirements.

1.9 MAINTENANCE

- A. Maintain trees and shrubs during warranty period by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease. Maintain trees and shrubs for the following period:

- 1. Maintenance Period: 90 days following Substantial Completion.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL

- A. General: Unless otherwise indicated, furnish nursery-grown trees and shrubs conforming to ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- B. Grade: Provide trees and shrubs of sizes and grades conforming to ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Label at least 1 tree and 1 shrub of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.
 - 1. Where formal arrangements or consecutive order of trees or shrubs are shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

2.2 BALLED AND BURLAPPED STOCK MATERIAL

- A. Provide trees and shrubs dug with firm, natural ball of earth in which they are grown.
- B. Ball Size: Not less than sizes indicated.
- C. Ball Size: Not less than diameter and depth recommended by ANSI Z60.1 for type and size of trees or shrub requires. Increase ball size or modify ratio of depth to diameter to encompass enough fibrous and

feeding-root system necessary for full recovery of trees and shrubs.

- D. Wrap, tie, and rigidly support earth ball as recommended by ANSI Z60.1 for size of balls required. Drum-lace balls with a diameter of 30 inches (760 mm) or greater.

2.3 CONTAINER GROWN STOCK MATERIAL

- A. Provide healthy, vigorous, well-rooted trees or shrubs established in container. Provide balled and burlapped stock when required trees or shrubs exceed maximum size recommended by ANSI Z60.1 for container-grown stock.
 - 1. Established container stock is defined as a tree or shrub transplanted into container and grown long enough to develop new fibrous roots, so that root mass will retain its shape and hold together when removed from container.
- B. Containers: Rigid containers that will hold ball shape and protect root mass during shipping. Provide trees and shrubs established in containers of not less than minimum sizes recommended by ANSI Z60.1 for kind, type, and size of trees and shrubs required.

2.4 PLANTING MATERIAL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of six (6%) percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.
 - 1. Topsoil Source: Reuse surface soil stockpiled on-site and supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Verify suitability of stockpiled surface soil to produce topsoil.
 - 2. Topsoil Source: Amend existing in-place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources.
- B. Organic Soil Amendments:
 - 1. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve.
- C. Fertilizer:
 - 1. Bone meal: Commercial, raw or steamed, finely ground; a minimum of one (1%) percent nitrogen and ten (10%) percent phosphoric acid.
 - 2. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20% available phosphoric acid.
 - 3. 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:
 - a. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4% phosphorous, and 2% potassium, by weight.
 - 4. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - a. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
- D. Mulches:
 - 1. Organic Mulch: Shredded pine bark.

2. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve.
- E. Weed-Control Barriers:
1. Nonwoven Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. minimum.
 2. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd.

2.5 STAKES

- A. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2 by 2 inches (50 by 50 mm) by length indicated, pointed at one end.
- B. Tie Wire: ASTM A 641 (ASTM A 641M), Class 1, galvanized-steel wire, 2-strand, twisted, 0.106 inch (2.7 mm) in diameter.
- C. Hose Chafing Guard: Reinforced rubber or plastic hose at least 1.2 inch (13 mm) in diameter, black, cut to length required to protect tree trunks from damage.
 1. Edging Size: As indicated
 2. Stakes: Aluminum, ASTM B 221 (ASTM B 221M), alloy 6061-T6, approximately 1-1/2 inches (38 mm) wide by 12 inches (300 mm) long.
 3. Finish: Standard black-paint finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive trees and shrubs for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Engineer's acceptance of layout before planting. Make minor adjustments as may be required.

3.3 PLANTING SOIL ESTABLISHMENT

- A. Before mixing, clean topsoil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
- B. Mix soil amendments and fertilizers with topsoil at rates indicated below. Delay mixing fertilizer if planting does not follow placing of planting soil within a few days.

2 parts topsoil, 1 part organic amendment, 1 part excavated soil

- C. For tree pit and trench backfill, mix planting soil before backfilling and stockpile at site.

3.4 EXCAVATION

- A. Pits and Trenches: Excavate with sloped sides and with bottom of excavations slightly raised at center to assist drainage. Loosen hard subsoil in bottom of excavation.
 - 1. Balled and Burlapped Trees and Shrubs: Excavate approximately 3 times as wide as ball diameter and equal to ball depth, plus the following setting layer depth:
 - a. Setting Layer: Allow 3 inches (75 mm) of planting soil.
 - 2. Container-Grown Trees and Shrubs: Excavate 3 times as wide as container diameter and equal to container depth, plus the following setting layer depth:
 - a. Setting Layer: Allow 3 inches (75 mm) of planting soil.
- B. Dispose of Excess subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.
- C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
 - 1. Hardpan Layer: Drill 6-inch (150 mm) diameter holes into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Engineer if subsoil conditions evidence unexpected water seepage or retention in tree of shrub pits.
- E. Fill excavations with water and allow to percolate out, before placing setting layer and positioning trees and shrubs.

3.5 PLANTING TREES AND SHRUBS

- A. Set balled and burlapped stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
 - 1. Place stock on setting layer of compacted planting soil.
 - 2. Remove burlap and wire baskets from tops of balls and partially form sides, but do not remove from under balls. Remove pallets, if any, before setting. Do not use planting stock if ball is cracked or broken before or during planting operation.
 - 3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
- B. Set container-grown stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
 - 1. Carefully remove containers so as not to damage root balls.
 - 2. Place stock on setting layer of compacted planting soil.
 - 3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of

backfill.

- C. Dish and tamp top of backfill to form a 3-inch (75 mm) high mound around the rim of the pit. Do not cover top of root ball with backfill
- D. Wrap trees of 2-inch (50 mm) caliper and larger with trunk-wrap tape. Start at base of trunk and spiral cover trunk to height of first branches. Overlap wrap, exposing half the width, and securely attach without causing girdling. Inspect tree trunks for injury, improper pruning, and insect infestation and take corrective measures requires before wrapping.
- E. Planting Periods: All plant material (B&B, Container shrubs and Perennials) is to be installed from Mid-March to Mid July and September 1st to November 15th.

