TOWN OF GLASTONBURY

INVITATION TO BID

BID #	ITEM	DATE & TIME REQUIRED
GL-2010-50 **REBID**	Earle Park Footbridge Replacement	June 9th, 2010 @ 11:00 A.M.

The Town of Glastonbury is currently seeking bids for the construction of a 50-foot-long fiber reinforced polymer (FRP) composite pedestrian bridge on concrete abutments and associated stream bank stabilization work.

A **mandatory pre-bid meeting** will be held at the project site on Wednesday June 2nd at 9:00 A.M. Interested parties should meet in the rear parking area of the Town-owned "Cider Mill" property, located at 1287 Main Street, Glastonbury. **Contractors who attended the pre-bid meeting for this project on May 19th, 2010 are not required but are encouraged to attend.**

Bid Forms may be obtained at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033, (second level) and via the Town's website at www.glastonbury-ct.gov.

The Town reserves the right to waive informalities or reject any part of, or the entire bid, when said action is deemed to be in the best interests of the Town. All Sealed Bids must be submitted to the Office of the Purchasing Agent no later than the time and date indicated. All bids will be publicly opened and read.

Mary F. Visone
Purchasing Agent

TABLE OF CONTENTS SECTION

1. Sealed bids **(one original and one copy)** on the attached Bid Forms will be received at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033 (second level). At the designated time of opening, they will be publicly opened, read, recorded and placed on file.

2. Whenever it is deemed to be in the best interest of the Town, the Town Manager, Purchasing Agent or designated representative shall waive informalities in any and all bids. The right is reserved to reject any bid, or any part of any bid, when such action is deemed to be in the best interest of the Town of Glastonbury.

3. The award will be on the basis of bid total cost unless otherwise specified.

4. Bids will be carefully evaluated as to conformance with stated specifications.

5. The envelope enclosing your bid should be clearly marked by bid number, time of bid opening, and date.

6. Specifications must be submitted complete in every detail and, when requested, samples shall be provided. If a bid involves any exception from stated specifications, they must be clearly noted as exceptions, underlined, and attached to the bid.

7. The Bid Documents contain the provisions required for the requested item. Information obtained from an officer, agent, or employee of the Town or any other person shall not affect the risks or obligations assumed by the Bidder or relieve him/her from fulfilling any of the conditions of the bid.

8. Each Bidder is held responsible for the examination and/or to have acquainted themselves with any conditions at the job site which would affect their work before submitting a bid. Failure to meet this criteria shall not relieve the Bidder of the responsibility of completing the bid without extra cost to the Town of Glastonbury.

9. Any bid may be withdrawn prior to the above-scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No Bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof. Should there be reasons why a bid cannot be awarded within the specified period, the time may be extended by mutual agreement between the Town and the Bidder.

10. Each bid must be accompanied by a bid bond payable to the Town for ten percent (10%) of the total amount of the bid. The bid bond of the successful Bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a bid bond. The Town of Glastonbury will not be liable for the accrual of any interest on any certified check submitted. Cashier's checks will not be accepted.

11. A 100% Performance and Payment bond are required of the successful bidder. This bond shall cover all aspects of the specification and shall be delivered to the Purchasing Agent prior to the issuance of a purchase order. The Performance and Payment Bond will be returned upon the delivery and acceptance of the bid items.

12. The Bidder agrees and warrants that in the submission of this sealed Bid, they will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability including, but not limited to blindness, unless it is shown by such Bidder that such disability prevents performance of that which must be done to successfully fulfill the terms of this sealed Bid or in any manner which is prohibited by the laws of the Untied States or the State of Connecticut: and further agrees to

provide the Human Relations Commission with such information requested by the Commission concerning the employment practices and procedures of the Bidder. An Affirmative Action Statement will be required by the successful Bidder.

13. Bidder agrees to comply with all of the latest Federal and State Safety Standards and Regulations and certifies that all work required in this bid will conform to and comply with said standards and regulations. Bidder further agrees to indemnify and hold harmless the Town for all damages assessed against the Town as a result of Bidder's failure to comply with said standards and/or regulations.

14. All correspondence regarding any purchase made by the Town of Glastonbury shall reference the Town's purchase order number. Each shipping container shall clearly indicate both Town purchase order number and item number.

15. Bidder is required to review the Town of Glastonbury Code of Ethics adopted July 8, 2003 and effective August 1, 2003. Bidder shall acknowledge that they have reviewed the document in the area provided on the bid/proposal response page (BP). The selected Bidder will also be required to complete and sign an Acknowledgement Form prior to award. The Code of Ethics and the Consultant Acknowledgement Form can be accessed at the Town of Glastonbury website at **www.glastonbury-ct.gov**. Upon entering the website click on **General Information**, then **Bids and Quotes** which will bring you to the links for the **Code of Ethics** and the **Consultant Acknowledgement Form**. If the Bidder does not have access to the internet, a copy of these documents can be obtained through the Purchasing Department at the address listed within this bid/proposal.

16. **Non-Resident Contractors:**

The Town is required to report names of non-resident (out-of-State) contractors to the State of Connecticut, Department of Revenue Services (DRS) to ensure that Employment Taxes and other applicable taxes are being paid by Contractors. **Upon award, all non-resident contractors must furnish a five percent (5%) sales tax guarantee bond (State Form AU-766) or a cash bond for five percent (5%) of the total contract price (State Form AU-72) to DRS even though this project is exempt from most sales and use taxes.**

See State Notice to Non-Resident Contractors SN 2005 (12). If the above bond is not provided, the Town is required to withhold five percent (5%) from the contractor's payments and forward it to the State DRS.

The contractor must promptly furnish to the Town a copy of the **Certificate of Compliance** issued by the State DRS.

17. Bidder shall include on a sheet(s) attached to its proposal a complete disclosure of all past and pending mediation, arbitration and litigation cases that the bidder or its principals (regardless of their place of employment) have been involved in for the most recent five years. Please include a statement of the issues in dispute and their resolution. Acceptability of Bidder based upon this disclosure shall lie solely with the Town.

18. Bidder or its principals, regardless of their place of employment, shall not have been convicted of, nor entered any plea of guilty, or nolo contendere, or otherwise have been found civilly liable or criminally responsible for any criminal offense or civil action. Bidder shall not be in violation of any State or local ethics standards or other offenses arising out of the submission of bids or proposals, or performance of work on public works projects or contracts.

19. It is the responsibility of the bidder to check the Town's website before submitting bid for addendums posted prior to bid opening.

20. **Qualifications Statements and References:**

Respondents shall include a description of three (3) projects completed by *the bidder* within the past five years with references to demonstrate successful experience with projects of comparable scope and complexity as the subject project as part of their bid response. This shall include a minimum of one (1) bridge project of a scope greater than or equal to the subject project.

Respondents shall also include the following information regarding the proposed *bridge manufacturer* as part of their bid response: 1) A statement of qualifications from the bridge manufacturer indicating the successful design and fabrication of Fiber Reinforced Polymer (FRP) pedestrian bridges over the past five years. 2) A list of five successful bridge projects of similar construction, each of which has been in service at least three years, including the location, bridge size, owner and contact reference for each bridge. 3) A recent manufacturer brochure.

IMPORTANT: Failure to comply with general rules may result in disqualification of the Bidder.

NOTE: Any technical questions regarding this bid shall be made in writing (email acceptable) and directed to Stephen Braun, Assistant Town Engineer, 2155 Main Street, PO Box 6523, Glastonbury, CT 06033; stephen.braun@glastonbury-ct.gov. Telephone (860) 652-7734 between the hours of 8:00 a.m. – 4:30 p.m. For administrative questions concerning this bid/proposal, please contact Mary F. Visone, Purchasing Agent, at (860) 652-7588. All questions, answers, and/or addenda, as applicable will be posted on the Town's website at www.glastonbury-ct.gov. (Upon entering the website click on Bids & RFP's). The request must be received at least five (5) business days prior to the advertised response deadline**. It is the respondent's responsibility to check the website for addenda prior to submission of any bid/proposal.**

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01.00 WORKMANSHIP, MATERIALS AND EMPLOYEES

01.01 Wherever in this contract the word "Engineer" is used, it shall be understood as referring to the Town Engineer/Manager of Physical Services of the Town of Glastonbury acting personally or through any assistants duly authorized.

01.02 The entire work described herein shall be completed in accordance with the plans and specifications to the full intent and meaning of the same. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and material shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

01.03 The wording "furnish", "install", "construct", "furnish and install", or any similar terms, unless specifically noted to the contrary, shall include all labor, materials, water, tools, equipment, light, power, transportation, and any other services required for the completion of the work.

01.04 The Contractor shall at all times enforce strict discipline and good order among his employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned to him.

02.00 SUPERINTENDENT

02.01 The Contractor shall keep on the work during its progress, in the absence of the Contractor, a competent Superintendent. The Superintendent shall be acceptable to the Engineer and shall fully represent the Contractor. All directions given to the Superintendent shall be binding as if given to the Contractor.

03.00 PRECONSTRUCTION MEETING

03.01 A Preconstruction Meeting will be held with the Engineer, Contractor, and any private utility company prior to commencing any work. The Engineer shall arrange the meeting based on a mutually convenient time.

04.00 PERMITS

04.01 Other than local permits, all permits, licenses, and fees required for the performance of the Contract work shall be secured and paid for by the Contractor.

05.00 PROPERTY ACCESS

05.01 The Contractor shall take all proper precautions to protect from injury or unnecessary interference, and provide proper means of access to abutting property where the existing access is cut off by the Contractor.

05.02 The Contractor shall take all proper precautions to protect persons from injury or unnecessary inconvenience and leave an unobstructed way along the public and private places for travelers, vehicles, and access to hydrants.