3.6 CONTINUOUS GROUND COVER & PERENNIAL BEDS

- A. Till the planting bed topsoil area to a minimum depth of 6" Spread humus to a minimum depth of 2" and add soil amendments as called for by topsoil tests. Rototill to a depth of 6" to obtain a uniform, continuous planting mixture.

3.7 MULCHING

- A. Mulch backfilled surfaces of pits, trenches, and other areas indicated.
- B. Organic Mulch: Apply the following average thickness of organic mulch and finish level with adjacent finish grades. Do not place mulch against trunks or stems.
 - 1. Thickness: 2-inches (50mm).

3.8 CLEANUP & PROTECTION

- A. During tree and shrub work, keep pavements clean and work area in an orderly condition.
- B. Protect trees and shrubs form damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

3.9 DISPOSAL OF SURPLUS & WASTE MATERIAL

- A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash and debris, and legally dispose of it off the Owner's property.

END OF SECTION 02481

SECTION 02270 – SEDIMENTATION AND EROSION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. The work includes all labor, material, equipment and incidentals necessary to intercept and filter overground water flows to prevent the movement of silt from the construction area.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

GRADING	SECTION 02212
RIPRAP	SECTION 02261

1.4 SUBMITTALS AND CODES

A. Certifications and/or manufacturers product data of materials listed in part 2.

B. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

C. Connecticut Guidelines for Soil Erosion and Sediment Control – 2002.

D. The Contractor's attention is directed to the erosion and sedimentation control narrative contained within the plans which specifies minimum control methods required and specific project phasing.

PART 2 - PRODUCTS

2.1 HAY BALES AND STAKES

A. Hay Bales: Forty pounds minimum weight and 120 pounds maximum weight.

B. Wood Stakes:
- Two per bale for securing bales.
- Two inches by two inches by a minimum of three feet long.

2.2 MATERIALS FOR SILT FENCE

A. Filter Fabric: Sub-article M.08.01-26, DOT Specifications. Obtain manufacturer's certification that filter fabric is suitable for the intended purpose. Do not use fabric susceptible to deterioration in sunlight. Submit 2-foot square sample and technical data sheet for acceptance by the Engineer. Submit manufacturer's installation instructions for acceptance by the Engineer.

B. Posts: Wood. Three-foot minimum length as shown on the Drawings. Cross-section dimensions as recommended by filter fabric manufacturer.

C. Other Suitable Mounting: As recommended by the manufacturer.
Provide materials as required by the manufacturer, for attaching fabric to posts.

2.3 WOODCHIPS

A. Wood Chips: Shall be the type called for on the plans and shall conform to the requirements of the Connecticut D.O.T. Specifications Article M.13.05.1.

2.4 CATCH BASIN SILT SACK

A. Silt Sack: Shall be the type called for on the plans or equal.

PART 3 - EXECUTION

3.1 PERFORMANCE

A. Place silt fence, silt sacks and haybales at locations shown on plan prior to construction. Observe maintenance requirements specified on plans. Protect all catch basins from erosion with a ring of hay bales.

B. Remove silt fences at completion of project unless Engineer directs otherwise.

END OF SECTION 02270

SECTION 02230 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. Execute cutting (including excavating), fitting or patching of Work.

B. In addition to contract requirements, upon written instructions of Engineer:

Uncover work to provide for Engineer's examination of covered work.

Remove samples of installed materials for testing.

Remove work to provide for alteration of existing work.

C. Do not endanger any work by cutting or altering work or any part thereof.

D. Do not cut or alter work of another contractor without written consent of Engineer.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

TRENCHING, BACKFILLING AND COMPACTING

SECTION 02221

1.4 SUBMITTALS AND CODES

A. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

B. Prior to cutting which affects structural integrity or safety of Project, or work of another Contractor, submit written notice to Engineer, requesting consent to proceed with cutting, including:

- Identification of Project.
- Description of affected work.
- Necessity for cutting.
- Affect on other work, on structural integrity of Project.

C. Description of proposed work. Designate:

- Scope of cutting and patching.
- Contractor and trades to execute work.
- Products proposed to be used.
- Extent of refinishing.

D. Alternatives to cutting and patching:

- Designation of party responsible for cost of cutting and patching.

- Prior to cutting and patching done on instruction of Engineer, submit cost estimate.
- E. Should conditions of Work, or schedule, indicate change of materials or methods, submit written recommendation to Engineer, including:
- Conditions indicating change.
 - Recommendations for alternative materials or methods.
 - Submittals as required for Substitutions.
 - Estimate of cost.
 - Submit written notice to Engineer, designating timework will be uncovered, to provide for observation.

1.5 PAYMENT FOR COSTS

Costs caused by ill-timed or defective work, or work not conforming to Contract Documents, including costs for additional services to Engineer: shall be borne entirely by the party responsible for the ill-timed, rejected or nonconforming work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for replacement of work removed shall comply with specifications or instructions of Engineer for type of work to be done.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of work including elements subject to movement or damage during:

- Cutting and patching.
- Excavating and backfilling.

B. After uncovering work, inspect conditions affecting installation of new products.

3.2 PREPARATION PRIOR TO CUTTING

A. Provide shoring, bracing and support as required to maintain safety and structural integrity of project.

B. Provide protection for other portions of Project.

C. Provide protection from elements.

3.3 PERFORMANCE

A. Execute fitting and adjacent of projects to provide finished installation to comply with specified tolerances, finishes.

B. Execute cutting and demolition by methods that will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

C. Execute excavating and backfilling by methods that will prevent damage to other work, and will repairs and new work.

D. Restore work that has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents and the instructions of the Engineer.

E. Refinish entire surfaces as necessary to provide an even finish.

F. Continuous Surfaces: To nearest intersections.

G. Assembly: Entire refinishing.

END OF SECTION 02230

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Attention is directed to the Contract, General Conditions, Modifications, and all Sections within Division 1, General Requirements, which are hereby made a part of this Specification Section.

1.2 WORK INCLUDED

A. The work includes all labor, material, equipment and incidentals necessary to excavate trenches to depths and widths shown or directed, backfill, compact, testing and dispose of surplus material. Provide drainage to make the bottom of the excavation dry and firm. Excavate unsuitable material below grade and backfill.

1.3 RELATED WORK

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

CUTTING AND PATCHING	SECTION 02230
ROCK AND BOULDER REMOVAL	SECTION 02211
GRADING	SECTION 02212
STORM DRAINAGE SYSTEM	SECTION 02730

1.4 SUBMITTALS AND CODES

A. Wherever reference is made to the D.O.T. Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (2004), as modified by Supplemental Specifications issued by the Connecticut Department of Transportation.

B. Material:

Representative samples of all materials, which require approval of the Engineer, shall be submitted five (5) days prior to the date of anticipated use.

1.5 JOB CONDITIONS

A. Dust Control:

Use all means necessary to control dust on and near the work. Apply water and/or calcium chloride to prevent dust from being a nuisance to the public or workers.

B. Protection:

Use all means necessary to protect all materials, living matter, utilities, pavements and structures. Particular care shall be exercised to protect tree root systems and tree trunks. In the event of damage, immediately make all repairs and replacement necessary to the approval of the Engineer and at no additional cost to the Owner.

C. Traffic Control:

Direct traffic throughout project by warning signs and flagmen to provide maximum safety for workmen, residents and traffic.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Common Fill:

Common fill shall not contain stones, rock, concrete or other rubble larger than ten (10) inches in diameter. It shall have physical properties that allow it to be easily spread and compacted.

Common fill shall be unfrozen and free of organics, trash, ice, wood, wet or soft plastic soils and other objectionable material which may be compressible or which cannot be compacted properly and shall consist of one or more of the following Unified soil types GW, GP, GM, SW, SP, and SM.

B. Free Draining Material:

Connecticut DOT Specification Form 816-M.02.07.

C. Sand:

Sand shall consist of clean mineral aggregate with particle size limits as follows:

<u>US Sieve Size</u>	<u>Percent Passing by Weight</u>
No. 4	100
No. 100	0 - 13
No. 200	0 - 12

D. Bank run gravel:

Connecticut DOT Specification Form 816 Section M.02.01, grading A.

E. Processed Aggregate Base:

Connecticut DOT Specification Form 816 Section M.05.01.

F. Crushed Stone:

Clean, sound, crusher run or natural stone, conforming to Connecticut DOT specifications M.01.01.

G. Other Material:

All other material required for completion of the work, but not specified herein, shall conform to the Connecticut DOT Standard specifications for Roads and Bridges and Incidental Construction, Form 816 and shall meet with the Engineer's approval.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Become thoroughly familiar with the site, the site conditions and all portions of the work falling under this Section. Inspect all physical features within and adjacent to the project and report to Engineer all deviations or discrepancies from information shown on the Drawings.

3.2 PREPARATION

A. Field Measurements:

Establish centerline of trenches.

Set elevations for work.

Perform all necessary clearing and grubbing.

Strip topsoil from all areas that will be substantially disturbed by or during construction. Avoid mixing topsoil with subsoil and stockpile it in areas on the site as approved by the Engineer. Topsoil shall be stockpiled free from brush, trash, stones and other extraneous material and protected until it is placed. The Contractor as directed by the Engineer shall dispose of any topsoil remaining after all work is in place.

All pavements shall be cut prior to removal with saws or approved power tools.

3.3 PERFORMANCE

A. Trenching:

Excavation shall be made to the widths and depths necessary for sheeting, bracing, pumping, draining and for all other work required. The Engineer must approve any deviations from the trench dimensions shown on the Drawings.

Where sand or screened or crushed gravel is used for bedding, the trench may be excavated by machinery to, or just below, the designated subgrade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.

Where pipe is to be laid directly on the trench bottom, the lower part of the trenches shall not be excavated to grade by machinery, the last of the material being excavated manually in such a manner that will give a flat bottom true to grade so that pipe can be evenly supported on undisturbed material. Bell holes shall be made as required.

Excavated material shall be stockpiled in such a manner as to prevent nuisance conditions. Surface drainage shall not be hindered.

When utilities are noted on the drawings as being extended 5' outside the building by either the electrical, plumbing, fire protection or HVAC contractor, it shall be the responsibility of the contractor to do all excavation and backfill up to the face of the building.

B. Below Grade Excavation and Refill:

If the material at or within 8 inches below the normal grade of the bottom of the trench is unsuitable for foundation, it shall be removed as directed by the Engineer and replaced by screened or bank-run gravel.

If the Contractor excavates below grade through error or for his own convenience, or through failure to properly dewater the trench, or disturbs the subgrade before dewatering is sufficiently complete, he may be directed by the Engineer to excavate below grade as set forth in the preceding paragraph, in which case the work of excavating below grade and furnishing and placing the refill shall be performed at his own expense.

If the material at the level of trench bottom consists of fine sand, sand and silt or soft earth, the subgrade material shall be removed to the extent directed and the excavation refilled with bank-run gravel for bedding of the pipe.

C. Drainage:

The Contractor shall at all times during construction provide and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavations, and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition. The dewatering method used shall prevent disturbance of earth below grade.

All water pumped or drained from the work shall be disposed of in a suitable manner without damage to surrounding property, and in accordance with pertinent rules and regulations.

No construction, including pipe laying, shall be allowed in water. No water shall be allowed to contact masonry or concrete within 24 hours after being placed.

The Contractor shall constantly guard against damage due to water and floatation and take full responsibility for all damage resulting from his failure to do so.

Any and all costs associated with dewatering that may be required for the installation of buildings foundations and site elements shall be included in the contractor's bid. This will include the installation of crushed stone as specified. The contractor shall carefully review all recommendations of the geotechnical report which are part of the contract documents. The contractor will be responsible for all dewatering required in the building footprints until such time as all slabs on grade are complete. The contractor will be responsible for dewatering on the site elements for the duration of the project.

D. Backfilling and Compacting:

As soon as practicable after pipe has been positioned, jointed, tested and approved by the Engineer for backfilling, backfilling shall begin and continue expeditiously. Should any of the work be backfilled prior to approval, it shall be uncovered for inspection at no cost to the Owner.