05.03 The Contractor shall make arrangements with the adjacent property owners for such trespass as he may reasonably anticipate in the performance of the work. All such arrangements shall be reported, in writing, to the Engineer.

06.00 PROTECTION OF THE PUBLIC AND OF WORK AND PROPERTY

06.01 The Contractor shall continuously maintain adequate protection of all work from damage, and shall take all reasonable precautions to protect the Town from injury or loss arising in connection with the Contract.

06.02 The Contractor shall adequately protect adjacent private and public property as provided by law and the Contract Documents.

06.03 The Contractor shall make good any damage, injury, or loss of his work and to the property of the Town resulting from lack of reasonable protective precautions.

07.00 EXISTING IMPROVEMENTS

07.01 The Contractor shall conduct his work so as to minimize damage to existing improvements. Except where specifically stated otherwise in the specifications, drawings, or as directed by the Engineer, it will be the responsibility of the Contractor to restore to their original condition, as near as practical, all improvements on public or private property. This shall include:

a. Property within and adjacent to the side of installation such as shrubs, walks, driveways, fences, etc.

b. Utility mains, ducts, poles, and services. The Contractor is hereby notified that utilities, if/where shown on the plans, are at approximate locations. These locations are subject to possible errors in the source of information and errors in transcription. The Contractor shall make certain of the exact location of all mains, ducts, poles, and services prior to excavation.

08.00 SEPARATE CONTRACTS

08.01 The Engineer reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs. Wherever work being done by the Town of Glastonbury forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Engineer to secure the completion of the various portions of the work.

09.00 INSPECTION OF WORK

09.01 The Town shall provide sufficient personnel for the inspection of the work.

09.02 The Engineer shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

09.03 If the specifications or the Engineer's instructions require any work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection and, if the inspection is by another authority other than the Engineer, of the date fixed for such inspection. Inspections by the Engineer shall be made promptly. If any work should be covered up without approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination and properly restored at the Contractor's expense.

09.04 Reinspection of any work may be ordered by the Engineer. If such work is found to be in accordance with the Contract Documents, the Town shall pay the cost of reinspection and replacement. If such work is not in accordance with the Contract Documents, the Contractor shall pay such cost.

10.00 RIGHT TO INCREASE OR DECREASE WORK

10.01 The Town shall have the right to increase or decrease the amount of work herein specified as may be required.

11.00 RIGHT OF ENGINEER TO STOP WORK FOR WEATHER CONDITIONS

11.01 Should the work, in the opinion of the Engineer, be in danger by reason of inclemency of weather, or could not be finished in time to prevent such danger, the Contractor shall cease operations upon order of the Engineer, and shall not resume them until ordered to do so by the Engineer when the weather conditions are favorable. The Contractor shall, upon such orders, discontinue work, remove all materials or appliances for or in use upon the work, and place the streets in proper condition for use by the public during the time the work is suspended as herein provided, without cost to the Town.

12.00 CONTRACTOR TO BE RESPONSIBLE FOR IMPERFECT WORK OR MATERIALS

12.01 Any faithful work or imperfect material that may be discovered before the acceptance and the payment of the work shall be corrected upon the order of the Engineer. The acceptance and payment of the work does not in any manner relieve the Contractor of his obligation to construct work in the proper manner and the use of materials herein specified.

13.00 TOWN MAY NOTIFY CONTRACTOR IF WORK IS NOT CARRIED ON SATISFACTORILY

13.01 If, in the opinion of the Engineer, the Contractor is not proceeding with the work at a sufficient rate of progress so as to finish in the time specified, or has abandoned said work, or is not complying with the terms and stipulations or the Contract and specifications, the Engineer may serve notice on the Contractor to adopt such methods as will ensure the completion of the work in the time specified.

13.02 If, within five days after the Engineer has notified the Contractor that his work is not being carried on satisfactorily as before mentioned, the Engineer shall have the right to annul the Contract and manage the work under the direction of the Engineer, or re-let, for the very best interest of the Town as a new contract, the work under said new Contract shall be considered the responsibility of the defaulting Contractor.

13.03 Additional costs incurred over and above the original Contract shall be borne by the Performance Bond.

14.00 DEDUCTIONS FOR UNCORRECTED WORK

14.01 If the Engineer deems it inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

14.02 The Contractor shall promptly remove from the premises all materials condemned by the Engineer as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the Town, and shall bear the expense of making good all work by other contractors destroyed or damaged by such removal or replacement.

14.03 If the Contractor does not remove such condemned work and materials as promptly as possible after written notice, the Engineer may remove them and store the materials at the expense of the Contractor.

15.00 CLEANING UP

15.01 The Contractor must remove all debris of every description as the work progresses and leave the surroundings in a neat and orderly condition to the satisfaction of the Engineer.

15.02 Upon completion, and before acceptance and final payment, the Contractor shall remove from the site all equipment, forms, surplus material, rubbish and miscellaneous debris and leave the site in a neat and presentable condition.

16.00 ROYALTIES AND PATENTS

16.01 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Town of Glastonbury harmless from loss on account thereof, except that the Town of Glastonbury shall be responsible for all such loss when a particular manufacturer, product, or process is specified by the Town of Glastonbury.

01.00 NOTICE TO CONTRACTOR

01.01 Intent of Contract: The intent of the Contract is to prescribe a complete work or improvement that the Contractor undertakes to do, in full compliance with the specifications, plans, special provisions, proposal, and Contract. The Contractor shall perform all work in close conformity with the lines, grades, typical cross-sections, dimensions, and other data shown on the plans or as modified by written orders, including the furnishing of all materials, implements, machinery, equipment, tools, supplies, transportation, labor, and all other things necessary to the satisfactory prosecution and completion of the project.

01.02 The Contractor is hereby alerted to the fact that the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816 (Form 816") and supplements thereto are to be considered part of the Contract Documents. The Form 816 shall not be provided by the Town and any cost associated therewith shall be the responsibility of the Contractor. In case of any discrepancy between the Contract Drawings or Specifications and the Form 816, the matter shall immediately be submitted to the Engineer. The Engineer shall have sole authority in resolving any discrepancies.

01.03 The project site is located in a relatively remote area of Earle Park, with access intended via existing farm roads on the adjacent Town-owned "Cider Mill" property located at 1287 Main Street. Passage across open fields contained within Earle Park will also be required, which may be wet depending on the time of year. It is the Contractor's responsibility to verify that suitable access is available for his intended work methods, and shall include any additional costs in the bid as required to provide suitable access to the work area. All areas disturbed as part of the construction shall be restored to match conditions that existed prior to construction.

01.04 The northern bridge abutment is located across Holland Brook from the proposed access, and access to this area by heavy equipment will be limited based on environmental permits. Specialized small equipment or hand methods may be required for moving materials to the area of this abutment in order to comply with the permits. The Contractor shall include the cost for this work in his bid as required to minimize disturbance to the watercourse and comply with all environmental permit requirements.

01.05 Much time and effort has gone into this project in an effort to minimize impact on trees and adjacent properties. Extreme care shall be taken by the Contractor to honor commitments made by the Town. Prior to doing any work, the Contractor should meet with the Engineer to become familiar with the conditions encountered and commitments made.

02.00 COMMUNICATIONS

02.01 All notices, demands, requests, instructions, approvals, proposals, and claims must be in writing.

02.02 Any notice to, or demand upon, the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement (or at such other office as the Contractor may, from time to time, designate) in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.

02.03 All papers required to be delivered to the Town shall, unless otherwise specified in writing to the Contractor, be delivered to the Town Engineer/Manager of Physical Services, 2155 Main Street, Glastonbury, CT 06033, and any notice to, or demand upon, the Town shall be delivered at the above address in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office or to such other representatives of the Town, or to such other address as the Town may subsequently specify in writing to the Contractor for such purpose.

02.04 Any such notice shall be deemed to have been given as of the time of actual delivery or, in case of mailing, when the same should have been received in due course of post or, in the case of telegrams, at the time of actual receipt, as the case may be.

03.00 PARTIAL USE OF IMPROVEMENTS

03.01 The Town may, at its election, give notice to the Contractor and place in use those sections of the work that have been completed, inspected and can be accepted as complying with the Contractor Documents and if, in its opinion, each such section is reasonably safe and fit for the use and accommodation for which it was intended, provided:

a. The use of such sections of the work shall not materially impede the completion of the remainder of the work by the Contractor.

b. The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

c. The use of such sections shall in no way relieve the Contractor of his liability due to having used defective materials or to poor workmanship.

d. The period of guarantee shall not begin until the date of the final acceptance of all work required under this Contract.

04.00 INSURANCE

04.01 The Contractor shall, at its own expense and cost, obtain and keep in force during the entire duration of the Project or Work the following insurance coverage covering the Contractor and all of its agents, employees and sub-contractors and other providers of services and shall name the **Town its employees and agents as an Additional Insured** on a primary and non-contributory basis to the Bidders Commercial General Liability and Automobile Liability policies. **These requirements shall be clearly stated in the remarks section on the Contractors Certificate of Insurance**. Insurance shall be written with Carriers approved in the State of Connecticut and with a minimum Best's Rating of A-. In addition, all Carriers are subject to approval by the Town. Minimum Limits and requirements are stated below:

a. Worker's Compensation Insurance:

- Statutory Coverage
- Employer's Liability
- $100,000 each accident/$500,000 disease-policy limit/$100,000 disease each employee

b. Commercial General Liability:

- Including Premises and Operations, Products and Completed Operations, Personal and Advertising Injury, Contractual Liability and Independent Contractors

- Limits of Liability for Bodily Injury and Property Damage
  Each Occurrence: $1,000,000
  Aggregate: $2,000,000
  (The Aggregate Limit shall apply separately to each job.)