From the bottom of the trench to mid-diameter of the pipe, backfill shall be as noted on the drawings thoroughly compacted (95% of maximum density) by hand tamping.

From mid-diameter to 1 foot above top of pipe, backfill shall be as noted on the drawings placed in 8-inch layers compacted to 95% maximum density.

From 1 foot above top of pipe to subgrade for paved or gravel surfaces (or within 2 feet of surface), backfill shall be granular backfill placed in 8 inch layers compacted to 92% maximum density.

For subgrade or for 1 foot below traveled surface, backfill shall be gravel placed in 8-inch layers compacted to 95% maximum density. Compact subgrades by proof rolling which will consist of a minimum 8 passes over the subgrade with a vibratory roller having a minimum operating weight of 10 tons.

Backfilling shall be completed to original grades or as indicated on the Drawings. Settlements shall be corrected.

3.4 FIELD QUALITY CONTROL

A. Soil Compaction Tests:

Field determination will be made in accordance with the Standard Method of Testing for Density of soil in place by either the Sand-Cone Method ASTM 1556 the Rubber-Balloon Method ASTM D2167, or Nuclear Densometer.

Contractor shall include in their bids the cost for obtaining compaction testing by a qualified laboratory testing company.

3.5 ADJUSTMENT AND CLEANING

A. Disposal of Excess Material:

Segregate excavated material for suitability for use in backfilling.

Do not excavate material from the site except as authorized. Stockpile surplus material suitable for backfill until fill requirements are satisfied. Excess material including paving, rock and boulders shall be the Contractor's responsibility for disposal: first at municipal sites designated by the Owner and secondly at approved sites chosen by the Contractor.

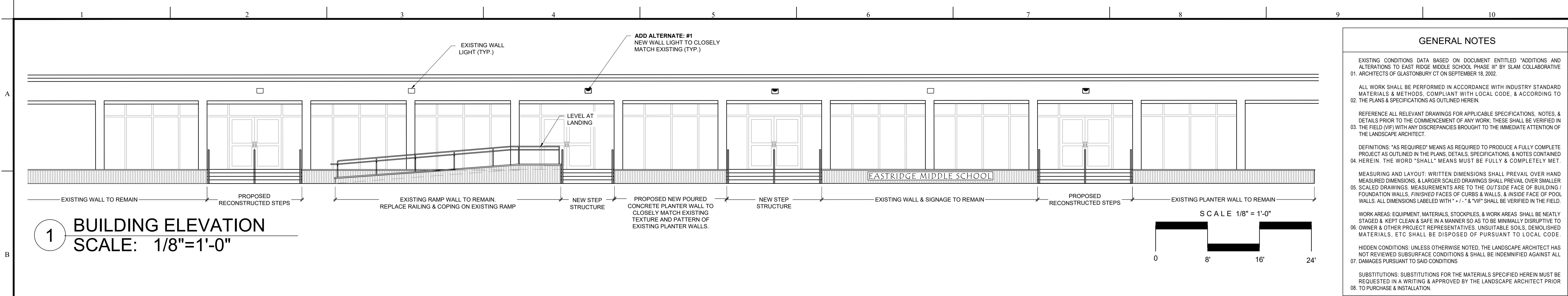
B. Restoring Trench Surface:

Trench surfaces shall be maintained constantly as work progresses. All areas of settlement shall be refilled immediately.

Surfaces other than paved traveled ways disturbed by trenching shall be restored by the Contractor to a condition at least equal to that was existing before work began.

Trenches in grassed area may be restored with either conserved loam or loam borrow at the Contractor's expense. Minimum depth of loam shall be 4 inch.

END OF SECTION 02221



GENERAL NOTES

EXISTING CONDITIONS DATA BASED ON DOCUMENT ENTITLED "ADDITIONS AND ALTERATIONS TO EAST RIDGE MIDDLE SCHOOL PHASE III" BY SLAM COLLABORATIVE 01. ARCHITECTS OF GLASTONBURY CT ON SEPTEMBER 18, 2002.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARD MATERIALS & METHODS, COMPLIANT WITH LOCAL CODE, & ACCORDING TO 02. THE PLANS & SPECIFICATIONS AS OUTLINED HEREIN.

REFERENCE ALL RELEVANT DRAWINGS FOR APPLICABLE SPECIFICATIONS, NOTES, & DETAILS PRIOR TO THE COMMENCEMENT OF ANY WORK; THESE SHALL BE VERIFIED IN THE FIELD (V/F) WITH ANY DISCREPANCIES BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT.

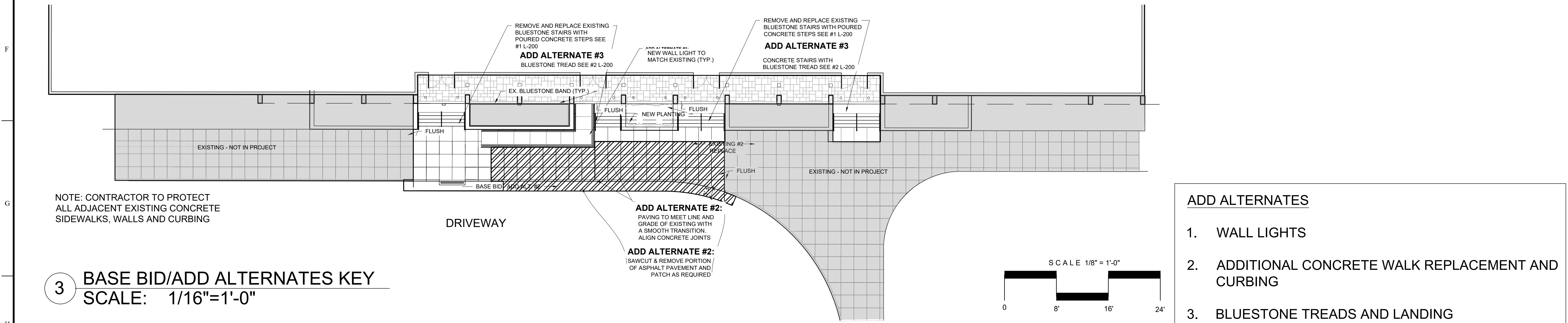
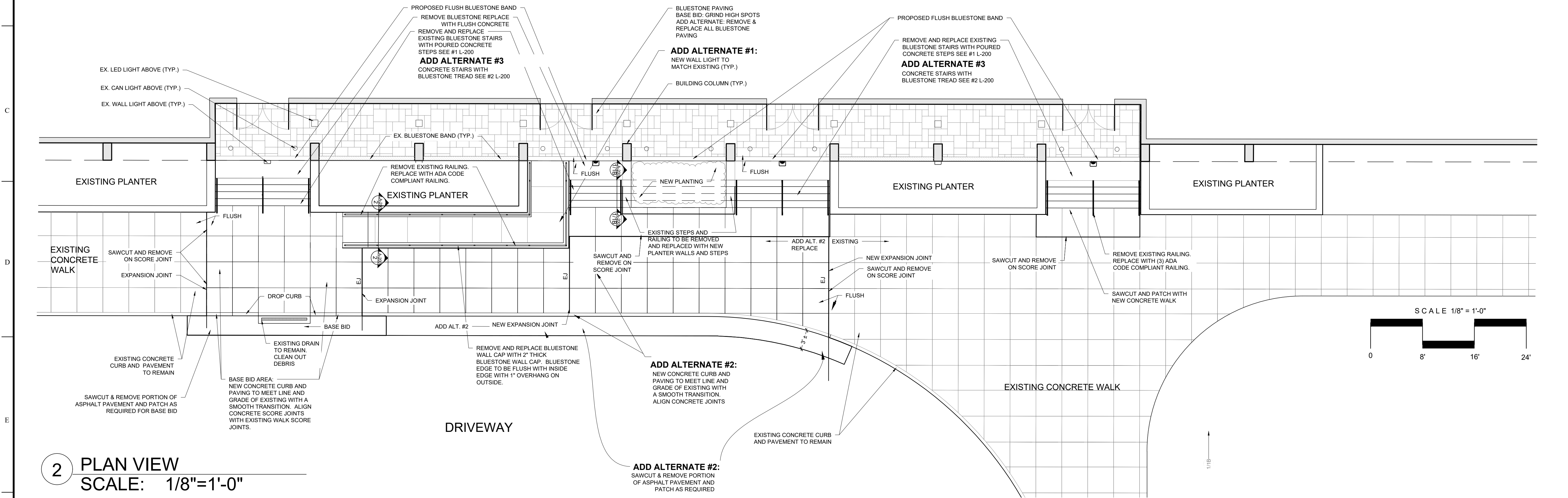
DEFINITIONS: "AS REQUIRED" MEANS AS REQUIRED TO PRODUCE A FULLY COMPLETE PROJECT AS OUTLINED IN THE PLANS, DETAILS, SPECIFICATIONS, & NOTES CONTAINED 04. HEREIN. THE WORD "SHALL" MEANS MUST BE FULLY & COMPLETELY MET.

MEASURING AND LAYOUT: WRITTEN DIMENSIONS SHALL PREVAIL OVER HAND MEASURED DIMENSIONS, & LARGER SCALED DRAWINGS SHALL PREVAIL OVER SMALLER 05. SCALED DRAWINGS: MEASUREMENTS ARE TO THE OUTSIDE FACE OF BUILDING / FOUNDATION WALLS, FINISHED FACES OF CURBS & WALLS, & INSIDE FACE OF POOL WALLS. ALL DIMENSIONS LABELED WITH "+/-", "& "V/F" SHALL BE VERIFIED IN THE FIELD.

WORK AREAS: EQUIPMENT, MATERIALS, STOCKPILES, & WORK AREAS SHALL BE NEATLY STAGED & KEPT CLEAN & SAFE IN A MANNER SO AS TO BE MINIMALLY DISRUPTIVE TO 06. OWNER & OTHER PROJECT REPRESENTATIVES. UNSUITABLE SOILS, DEMOLISHED MATERIALS, ETC SHALL BE DISPOSED OF PURSUANT TO LOCAL CODE.

HIDDEN CONDITIONS: UNLESS OTHERWISE NOTED, THE LANDSCAPE ARCHITECT HAS NOT REVIEWED SUBSURFACE CONDITIONS & SHALL BE INDEMNIFIED AGAINST ALL 07. DAMAGES PURSUANT TO SAID CONDITIONS.

SUBSTITUTIONS: SUBSTITUTIONS FOR THE MATERIALS SPECIFIED HEREIN MUST BE REQUESTED IN A WRITING & APPROVED BY THE LANDSCAPE ARCHITECT PRIOR 08. TO PURCHASE & INSTALLATION.



DATE:	2020-02-26
Revisions or Type of Drawing Submittal	
Revisions Base Bid/Add Alternates	
NO.	1
2	
3	
4	
5	
6	
7	
8	
9	
10	

Seal:

If Landscape Architect's Seal is not in a contrasting color, this sheet is a copy and not valid

Title:

LAYOUT PLAN

Project:

EAST RIDGE MIDDLE SCHOOL

RIDGEFIELD, CT

All drawings & content contained herein are instruments of professional service & the sole property of Studer Design Associates, Inc. Authorized representatives are granted a non-exclusive right to use these documents expressly for the interests of this project. The distribution, copying, or use of these materials for any other purpose is strictly prohibited.

STUDER DESIGN ASSOCIATES, INC.