- A Waiver of Subrogation shall be provided.

c. Automobile Insurance:

- Including all owned, hired, borrowed, and non-owned vehicles

- Limit of Liability for Bodily Injury and Property Damage
  Per Accident: $1,000,000

04.02 The Bidder shall direct its Insurer to provide a Certificate of Insurance to the Town before any work is performed. The Certificate shall specify that the Town shall receive 30 days advance written notice of cancellation or non-renewal. The Certificate shall evidence all required coverage including the Additional Insured and Waiver of Subrogation. The Bidder shall provide the Town copies of any such insurance policies upon request.

04.03 INDEMNIFICATION: To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Town and the Board of Education and its consultants, agents, and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the Contractor's work, provided that such claim, damage, loss or expense is caused in whole or in part by any negligent act or omission by the Contractor, or breach of its obligations herein or by any person or organization directly or indirectly employed or engaged by the Contractor to perform or furnish either of the services, or anyone for whose acts the Contractor may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

05.00 WORK BY OTHERS

05.01 Private utilities, contractors, developers or other parties may be expected to be working within the Contract area during this Contract. It shall be the responsibility of the Contractor to coordinate his work with the work being done by others in order that the construction shall proceed in an efficient and logical manner. The Contractor shall have no claim or claims whatever against the Town, the Engineer, or other parties due to delays or other reasons caused by the work by others or his failure to coordinate such work.

06.00 CONTRACTOR'S WORK AND STORAGE AREA

06.01 The Contractor shall contact the Town to determine if any specific locations will be designated, or gain its approval prior to using any area for storage of equipment, materials and trailers during the period of this Contract. The Contractor shall confine his work/storage area to the limits as designated or approved and shall be responsible for the security of the work/storage area. Upon completion of the Contract, the Contractor shall remove all equipment and materials, except as otherwise specified, and restore the site to its original condition as approved by the Engineer and at not cost to the Town.

07.00 DISPOSAL AREA

07.01 The Tryon Street Bulky Waste Facility will be available to the Contractor, at no charge, for disposal of materials that are accepted at that facility. The Town's waste disposal guidelines for this facility may be found on the Town's website under the **Departments** menu by selecting **Sanitation - Refuse Disposal - Bulky Waste Facility** or by using the following link: http://www.glastonbury-ct.gov/index.aspx?page=900. The Contractor is required to obtain a disposal area for all other unsuitable or surplus materials at no cost to the Town.

08.00 DUST CONTROL

08.01 During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities so as to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use water or calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed, without additional compensation.

09.00 MAINTENANCE / GUARANTEE PERIOD

09.01 The Contractor shall be held responsible to the Town for maintenance for a minimum of one-year following completion of all work under this Contract with respect to defects, settlements, etc.

10.00 PROTECTION OF EXISTING UTILITIES

10.01 Before starting any excavation, the Contractor shall submit to the Engineer plans or details showing the proposed method the Contractor will use to support and protect all existing utilities during construction. The furnishing of such plans and details shall not serve to relieve the Contractor of any responsibility for the proper conduct of the work.

10.02 There will be no extra payment for submitting plans or details for supporting and protecting all existing utilities during construction.

11.00 TIME FOR COMPLETION/NOTICE TO PROCEED

11.01 Within fourteen (14) calendar days after the date of the Notice of Award, the Contractor must provide the appropriate bond and insurance certificates to the Town Purchasing Agent and must be issued a Purchase Order for the Project prior to initiating any work.

11.02 The work under this Contract shall commence within twenty-one (21) calendar days of the Notice to Proceed / Purchase Order. After the work has begun, it shall continue in an orderly fashion such that all contract work is completed within forty-five (45) calendar days from the date of commencement.

12.00 LIQUIDATED DAMAGES

12.01 As actual damages for any delay in completion of the work that the Contractor is required to perform under this Contract are impossible to determine, the Contractor and the Sureties shall be liable for and shall pay to the Town the sum of $100.00 as fixed, agreed and liquidated damages for each calendar day of delay from the above-stipulated completion, or completion as modified in writing by both parties, until such work is satisfactorily completed and accepted.

13.00 SCHEDULE OF DRAWINGS

13.01 The Contractor is hereby alerted that the following plans are to be considered part of these specifications:

"Pedestrian Bridge Replacement over Holland Brook located at Earle Park behind 1361 Main Street", including two (2) sheets prepared by the Town of Glastonbury Engineering Division, and

"Earle Park Pedestrian Bridge Over Holland Brook", including two (2) additional sheets titled "General Plan" and "Abutment Plan" prepared by Anchor Engineering Services, Inc.

14.00 CHANGES IN THE WORK

14.01 The Town reserves the right to perform portions of the work in connection with these plans and specifications. The reduction in the work to be performed by the Contractor shall be made without invalidating the Contract. Whenever work is done by the Town contiguous to other work covered by this Contract, the Contractor shall provide reasonable opportunity for the execution of the work and shall properly coordinate his work with that of the Town.

15.00 LAYOUT OF WORK

15.01 The Town shall provide stake-out of the work in accordance with the plans or as directed by the Engineer. The Contractor shall protect all stakes from damage or destruction and shall be responsible to assure that the grade stakes have not been altered prior to actual construction. The Town shall replace grade stakes that have been removed, at no cost to the Contractor, if their removal was caused by reasons beyond reasonable care and protection by the Contractor. If it is determined by the Engineer that the Contractor did not provide reasonable protection, the cost of restaking will be deducted from any amounts due the Contractor in the performance of the work.

16.00 REMOVAL AND STORAGE OF MATERIALS AND STRUCTURES FOUND ON THE WORK

16.01 All salvageable materials, including topsoil, gravel, fill materials, etc. and structures, including drainage pipes, catch basins and manhole frames and covers, guide railing, etc. that are not to remain in place or that are not designated for use in the work, shall be carefully removed by the Contractor and stored at such places as directed by the Engineer. All salvageable materials removed and stored shall remain the property of the Town. The Engineer shall determine the materials or structures to be salvaged.

17.00 PROSECUTION AND PROGRESS

17.01 The Contractor shall conduct his work in a manner consistent with the requirements of the various environmental permits, including limiting unconfined in-stream construction activities to between June 1 and September 30th.

18.00 EXTRA AND COST PLUS WORK

18.01 Extra and cost plus work shall be governed by Article 1.04.05 and Article 1.09.04 of the Form 816.

19.00 COMPLIANCE WITH ENVIRONMENTAL PERMITS

19.01 A Town of Glastonbury Inland Wetland Permit, Department of Environmental Protection 401 Water Quality Certification, and Department of the Army Individual Permit were required for this project. These permit approvals are included in the appendix of this Bid Document for reference by the Contractor. By submitting a bid, the Contractor confirms that they have read and are familiar with all of the required conditions of these permits and will conduct the work in a manner consistent with these requirements.

20.00 SUBMITTALS AND MATERIALS TESTING

20.01 The Contractor shall provide source and supply information, sieve analysis, and material samples for granular fill, pervious structure backfill, and intermediate riprap to the Town for review and approval. The Town shall retain a lab for testing of these materials and shall perform in place compaction testing at no expense to the Contractor.

20.02 The Contractor shall provide a mix design for Class “A” Concrete for review and approval by the Town. Laboratory testing of concrete cylinders shall be performed by the Town at no expense to the Contractor, as described in Section 120.2.

20.03 The Contractor shall provide a plan for handling water for review and approval by the Town as described Section 500.2.

20.04 Shop drawings and calculations for the pedestrian bridge shall be provided by the Contractor as described in Section 600.4.

20.04 Materials Certificates following the procedure outlined in Article 1.06.07 of the Form 816 shall be provided by the Contractor for all other materials.

TABLE OF CONTENTS

002.0 PREPARATION OF SITE

002.1 General: The Contractor shall furnish all labor, materials, tools, and equipment necessary and shall do all work to prepare the site as indicated on the drawings and as herein specified.

002.2 Tree Removal: Removal of trees as indicated on the plans shall be performed by workman skilled in the area of tree removal under the supervision of a Connecticut Licensed Arborist. The Contractor shall mark all trees, shrubs, and plants to be removed in accordance with the plans and these specifications. The Engineer shall have 7 days to field review the markings and make any adjustments prior to the start of the clearing operation.

Trees and shrubs within the right-of-way or within any property owned by the Town of Glastonbury that are designated for removal must be posted as such by the Glastonbury Tree Warden (Mr. Greg Foran of the Parks and Recreation Department, 652-7686) for a period of 10 days prior to removal. **No trees or shrubs within the Town of Glastonbury right-of-way shall be cut or removed until such posting has been completed and subsequent approval given by the Tree Warden.**

In general, no trees, etc. in public streets and highways are to be cut or damaged in any way except as noted on the plans. Trees, bushes, and growing crops on other lands may be cut, removed, or trimmed only to the extent provided in the terms of the rights-of-way or access rights possessed by the Town, and also only within the limits and in the manner, if any, indicated by the Engineer or by the drawings or Special Conditions.

002.3 Tree Trimming: Trimming of trees by a Connecticut Licensed Arborist is included under this item as required for clearance of construction equipment and pedestrians below the tree canopy. When the canopy of a tree must be elevated for clearance above the work area, trimming shall be done around the entire circumference of the tree.

002.4 Tree Protection and Care of Property: The Contractor shall install high visibility construction fence at the drip line of the tree canopy as shown on the plans and as directed by the Engineer to protect existing trees that are not to be cut from damage during construction. The Engineer, at his sole discretion, may also direct the Contractor to enclose the trunks of trees adjacent to his work that are not to be cut with substantial wooden boxes of such height as may be necessary to protect them from injury from piled material, from equipment, from his operations, or otherwise due to his work. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees not to be cut, and particularly to overhanging branches and limbs.

Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. In case of cutting or unavoidable injury to branches, limbs, and trunks of trees, the cut or injured portions shall be neatly trimmed by a Connecticut Licensed Arborist.

Cultivated hedges, shrubs, and plant that might be injured by the Contractor's operations shall be protected by suitable means or shall be dug up and temporarily replanted and maintained. After the construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of kind and quality at least equal to the kind and quality existing at the start of the work.

On paved surfaces, the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment, the treads of wheels that are so shaped as to cut or otherwise injure such surfaces.

002.5 Clearing: From areas to be cleared, the Contractor shall cut or otherwise remove all trees, saplings, brush, vines, and other vegetable matter such as snags, sawdust, bark, etc., and refuse. The area to be cleared shall be confined to the width shown on the plans or as stipulated in the Proposal. Vines, brush, and similar undergrowth shall be cut as close to the ground as practicable. Trees may be cut leaving a longer stump to facilitate their removal by power-operated equipment. No trees shall be cut or trimmed unless they are so indicated on the drawings.

Clearing shall also include removal and disposal of all items shown on the plans to be removed, or directed by the Engineer to be removed as part of the project, including, but not limited to, bituminous and concrete debris within the watercourse, removal and disposal of existing concrete sidewalk, concrete steps, drainage structures, fences, and any and all other structures or materials not specifically listed in the Bid Proposal but required to be removed to accomplish the work.

All road signs, mail boxes, etc., shall be removed and reset as directed.

002.6 Grubbing: Grubbing shall consist of the complete removal of all tree stumps and roots larger than two inches in diameter to a minimum depth of 12-inches below the finish grade surface. All excavations made below the finished surface by the removal of trees, stumps, etc. shall be filled with suitable material and thoroughly compacted in such a manner that its surface will conform to the surrounding surface.

Stump grinding shall be used for stump removal where the potential for damage to adjacent improvements or underground utilities exists due to the excavation of stumps, or as directed by the Engineer. The requirements for grubbing noted above shall also apply to stump grinding operations.

002.7 Disposal: All materials removed during trimming, tree removal, and clearing and grubbing operations shall be disposed of by the Contractor in a manner satisfactory to the Engineer.

002.8 Payment: Except as provided otherwise in the Bid Proposal or Special Conditions, this work shall be paid for at the Contract Lump Sum Price for “Preparation of Site”, which price shall include protection of existing trees and vegetation, tree removal and tree trimming under the supervision of a Connecticut Licensed Arborist, clearing and grubbing within the limits of the work, stump grinding, removal and disposal of trees, roots, stumps, brush, concrete steps, and other objects, leveling of areas to accommodate the work, and all labor, materials, tools, and equipment necessary thereto.

102.0 STRUCTURE EXCAVATION

102.1 General: This item shall conform to Section 2.03 STRUCTURE EXCAVATION of the Form 816, with the following section(s) replaced.

102.2 Basis of Payment (Section 2.03.05): Payment for this work will be made at the Contract unit price per cubic yard for: Structure Excavation—Earth (complete) or "Structure Excavation—Rock (complete)," whichever applies, in whole or in part, which price shall include all materials, tools, and equipment; all work related to cofferdams, including their design, construction, dewatering, repair, removal of obstructions, and any required reconstruction; all labor necessary to complete the excavation in conformity with the requirements of the plans or as ordered by the Engineer; the preparation of foundations as described under Article 2.03.03 of the Form 816; all necessary filling, except as otherwise provided in the Contract; and the removal of all surplus or unsuitable material resulting from the excavations.

112.0 GRANULAR FILL

112.1 General: This material shall be used as a foundation for structures, to replace unstable material in slopes, as a foundation for sidewalks and culverts, in shoulders and elsewhere as indicated on the plans, required by the specifications or ordered by the Engineer. It shall consist of gravel or reclaimed miscellaneous aggregate containing no more than 2% by weight (mass) of asphalt cement conforming to the requirements of these specifications.

112.3 Materials: Granular fill shall conform to the requirements of Article M.02.01 of the form 816.

113.3 Construction Methods: When granular fill is used for foundation for structures or to replace rock or unsuitable material in trenches, it shall be deposited in layers not over 6 inches in depth, with each layer thoroughly compacted before the addition of other layers.

113.4 Method of Measurement: Granular fill will be measured in place after compaction within the payment lines shown or specified by the Engineer.

113.5 Basis of Payment: This work will be paid for at the contract unit price per cubic yard for "Granular Fill," complete in place, which price shall include all materials, tools, equipment and labor incidental thereto.

114.0 PERVIOUS STRUCTURE BACKFILL

114.1 General: Pervious structure backfill shall include the furnishing, placing, and compaction of pervious material adjacent to structures. This item shall also consist of furnishing and placing crushed stone or gravel in burlap bags at the inlet ends of weep holes in structures to the dimensions indicated on the plans or as ordered by the Engineer.

114.2 Material: Pervious structure backfill shall conform to the requirements of Article M.02.05.

The materials for bagged stone shall conform to the following requirements:

(a) The crushed stone or gravel shall conform to the grading requirements of Article M.01.01 for No. 3 or No. 4 coarse aggregate or a mixture of both.
(b) The bag shall be of burlap and shall be large enough to contain one cubic foot of loosely packed granular material.

114.3 Construction Methods: Pervious structure backfill shall be placed adjacent to abutments, retaining walls, box culverts, and elsewhere as called for. It shall be placed above a plane extending on a 2 to 1 slope from the upper edge of the footing to the top of the embankment, or as shown on the plans. Where the face of undisturbed material is above or beneath this slope plane, the amount of pervious structure backfill shall be decreased or increased accordingly, if ordered by the Engineer.

In filling behind abutments, retaining walls, box culverts, or other structures, the fill is placed against undisturbed material, or against compacted embankments having a length in a direction at right angles to the abutment wall or culvert not less than twice the height of the structure against which the fill is placed. The slope of the embankment on which the pervious structure backfill is to be placed shall be plowed deeply or cut into steps before and during the placing of pervious structure backfill so both types of material will be thoroughly bonded and compacted.

Each layer of pervious structure backfill shall be spread to a thickness not exceeding 6 inches in depth after compaction and shall be thoroughly compacted as directed by the Engineer by the use of power rollers or other motorized vehicular equipment, by tamping with mechanical rammers or vibrators, or by pneumatic tampers. Any equipment not principally manufactured for compaction purposes and equipment, which is not in proper working order in all respects, shall not be used within the area described above.

Special attention shall be given to compaction in places close to walls where motorized vehicular equipment cannot reach. Within 3 feet of the back face of walls and within a greater distance at angle points of walls, each layer of pervious structure backfill shall be compacted by mechanical rammers, vibrators, or pneumatic tampers.

The dry density of each layer of pervious structure backfill formed from broken or crushed stone, broken or crushed gravel or reclaimed miscellaneous aggregate free of bituminous concrete shall have a dry density after compaction that is no less than 100 percent of the dry density for that material when tested in accordance with AASHTO T180, Method D. If a layer formed from reclaimed miscellaneous aggregate containing bituminous concrete is placed as pervious structure backfill, the wet density of this layer after compaction shall not be less than 100 percent of the wet density of that material when tested in accordance with AASHTO T180, Method D.

In this test, material retained on the ¾ inch sieve shall be replaced with material retained on the number 4 sieve, as noted as an option in the specifications for this test.

Each layer of the pervious structure backfill shall be compacted at optimum moisture content. No Subsequent layer shall be placed until the specified compaction is obtained for the pervious layer.

Where weep holes are installed, bagged stone shall be placed around the inlet end of each weep hole, to prevent movement of the pervious material into the weep hole. Approximately one cubic foot of crushed stone or gravel shall be enclosed in each of the burlap bags. All bags shall then be securely tied at the neck with cord or wire so that the enclosed material is contained loosely. The filled bags shall be stacked at the weep holes to the dimensions shown on the plans or as directed by the Engineer. The bags shall be unbroken at the time pervious material is placed around them, and bags which are broken or burst prior to or during the placing of the pervious material shall be replaced at the expense of the contractor.

114.4 Method of Measurement: Payment lines for pervious structure backfill shall coincide with the limits of the compacted pervious structure backfill as actually placed and ordered by the Engineer. There shall be no direct payment for bagged stone, but the cost thereof shall be considered as included in the cost of the work for “Pervious Structure Backfill”.

114.5 Basis of Payment: Pervious structure backfill will be paid for the contract unit price per cubic yard for “Pervious Structure Backfill”, complete in place.

120.0 CLASS "A" CONCRETE

120.1 General: This item shall conform to Section 6.01 CONCRETE FOR STRUCTURES, of the Form 816, with the following sections amended or replaced:

Section 6.01.03 - 21 – Surface Finish:

Delete "Table of Finishes" shown in Subarticle 6.01.03 - 21 and add the following:

TABLE OF FINISHES				
Component	TYPE OF FINISH			
		Float	Grout Clean Down	Rubbed
ABUTMENTS & WINGWALLS	Exposed Top Surfaces			**X**
	Exposed Side and Front Surfaces to 1 Foot Below Grade			**X**

Section 6.01.03 - 21 – Surface Finish, Rubbed Finish: Add the following:

The entire surface shall be rubbed within 24 hours after removal of forms.

120.2 Basis of Payment (Section 6.03.05): Payment for this work will be made as follows:

This material will be paid for at the contract unit price per cubic yard for "Class A Concrete", complete in place, which price shall include all materials, equipment, tools, labor and work incidental thereto, including heating, all admixtures and joint sealer.

No direct payment will be made for the work of testing the concrete in structures, any testing equipment, the instruction of its use, or for the concrete in or curing of the required test cylinders as specified, or for completion dates set in the forms; but, the cost of this work shall be considered as included in the general cost of the work. The work of transporting and testing these cylinders will be done by the Town without expense to the Contractor.

There shall be no direct payment for the cost of forming keys or construction joints, but the cost thereof shall be considered as included in the cost of the concrete items.

Where steel dowels are used, this material will be paid for under the reinforcement item. There shall be no direct payment for forming weep holes through the wall or for the pipe necessary for this purpose, but the cost thereof shall be considered as included in the general cost of the work.

There shall be no direct payment for the work of placing anchor bolts and similar materials.

130.0 DEFORMED STEEL BARS

130.1 General: This item shall conform to Section 6.02 REINFORCING STEEL, of the Form 816, with the following section(s) replaced:

130.2 Basis of Payment (Section 6.02.05): Payment for this work will be made as follows:

This work will be paid for at the contract unit price per pound for "Deformed Steel Bars", complete in place and accepted, including shop drawings, furnishing, fabricating and placing reinforcing steel, welding splices and all materials, equipment, tools, labor and work incidental thereto.

135.0 STRUCTURAL STEEL

135.1 General: This item shall conform to Section 6.03 STRUCTURAL STEEL, of the Form 816, with the following section replaced:

135.2 Basis of Payment: The structural steel and metal of the various other types covered by this section, incorporated in the completed and accepted structure, will be paid for at the contract unit price per pound (lb) for "Structural Steel".

Payment shall be for structural steel, complete in place, which price shall include furnishing, fabricating, transporting, erecting, surface preparation, painting, galvanizing and all materials, equipment, tools and labor incidental thereto.

No direct payment will be made for setting anchor bolts and anchorage material, preparing bearing areas, furnishing and placing materials under shoes and setting shoes, but the cost thereof shall be included in the general cost of the work.

Anchorage materials furnished by the Contractor for the superstructure and placed by the Contractor for the substructure will be included as part of the superstructure contract.

140.0 CONCRETE CYLINDER CURING BOX

140.1 General: This item shall conform to Section 6.12 CONCRETE CYLINDER CURING BOX, of the Form 816 with the following section(s) replaced:

140.2 Basis of Payment (Section 6.12.05): This work will be paid for at the contract price each for "Concrete Cylinder Curing Box," ordered and accepted on the project, which price shall include all materials, tools, equipment and labor incidental thereto, also all maintenance of all unit connections to operate the curing box.

150.0 DAMP-PROOFING

150.1 General: This item shall conform to Section 7.08 DAMP-PROOFING of the Form 816, with the following section replaced:

150.2 Basis of Payment (Section 7.08.05): This work will be paid for at the contract unit price per square yard for "Damp-proofing," complete in place, including all material, equipment, tools, labor and incidental expense.

206.0 SEDIMENTATION CONTROL SYSTEM

206.1 General: This item shall conform to Section 2.19 SEDIMENTATION CONTROL SYSTEM of the Form 816, with the following section replaced:

206.2 Basis of Payment (Section 2.19.05): Payment for this work will be made at the contract unit price per linear foot for "Sedimentation Control System" complete in place, which price shall include all materials, equipment, tools and labor incidental to the installation, maintenance, replacement, removal and disposal of the system and surplus material. No payment shall be made for the clean out of accumulated sediment.

408.0 INTERMEDIATE RIPRAP

408.1 General: This item shall conform to Section 7.03 RIPRAP, of the Form 816, modified as follows below.

408.2 Method of Measurement: The quantity of intermediate riprap measured for payment shall be the number of cubic yards whose length and width are measured in place as accepted and thickness as shown on the plans.

There will be no direct measurement for trench excavation in the installation of the riprap or gravel bedding.

Gravel bedding for riprap shall be paid for under the GRANULAR FILL pay item.

408.3 Basis of Payment: This work will be paid for at the contract unit price per cubic yard for the type of riprap indicated, complete in place, including all materials, excavation, equipment, tools, and labor incidental thereto.

500.0 HANDLING WATER

500.1 Description: Work under this item shall consist of the construction of such temporary cofferdams, piping, flow diversions, barriers or other such protective facilities and methods as are necessary for redirecting, conducting, or controlling stream flow as may be necessary to perform all work within the vicinity of stream or wetland areas, the dewatering of the site on which the permanent work is to be constructed, and the removal of all such temporary structures and facilities upon the completion of the permanent work or as required.

The handling of water shall be in accordance with the requirements of Section 1.10 of the Form 816. For the purposes of this specification, such work shall be understood to mean any temporary type of protective facility which the Contractor elects to build or use to satisfy, and which does satisfy, the condition that the permanent structures be placed and built in the dry. The handling of flood flows and the protection of existing structures and any or all of the finished construction during high water, and protection of the stream from sedimentation are included in the scope of the work under this term.

500.2 Construction Methods: The Contractor shall investigate and verify existing stream conditions, and evaluate the need for, and the type of protection and facilities required. All facilities shall be in accordance with the local Inland Wetlands Permit, Army Corps of Engineering permit, Department of Environmental Protection Water Quality Certification, and any other applicable permits. Before commencing construction, the Contractor shall furnish the Engineer with details of the plan and the methods he proposes to use for handling water and accomplishing the work, including computations to show that the proposed methods are capable of handling the required temporary design discharge. The furnishing of such plans, computations, and methods shall not relieve the Contractor of any of his responsibility for the safety of the work, effectiveness of the temporary protective structures and temporary dewatering facilities, and for the successful completion of the project.

The Contractor is warned that headwaters of this watercourse may quickly rise a substantial amount during a storm event. The Contractor shall monitor the weather forecast and plan his work accordingly.

The height of any cofferdams, flow diversions and barriers shall as shown on the plans or as elected by the Contractor to provide reasonable protection from flooding. The temporary cofferdams should be constructed in such a manner that they can easily be removed to allow for unimpeded stream flow, before any predicted major storm event, when it is anticipated that the resulting stream flow would exceed the capacity of pumps. All such temporary structures or facilities shall be safely designed, extended to sufficient depth and be of such dimensions and water-tightness so as to assure construction of the permanent work in the dry. However, if the stream flow during a storm event is unable to be conveyed by temporary systems before the permanent work is complete or as directed by the Engineer, the stream flow shall be allowed to pass through the work area. Work areas shall be sufficiently lined, cleaned, and sealed to protect against sedimentation of the stream, erosion, and damage to the permanent work. Water handling appurtenances shall not interfere with proper performance of the work. Their construction shall be such as to allow excavation for the permanent work to the limits shown on the plans. Interior dimensions shall give sufficient clearance for construction and inspection forms.

Movements or failures of the temporary protection facilities, or any portions thereof, which prevents proper completion of the permanent work shall be corrected at the sole expense of the Contractor.

Any pumping from within the areas of construction shall be done in such a manner as to prevent the possibility of movement of water through any fresh concrete. No pumping will be permitted during the placing of concrete or for a period of 24 hours thereafter, unless it be done from a suitable sump properly located and with sufficient pumping capacity to protect against damage from sudden rising of water. Any pumped water must be discharged in accordance with the requirements of Section 1.10. Temporary facilities required for treatment of water in accordance with Section 1.10, including dewatering basins or sediment basins, shall be included in the contract unit price for handling water.

Unless otherwise provided, or directed, all such temporary protective work shall be removed and disposed of in an approved manner when no longer required.

The Contractor shall be responsible for the scheduling of work under this item so as not to interfere with any sequence of operations developed for this project. Delays as a result of work required under this item shall not constitute a claim for an extension of contract time.

500.3 Method of Measurement: This item, being paid on a lump sum basis, will not be measured for payment.

500.4 Basis of Payment: Payment for this item will be made at the contract lump sum price for "Handling Water", complete and accepted, which price shall include all tools, material, equipment, labor and work incidental to the construction; reconstruction; if required; dewatering, including pumping, handling stream flow during construction; the removal and disposal of all protective works or facilities; treatment and disposal of water removed from the construction in accordance with Section 1.10; damages incurred by the Contractor; and any damages to existing facilities and to the work in progress, damage to the stream environment and wildlife habitat, and damage to public or private property, materials or equipment from flows or high stages of the stream.

If no separate pay item is included, payment shall also include de-watering of the various work areas during construction operations as necessary for the disposal of water pumped or otherwise removed from the various construction areas and release of this water into wetland areas including pumping and any related environmental controls used in de-watering or handling water operations. If no separate pay item is provided, this item shall also include the construction, installation, and maintenance of temporary sedimentation basins or devices to be used for treatment and discharge of pumped water, as well as adequate discharge areas for these basins or devices.

600.0 PEDESTRIAN BRIDGE

600.1 General: Work under this pay item shall consist of designing, furnishing, and installing a pre-fabricated, pre-engineered, pedestrian bridge on concrete abutments suitable for equestrian use at the project site. The bridge shall be of Fiber Reinforced Polymer (FRP) composite construction as manufactured by E.T. Techtonics, Inc., P.O Box 40060, Philadelphia, PA 19106, phone 215-592-7620 or approved equal.

The bridge manufacturer shall have been in the business of design and fabrication of FRP pedestrian bridges for a minimum of five years and shall provide a list of five successful bridge projects, of similar construction, each of which has been in service at least three years as part of the bid package. List the location, bridge size, owner and contact reference for each bridge.

The span of the bridge shall be 50'-0" measured in a straight line dimension from each end of the bridge structure. The width of the bridge shall be 8'-0" measured from the inside face of structural elements at deck level. Bridge must be designed as an FRP composite truss span, and shall be pre-cambered to eliminate initial dead load deflections.

Safety railing height shall be a minimum of 54 inches above the floor deck, as required for equestrian use. Continuous horizontal mid-rails shall be located on the inside of the trusses, with maximum opening between the mid-rails not greater than 9 inches. Toe plates shall also be provided.