LANDSCAPE ARCHITECTS AND SITE PLANNERS

679 Danbury Road
Ridgefield, CT 06877
(203) 894-1428 Phone
(203) 894-1429 Fax

Date: AUGUST 7, 2019

Drawn By: TJL

Scale: 1/8"=1'-0"

North:

Sheet: LA-100

SHEET 1 OF 4

- ADD ALTERNATES**
- WALL LIGHTS
 - ADDITIONAL CONCRETE WALK REPLACEMENT AND CURBING
 - BLUESTONE TREADS AND LANDING



01. CONCRETE: ALL CONCRETE SHALL BE AIR-ENTRAINED & INSTALLED IN ACCORDANCE WITH ACI 301 & 318. REINFORCING STEEL SHALL BE ASTM A601. REINFORCING STEEL SHALL BE EPOXY COATED (ASTM A955) FOR CONCRETE CAST ON EARTH & 2" FOR CONCRETE EXPOSED TO SOIL OR AIR. INSTALL PLASTIC CHAIRS & SPACERS FOR HORIZONTAL WOVEN MATRICES.
02. FOOTINGS: SHALL BEAR ON UNDISTURBED SOIL A MINIMUM OF 42" LOBE FINISHED GRADE OR BE PINNED DIRECTLY TO LEDEGE USING CONCRETE EMBEDMENT ADHESIVE. 2" COVER FOR CONCRETE. CAST IN SLABS. AS A HORIZONTAL WOVEN MATRIX. POUR AT 3,000 PSI & SLUMP NO MORE THAN 5".
03. FOUNDATIONS: INSTALL VERTICAL #4 RE BAR @ 4" O C TIED INTO THE HORIZONTAL FOOTING MATRIX & A CONTINUOUS HORIZONTAL MATRIX THROUGH THE CROSS SECTION. ALL FOUNDATIONS SHALL BE 18" DIAM & SLUMP NO MORE THAN 5". FOR CMU FOUNDATIONS, INSTALL PUSHLAW TRUSS UNITS EVERY OTHER COURSE & FILL ALL CAVITIES WITH CONCRETE.
04. SLABS: SHALL BEAR ON A 6" THICK BASE OF 3/4" TRAP ROCK COMPACTED IN LIFTS. INSTALL A 4" HORIZONTAL WOVEN MATRIX @ 4" O C BOTHWAYS WITH A #6 SO. WOVEN WIRE MESH AFFIXED TO THE 4" HORIZONTAL WOVEN MATRIX. ALL SLABS SHALL BE 4" THICK. ALL STRUCTURAL SLABS @ 4" THICK MINIMUM, & STRUCTURAL SLABS = 6" THICK MINIMUM. POUR AT 4,500 PSI & SLUMP NO MORE THAN 4".
05. CONCRETE STAIRS: INSTALL 4" CONTINUOUS REBAR NOSING INTO EACH RISER. PITCH ALL STAIRS A MINIMUM OF 1% TOWARDS LOWER RISERS OR LANDINGS. TREAD SLABS = 6" THICK MINIMUM.
06. STONE OR BRICK VENEER WALL UNITS: SHALL BE INSTALLED WITH STAINLESS STEEL TIE BARS. TIE BARS SHALL BE 1/2" DIA. & WALL CMU JOINTS @ 16" O C BOTHWAYS (NOT SHOWN IN DRAWINGS).

- 1 → UNDISTURBED EARTH OR SUITABLE BASE MATERIAL. CAPTURED TO 95%.
- 2 → AIR-ENTRAINED CONCRETE FOOTING @ 3,000 PSI & MAXIMUM # 5 SLUMP.
- 3 → # 4 HORIZONTAL RE BAR VOUCH @ 1' OC BOTH WAYS (FOOTINGS & SLABS).
- 4 → # 4 VERTICAL RE BAR @ 4' OC ACROSS FOUNDATIONS & CMU CAVITIES.
- 5 → CMU OR CONCRETE FOOTING / STEM WALL. SEE NOTES ABOVE.
- 6 → 3/4" TRAP RADAR COMPACTED IN 1' LIFTS WITH THICKNESS AS INDICATED.
- 7 → CONCRETE SIDEWALK - BROOM FINISHED, THICKNESS AS SHOWN.
- 8 → MORTARED SETTING BED ON CONCRETE - 1" DEPTH OR AS INDICATED.
- 9 → PAVING UNITS - 1/4" THICK THICKENING FLAGGING ON CONCRETE.
- 10 → 1/2" PRE-MOLDED NON-EXTRUDING EXPANSION JOINT & ELASTIC GROUT.
- 11 → BLUESTONE BANDING-1/2" WIDE x LENGTHS VARY .
- 12 → 2" THICK BLUESTONE CAP WITH 1" OVERHANG ON OUTSIDE - FLUSH INSIDE.
- 13 → #4 STAINLESS STEEL DOWEL - 1/2" O.C.
- 14 → NEW CONCRETE PLANTER WALL.
- 15 → NEW CONCRETE CURB WITH HAUNCH 18" DEEP WITH 6" EXPOSED CURB
- 16 → NEW ASPHALT STRIP - 2' FROM CURB.
- 17 → 2" THICK THICKENING BLUESTONE TREAD
- 18 → 1.5" O.D. TUBULAR STEEL HANDRAIL AND POSTS SET IN GALVANIZED STEEL SLEEVES WITH EPOXY GROUT. FABRICATOR TO PROVIDE SHOP DRAWINGS FOR HANDRAIL.

	EARTH / BACK FILL		MORTAR BED
	LOAM / PLANTING MEDIUM		PAVER OR CAP UNITS
	3/4" TRAP ROCK		EXPANSION JOINT
	CONCRETE		BARK MULCH

No.

Seal:

Title:

SITE DETAILS

Project:

EAST RIDGE
MIDDLE SCHOOL

RIDGEFIELD, CT

All drawings & content contained herein are instruments of professional service & the sole property of Studer Design Associates, Inc. Authorized representatives are granted a non-exclusive right to use these documents expressly for the interests of this project. The distribution, copying, or use of these materials for any other purpose is strictly prohibited.

STUDER
DESIGN
ASSOCIATES, INC.