600.2 Materials:
All members, with the exception of deck planks, shall be fabricated from pultruded FRP composite profiles and structural shapes as required.

FRP composite bridge shall be fabricated from high-strength E-Glass and isophthalic polyester resin.

Weathering and ultraviolet light protection shall be provided by means of a resin additive or the addition of a synthetic veil covering the exterior surface.

The minimum thickness of FRP Composite shapes shall be as follows:
Square tube members (closed type shape) shall be 0.25 in.
Wide-flange beams, channel sections, and angles (open type shapes) shall be 0.375 in.
Standard plate shall be a minimum thickness of 0.375 in.

Wood decking consisting of 3 in. x 12 in. planks shall be No. 2 Southern Yellow Pine treated according to the American Wood Preservers Bureau.

All bolts and nuts shall be A307 hot-dipped galvanized steel.

Anchor bolts shall conform to ASTM A449 with nuts conforming to ASTM A563, Grade C. Circular hardened washers shall conform to ASTM F436, Anchor bolts, nuts, and washers shall be galvanized in conformance with ASTM A153. Anchor bolts shall be cast-in-place.

600.3 Design Criteria: Structural design of the bridge structure(s) shall be performed by or under the direct supervision of a Licensed Professional Engineer and done in accordance with "AASHTO Guide Specifications for Design of FRP Pedestrian Bridges, First Edition 2008", "AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges

December 2009", and "AASHTO Standard Specifications for Highway Bridges, 17th Edition", and recognized engineering practices and principles.

Uniform Live Load: Pedestrian live load of 85 psf.

Equestrian Load: Deck shall be designed for a patch load of 1 kip over a square area measuring 4 inches on a side.

Vehicle Load: AASHTO H-5 Design vehicle

Wind Load: 75 psf for trusses and arches, 50 psf for girders and beams

Seismic Load: Seismic loads shall be determined according to the criteria specified in the standard building codes (IBC, ASCE, or UBC). Response Spectrum Analysis shall be performed in those designs that require complex seismic investigation.

Deflection: Live Load (LL) deflection = L/500

Vertical Frequency (fn): = 5.0 Hz
The fundamental frequency of the pedestrian bridge (in the vertical direction) without live load should be greater than 5.0 hertz (Hz) to avoid any issues with the first and second harmonics.

Horizontal Frequency (fn): = 3.0 Hz
The fundamental frequency of the pedestrian bridge (in the horizontal direction) without live load should be greater than 3.0 hertz (Hz) to avoid any issues due to side to side motion involving the first and second harmonics.

Snow Load: Sustained snow load conditions shall be evaluated for time dependent effects (creep and relaxation) and expected recovery behavior.

The bridge manufacturer shall provide the contractor with support reactions, anchor bolt locations and placement. The contractor shall compare the support reactions provided by the bridge manufacturer to the Design Reactions shown on the contract plans for the abutments. The contractor shall make any modifications to the design of the substructure if the loadings differ. The contractor shall submit the support reactions, anchor bolt locations and placements, and any necessary modifications of the abutments to the Engineer for approval prior to construction of the substructure. All modifications to the substructure shall be designed, sealed, and stamped by a Professional Engineer registered in the State of Connecticut.

600.4 Submittals: Shop drawings shall be accurately prepared, and shall be signed and sealed by a Professional Engineer registered in the State of Connecticut. Structural calculations shall be signed and sealed by a licensed Professional Engineer. Three (3) copies of the shop drawings with calculations shall be provided to the Town for review.

600.5 Construction Methods: The pre-fabricated pedestrian bridge superstructure shall not be shipped to the site until the substructure is ready to accept it.

For bridges shipped in component parts or partially assembled, the manufacturer shall provide assembly drawings and a recommended assembly procedure for use by the Contractor.

The bridge manufacturer shall warranty the structural integrity of all FRP materials, design and workmanship for 15 years. This warranty shall be limited to the repair or

replacement of structural defects, and shall not include liability for consequential or incidental damages.

600.6 Basis of Payment: The Pedestrian Bridge will be paid for at the contract lump sum price as listed in the bid proposal for "Pedestrian Bridge", which price shall include all materials, equipment, labor, and work necessary for and incidental to the design, construction, delivery, unloading, assembly, and placement of the bridge on concrete abutments as shown in the contract plans, including all railings on the superstructure.

The cost of determining support reactions of the supplied bridge, comparing these to the Design Reactions given on the Contract plans, and any analysis and design modifications to the substructure shall be included in the lump sum price for "Pedestrian Bridge".

Proposal of _____

(hereinafter called "Bidder"), organized and existing under the laws of the State of _____

_____, doing business as _____

_____.

To the Town of Glastonbury (hereinafter called "Town").

In compliance with your Invitation to Bid, the Bidder hereby proposed to furnish materials and/or services as per Bid Number GL-2010-50 REBID in strict accordance with the Bid Documents, within the time set forth therein, and at the prices stated below.

By submission of this bid, the Bidder certifies, and in the case of a joint bid each party thereto certifies as to their own organization that this bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other Bidder or with any competitor.

The Bidder acknowledges receipt of the following:

Addendum #1_____

Addendum #2_____

Addendum #3_____

It is the responsibility of the Bidder to check the Town's website for any Addendum before submitting the bid.

ITEM NO.	DESCRIPTION	QTY.	UNIT PRICE	EXTENSION
1.	**Site Preparation** in accordance with Section 002.0 of the Detailed Construction Specifications	Lump Sum	$_____/L.S.	$_____
2.	**Structure Excavation Earth (Complete)** in accordance with Section 102.0 of the Detailed Construction Specifications	37 C.Y.	$_____/C.Y.	$_____
3.	**Structure Excavation Rock (Complete)** in accordance with Section 102.0 of the Detailed Construction Specifications	3 C.Y.	$_____/C.Y.	$_____
4.	**Granular Fill** in accordance with Section 113.0 of the Detailed Construction Specifications	17 C.Y.	$_____/C.Y.	$_____
5.	**Pervious Structure Backfill** in accordance with Section 113.0 of the Detailed Construction Specifications	10 C.Y.	$_____/C.Y.	$_____
6.	**Class "A" Concrete** in accordance with Section 120.0 of the Detailed Construction Specifications	9 C.Y.	$_____/C.Y.	$_____
7.	**Deformed Steel Bars** in accordance with Section 130.0 of the Detailed Construction Specifications	1,200 LB.	$_____/LB.	$_____
8.	**Structural Steel** in accordance with Section 135.0 of the Detailed Construction Specifications	100 LB.	$_____/LB.	$_____
9.	**Concrete Cylinder Curing Box** in accordance with Section 140.0 of the Detailed Construction Specifications	1 EA.	$_____/EA.	$_____
10.	**Damp-proofing** in accordance with Section 150.0 of the Detailed Construction Specifications	10 S.Y.	$_____/S.Y.	$_____
11.	**Sedimentation Control System** in accordance with Section 206.0 of the Detailed Construction Specifications	150 L.F.	$_____/L.F.	$_____
12.	**Intermediate Riprap** in accordance with Section 408.0 of the Detailed Construction Specifications	30 C.Y.	$_____/C.Y.	$_____
13.	**Handling Water** in accordance with Section 500.0 of the Detailed Construction Specifications	Lump Sum	$_____/L.S.	$_____

14.	**Pedestrian Bridge** in accordance with Section 600.0 of the Detailed Construction Specifications	Lump Sum	$_____/L.S.	$_____

TOTAL BID AMOUNT: **$_____**

WRITTEN BID AMOUNT: _____

_____

TOWN OF GLASTONBURY

BID / PROPOSAL		**GL #**	**2010-50 REBID**
DATE ADVERTISED	**5/25/2010**	**DATE / TIME DUE**	**6/09/2010 @ 11:00 A.M.**

NAME OF PROJECT **Earle Park Footbridge Replacement**

It is the responsibility of the Bidder to clearly mark the outside of the bid envelope with the Bid Number, Date and Time of Bid Opening, and it also THE RESPONSIBILITY OF THE BIDDER TO CHECK THE TOWN'S WEBSITE BEFORE SUBMITTING BID FOR ADDENDUMS POSTED PRIOR TO BID OPENING.

CODE OF ETHICS:
I/We have reviewed a copy of the Town of Glastonbury's Code of Ethics and agree to submit a Consultant Acknowledgement Form if I/We are selected. Yes_____ No_____*

***Bidder is advised that effective August 1, 2003, the Town of Glastonbury cannot consider any bid or proposal where the Bidder has not agreed to the above statement.**

Respectfully submitted:

Type or Print Name of Individual	**Doing Business as (Trade Name)**
Signature of Individual	**Street Address**
Title	**City, State, Zip Code**
Date	**Telephone Number/Fax Number**
E-Mail Address	**SS# or TIN#**

(Seal – If bid is by a Corporation)

Attest

ATTACHMENT A: STATE AND FEDERAL PERMITS

Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

PARKS & RECREATION

March 18, 2010

Department of the Army
New England District, Corps of Engineers
Regulatory Division
696 Virginia Road
Concord, MA 01742-2751

Attention: Susan Lee

Re: NAE-2008-408

Dear Ms. Lee:

I have enclosed the following documents with respect to permit number NAE-2008-408.

- Signed Copy of Permit
- Signed Jurisdictional Determination Form

The Work Start Notification will follow prior to start of work.

If you have any questions or require additional information, please contact me at (860) 652-7687 or at ray.purtell@glastonbury-ct.gov. Thank you.