679 Danbury Road
Ridgefield, CT. 06877
(203) 894-1428 Phone
(203) 894-1429 Fax

Date: AUGUST 7, 2019

Drawn By:	TJL
-----------	-----

Scale:	AS NOTED
--------	----------

North:	Sheet
--------	-------

LA-200

SHEET 2 OF 4

	1	2	3	4	5	6	7	8	9	10		
A	East Ridge Middle School Ridgefield, CT General: Conduct site clearing, demolition, and all construction operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct driveway streets, walks or other occupied or used facilities without permission from authorities having jurisdiction. Protection of Persons and Property: Ensure the safe passage of persons around the area of demolition and ensure continuing drainage plan. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, persons, and neighboring properties. Provide and maintain planking, lights, barricades, warning signs and guards required by insurance company regulations, state and local ordinances, and OSHA. Provide the necessary safeguards to prevent accidents, to avoid all necessary hazards and to protect the public, the work and the property <u>at all times</u>, including Saturdays, Sundays and holidays. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Provide flagmen, barricades, warning signs and warning lights as required for safety and protection of the work. Be responsible for any and all damages which may arise or occur to any party whatsoever by reason of the neglect in providing proper lights, guards, barriers or any other safeguards to prevent damage to property, life and limb. Provide protections necessary to prevent damage to existing improvements indicated to remain in place. Protect existing improvements adjacent to and abutting the proposed work on owner's property. Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction. Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.											
B												
C												
D	1			2			3					
E	Protection bottom of excavations and soil around and beneath foundations from frost. Grade around excavations to prevent surface water runoff into excavated areas. Set required lines, levels and grade stakes. Products and Execution: Imported stone fill: ½" processed stone fill free of any fines, organic material, loam, trash, snow, ice, frozen soil and other objectionable material. Off-site topsoil shall be fertile, friable, natural loam and surface soil, and reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2" in any dimension and other extraneous or toxic matter harmful to plant growth. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling. Take precautions to prevent slides or cave-ins when excavations are made in locations adjacent to backfilled excavations, and when sides of excavations are subject to vibrations from vehicular traffic or the operation of machinery, or from any other source. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Do not store within drip line of trees indicated to remain. Compaction: Compact top 6" of subgrade and each layer of backfill or fill material at 90% maximum density for cohesive soils and 95% relative density for cohesionless soils. Walkways: Under and to 5' outside of walkways, compact top 12" of subgrade and each layer of backfill or fill material at 95% maximum density for cohesive material or 95% relative density for cohesionless material.			Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible. Bituminous Concrete Paving: Extent of bituminous concrete paving work is shown on drawings. Materials and Placement: Materials and placement in accordance with State of Connecticut, Department of Transportation, Standard Specifications for roads, bridges and incidental construction, Form 813, Article referenced. Apply prime and tack coats when ambient temperature is above 50 degrees Fahrenheit (10 degrees Celsius), and when temperature has not been below 35 degrees Fahrenheit (1 degree Celsius) for 12 hours immediately prior to application. Do no apply when base is wet or contains an excess of moisture. Construct bituminous concrete surface course when atmospheric temperature is above 40 degrees Fahrenheit (4 degrees Celsius), and when base is dry. Base course may be placed when air temperature is above 30 degrees Fahrenheit (-1 degree Celsius) and rising. Base Materials, Asphalt-Aggregate Mixture: Base Material: (Processed Aggregate) Use locally available materials and gradations which exhibit a satisfactory record of previous installations. Provide asphalt-aggregate mixture as recommended by local paving authorities to suit project conditions. Binder Course: For pavements, bituminous concrete, Class 1 Mix. Top Course: Bituminous concrete, Class 2 Mix. Tack Coat: Emulsified asphalt, diluted with one-part water to one part emulsified asphalt. Execution Examine the subgrade and the conditions under which bituminous concrete paving is to be installed. Installation of bituminous concrete paving shall not proceed until unsatisfactory conditions, if any, have been corrected.			Contractor will be held strictly accountable for any damage to persons, properties, or premises resulting from failure to provide same, either through lack of proper judgment or for any other cause. Remove shoring and bracing only when new materials have been built in the structures are self-supporting. Where patching or repairing is indicated or required, new materials shall match existing adjacent materials, except where other materials are indicated or noted, or specified. Make cuts as near to finished lines as possible. Carefully patch and blend exposed existing surfaces and material at intersections of new and existing work. Clean and otherwise prepare existing surfaces to receive new finishes. Earthwork: Description of Work: Preparation of subgrade for walks and pavements is included as park of this work. Removal of unsuitable material is included as part of this work. Purchasing topsoil and/or fill from off-site sources, if required, is indicated in this section. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Excavations greater than 3' deep require the installation of a 5' high snow fence for protection. Operate warning lights as recommended by authorities having jurisdiction. Protect benchmarks, structures, utilities, sidewalks, pavements, and other facilities from damage caused by foot traffic, settlement, lateral movement, undermining, washout and other hazards created by earthwork operations. Protect excavations by shoring, bracing, sheet piling, underpinning or other methods as required to prevent cave-ins or loose dirt from falling into excavations.					
F												
G												
H	4			5			6					