Sincerely,

Raymond E. Purtell
Director of Parks & Recreation

REP:alp

Enclosures

cc: Richard J. Johnson, Town Manager (w/o enclosures)
Stephen Braun, P.E., Assistant Town Engineer

K:\WPDOCS\MISC. MEMOS & LETTERS\Dept. of the Army (Susan Lee) 03-18-10.doc

DEPARTMENT OF THE ARMY PERMIT

Permittee Town of Glastonbury, Parks and Recreation Department, 1086 New London Turnpike, Glastonbury, CT 06033-6523

Permit No. NAE-2008-408

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Excavate/grade and place backfill in approximately 1,089 SF of wetlands/waters areas (permanent and temporary impacts) below OHW of Holland Brook and in adjacent wetlands in association with replacement of an existing pedestrian bridge over Holland Brook and construction of approximately 60 LF of gabion mattress stream bank protection along Holland Brook at Earle Park in Glastonbury, CT. Temporary sandbag dike systems will be placed in Holland Brook to divert flows away from the work areas.

The existing 38'L X 11'W timber pedestrian bridge will be replaced with a 50'L X 8'W pre-engineered pedestrian bridge on concrete abutments. The northern abutment/slope at the new bridge will be protected with riprap. The stream bank protection will consist of 12' L X 6'W X 12" thick gabion mattress sections along 60 LF of Holland Brook stream bank just upstream of the pedestrian bridge crossing.

Project Description continued on page 4

Project Location:

The work is proposed in Holland Brook and adjacent wetlands in Earle Park located behind 1361 Main Street in Glastonbury, CT. The project location on the USGS Glastonbury, CONN. quadrangle sheet is at UTM coordinates Lat. 41.682° and Lon. -72.603°.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2015 **. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.**

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

(Special Conditions continued on Page 4)

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

R. Pate — 3/18/10

(PERMITTEE) *(DATE)*

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

[signature] — 3/12/10

(DISTRICT ENGINEER) *(DATE)*

Philip T. Feir
Colonel, Corps of Engineers

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) *(DATE)*

☆U.S. GOVERNMENT PRINTING OFFICE: 1986 — 717-425

(Project Description continued from Page 1):

This work is described and shown on the attached plans entitled: "PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK", sheets 1 and 2 of 4, dated "1/23/2008", with revisions through "10/2/2009", and ""PROPOSED PEDESTRIAN BRIDGE OVER HOLLAND BROOK", sheets 3 and 4 of 4, dated "1/23/2008", with revisions through "3/25/2009".

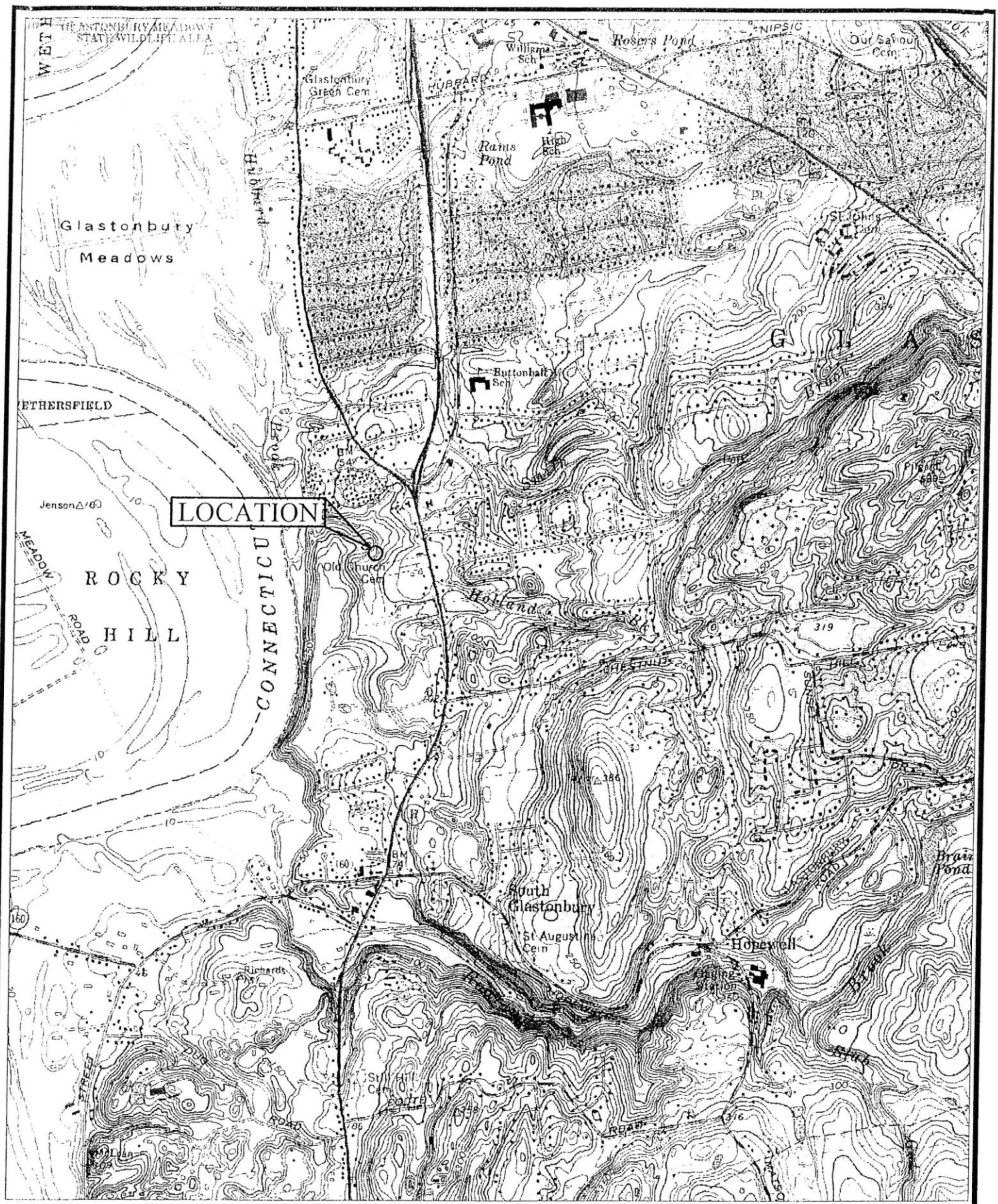
(Special Conditions continued from Page 2):

If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

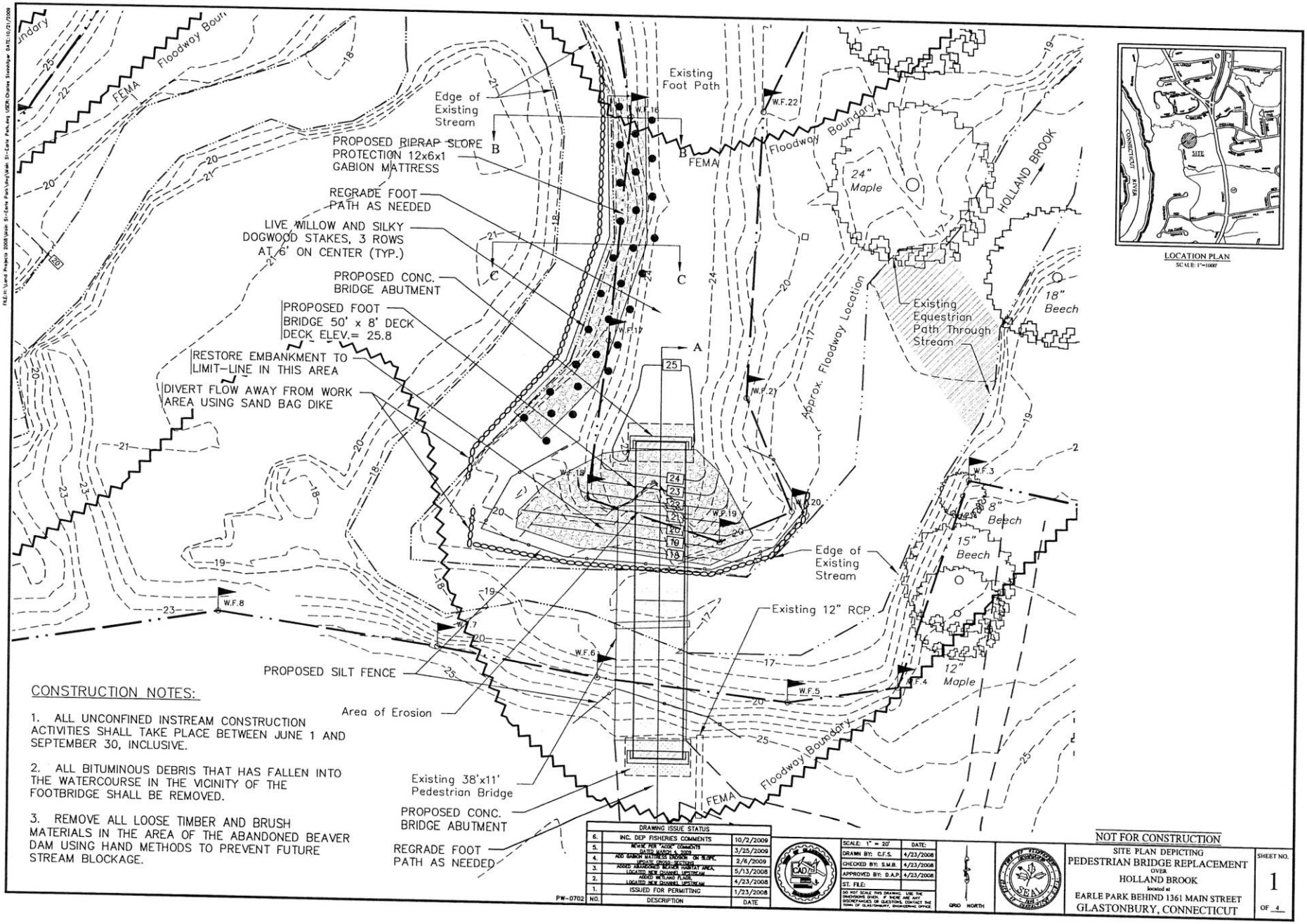
3. All areas of wetlands and/or waters, which are disturbed during construction, **except those authorized herein for permanent impact,** shall be restored to their approximate original elevation (but not higher) and condition by careful protection, and/or removal and replacement, of existing soil and vegetation. In addition, if upland clearing, grubbing, or other construction activity results in, or may result in, soil erosion with transport and deposition into a wetland or waterway, devices such as geotextile silt fences, sediment trenches, etc., shall be installed and properly maintained to minimize such impacts during construction. These devices must removed upon completion of work and stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.