DATE:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
-------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	1	2	3	4	5	6	7	8	9	10		
A	Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Portland Cement Concrete, walk pavement, and curbs. Extent of Portland cement concrete walk is shown on Drawings, including curbs, footings, steps, and poured concrete textured walks. All work shall be done in accordance with all local governing regulations having jurisdiction. Unless otherwise specified herein, or by local ordinances, all work shall be done in accordance with the latest edition of the ACI Building Code, ACI Manual of Standard Practice and ACI Specifications for Structural Concrete. All workmen shall be thoroughly trained and experienced in the necessary crafts and completely familiar with the specific requirements and the methods needed for proper performance of the work of this Section. Materials: <u>Forms:</u> Steel, wood or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required. Coat forms with a non-staining form releases agent that will not discolor or deface surface of concrete. <u>Welded Wire Mesh:</u> Welded plain cold-drawn steel wire fabric, ASTM A 185. Furnish in flat sheets, not rolls. <u>Reinforcing Bars:</u> Deformed steel bars, ASTM A 615, Grade 60. <u>Base Course:</u> Processed aggregate to requirements of State of CT D.O.T.. <u>Concrete Materials:</u> Comply with requirements of applicable Division 3 sections for concrete materials, admixtures, bonding materials, curing materials and others as required. <u>Expansion Joint Materials:</u> Pre-molded, non-extruding joint filler, conforming ½" thick as detailed on plan. <u>Epoxy Resin Grout:</u> FS MMM-G-650. <u>Concrete Mix and Design:</u> Comply with requirements for concrete mix design and quality control as herein specified.			Design mix to produce normal-weight concrete consisting of Portland cement, aggregate, water-reducing or high-range water-reducing admixture (super-plasticizer), air-entraining admixture and water to produce the following properties: -Compressive Strength: 4,000 psi, minimum at 28 days. -Slump Range: 8" for concrete containing HRWR admixture (super-plasticizer); 3" for other concrete. -Air Content: 5% to 8%. Execution: Examine the subgrade and the condition under which concrete pavements, curbs, etc., are to be installed. Installation shall not proceed until all unsatisfactory conditions, if any, have been corrected. Remove loose material from compacted subbase surface immediately before placing concrete. Thickness of base course shall be as detailed. Finish base course shall be thoroughly compacted and moistened as required. Set forms to required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement. Clean forms after each use, and coat with form release agent as often as required to ensure separation from concrete without damage. Continuous mesh reinforcing shall be lapped at least on wire space. All reinforcing steel within the limits of 1 day's pour shall be in place and firmly wired before concrete pouring starts. Bending of bars by use of heat will not be permitted. Concrete Placement: Comply with requirements for mixing and placing concrete and has herein specified. DO NOT place concrete until subbase and forms have been checked for line and grade. Moistened base if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment. Place concrete using methods which prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement or side forms. Use only square-faced shovels for hand-spreading			and consolidation. Consolidate with care to prevent dislocation of reinforcing dowels and joint devices. Deposit and spread concrete in a continuous operation between transverse joints, as far as possible. If interrupted for more than ½ hour, place a construction joint. Use bonding agent at locations where fresh concrete is placed against hardened / partially hardened concrete surfaces. When adjacent pavement lanes are placed in separate pours, do not operate equipment on concrete until pavement has attained sufficient strength to carry loads without injury. <u>Fabricated Bar Mats:</u> Keep mats clean and free from excessive rust, and handle units to keep them flat and free of distortions. Straighten bends, kinks or other irregularities, or replace units as required before placement. Set mats for a minimum 2" overlap to adjacent mats. Place concrete in 2 operations; strike-off initial pour for entire width of placement and to the required depth below finish surfaces. Lay fabricated bar mats immediately in final position. Place top layer of concrete, strike-off and screed. Remove and replace portions of bottom layer of concrete which has been placed more than 15 minutes without being covered by top layer. Concrete Finishing: After striking-off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture. After floating, test surfaces for trueness with a 10' straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous smooth finish. Work edges of slabs, back top edge of curb and formed joints with an edging tool, and round to ½" radius, unless otherwise indicated. Eliminate tool marks on concrete surface. After completion of floating an troweling when excess moisture or surface sheen has disappeared, complete surface finishing to closely match existing adjacent concrete surfaces. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Architect.					
B												
C												
D	7			8			9					
E	Joints: When joining existing structures, place transverse joints to align with previously placed joints, unless otherwise indicated. <u>Control Joints:</u> Provide weakened-plane (contraction) joints, sectioning concrete into areas as shown on Drawings. Construction weakened plane joints for a depth equal to at least ¼ concrete thickness, as follows: -Tooled Joints: Form weakened-plane joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer. <u>Expansion Joints:</u> Provide premolded joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks, walls, and other fixed objects, unless otherwise indicated on Drawings. Refer to Drawings for expansion joint detail. Locate expansion joints at 15' o.c. or as detailed. Extend joint fillers full width and depth of joint, and not less than ½" or more than 1" below finished surface where joint sealer is indicated. If no joint sealer, place top of joint filler flush with finished concrete surface. Furnish joint fillers in one-piece lengths for full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together. Protect the top edge of joint filler during concrete placement with wood strip, metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Architect. Curing: Protect concrete so that the temperature at the surface will not fall below 50 degrees Fahrenheit, and that there will be no loss of moisture from concrete surfaces for a period of seven days. Finished concrete shall be kept continuously damp for seven days after pouring. Cover concrete surfaces with approved kraft paper, burlap or polyethylene sheeting. Surfaces shall be completely covered with edges and ends capped at least 4 inches.			Repair or Replace: Repair or replace broken or defective concrete, as directed by the Landscape Architect and/or Owner. Protect Concrete: Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur. Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection. Clean-Up: Keep grounds clean of rubbish caused by work and of unused materials at all times. Dispose of rubbish off-site. Remove all material and debris which has accumulated as a result of the work of this Section and dispose of it at the Contractor's expense. Unsuitable material, which shall include trees, brush, other organic material, bituminous materials and materials that will not provide stable embankment, shall become the Contractor's property. Dispose of the materials legally off-site. Remove waste materials and unsuitable and excess topsoil from Owner's property and dispose of off-site in a legal manner. Dispose of excess soil material and waste materials as herein specified. Remove unused materials and equipment. Leave are clean.								
F												
G												
H	10			11								

DATE:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
-------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE:												
Revisions or Type of Drawing Submittal												
NO.	1	2	3	4	5	6	7	8	9	10	11	12
Seal:												
If Landscape Architect's Seal is not in a contrasting color, this sheet is a copy and not valid												
Title: SITE SPECIFICATIONS (PAGE 2)												
Project: EAST RIDGE MIDDLE SCHOOL RIDGEFIELD, CT All drawings & content contained herein are instruments of professional service & the sole property of Studer Design Associates, Inc. Authorized representatives are granted a non-exclusive right to use these documents expressly for the interests of this project. The distribution, copying, or use of these materials for any other purpose is strictly prohibited.												
STUDER DESIGN ASSOCIATES, INC. LANDSCAPE ARCHITECTS AND SITE PLANNERS 679 Danbury Road Ridgefield, CT 06877 (203) 894-1428 Phone (203) 894-1429 Fax												
Date: AUGUST 7, 2019												
Drawn By: TJL												
Scale:												
North: Sheet:												
LA-301 SHEET 4 OF 4												