4. No temporary fill (e.g. access roads, cofferdams) shall be placed in wetlands or waters unless specifically authorized by this permit.



SCALE : 1"=2000'	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: C.F.S.	LOCATION PLAN
CHECKED BY: ---	PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK GLASTONBURY, CONNECTICUT
APPROVED BY: ---	
USGS QUAD. MAP: GLASTONBURY	

DWG:H:\Land Projects 2008\USGS Quad Maps\dwg\COS Quad.dwg DATE:11/26/2008 DRAWN:CHARLES STEINHILPER



LOCATION PLAN
SCALE: 1"=1000'

CONSTRUCTION NOTES:

1. ALL UNCONFINED INSTREAM CONSTRUCTION ACTIVITIES SHALL TAKE PLACE BETWEEN JUNE 1 AND SEPTEMBER 30, INCLUSIVE.

2. ALL BITUMINOUS DEBRIS THAT HAS FALLEN INTO THE WATERCOURSE IN THE VICINITY OF THE FOOTBRIDGE SHALL BE REMOVED.

3. REMOVE ALL LOOSE TIMBER AND BRUSH MATERIALS IN THE AREA OF THE ABANDONED BEAVER DAM USING HAND METHODS TO PREVENT FUTURE STREAM BLOCKAGE.

DRAWING ISSUE STATUS		
NO.	DESCRIPTION	DATE
6.	INC. DEP FISHERIES COMMENTS	10/2/2009
5.	REVISE PER "ACOE" COMMENTS DATED MARCH 4, 2009	3/25/2009
4.	ADD GABION MATTRESS EROSION CONTROL MEASURES	2/6/2009
3.	ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008

PW-0702

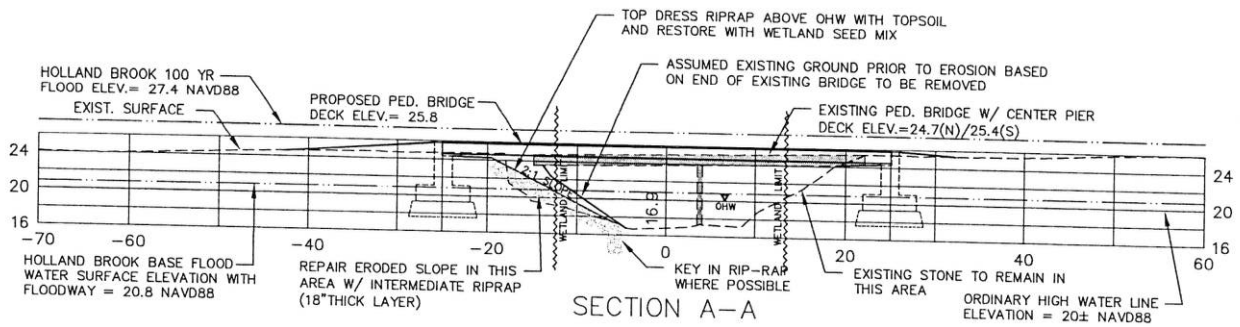
SCALE: 1" = 20' | DATE:
DRAWN BY: C.F.S. | 4/23/2008
CHECKED BY: S.M.B. | 4/23/2008
APPROVED BY: D.A.P. | 4/23/2008
ST. FILE:
DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE

GRID NORTH

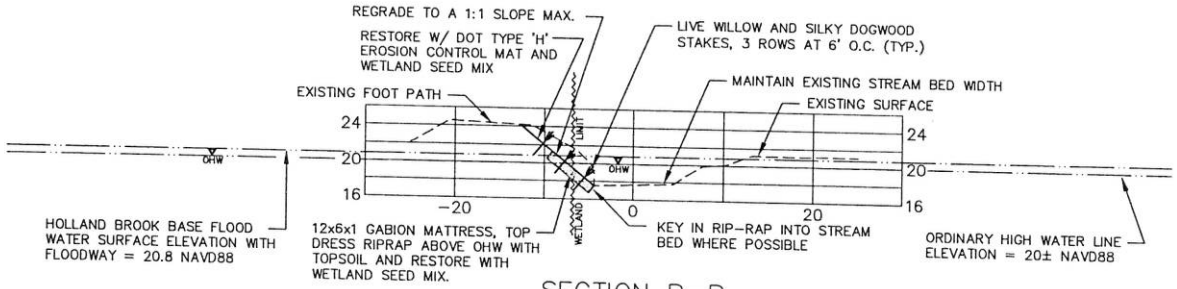
NOT FOR CONSTRUCTION

SITE PLAN DEPICTING
PEDESTRIAN BRIDGE REPLACEMENT
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

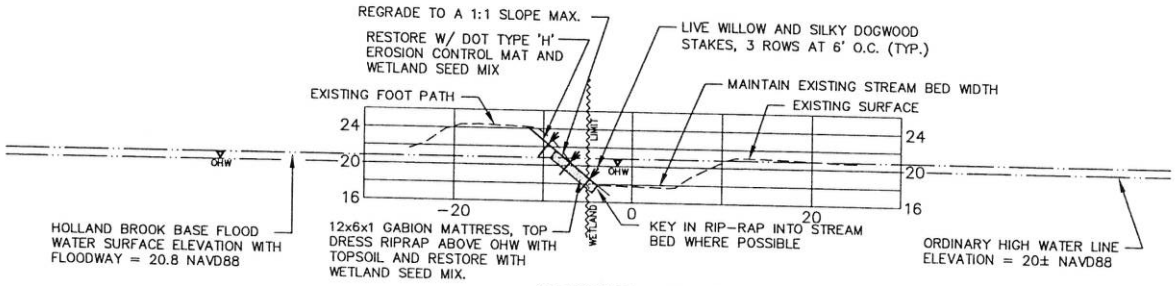
SHEET NO. 1 OF 4



SECTION A-A



SECTION B-B



SECTION C-C

DRAWING ISSUE STATUS		
NO.	DESCRIPTION	DATE
6.	INC. DEP FISHERIES COMMENTS	10/2/2009
5.	REVISE PER "ADDL" COMMENTS DATED MARCH 4, 2009	3/25/2009
4.	ADD GABION MATTRESS EROSION OR SLOPE, UPDATE CROSS-SECTIONS	2/6/2009
3.	ADDED ABANDONED BEAVER DAM(S) AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED RETAINER PLACE, LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008

PW-0702

SCALE: 1" = 20'	DATE:
DRAWN BY: C.F.S.	4/23/2008
CHECKED BY: S.M.B.	----
APPROVED BY: D.A.P.	----
ST. FILE:	

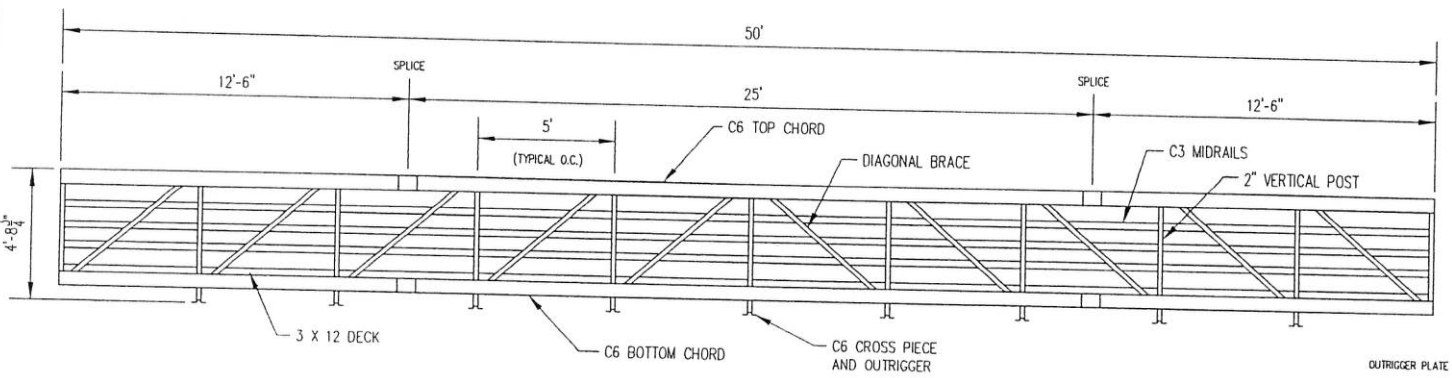
DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

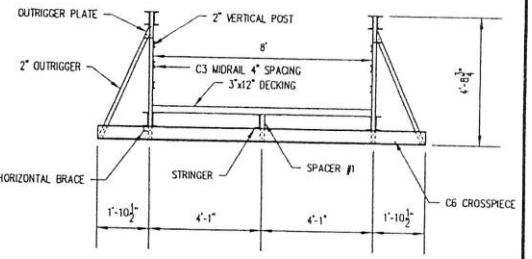
NOT FOR CONSTRUCTION

SITE PLAN DEPICTING
PEDESTRIAN BRIDGE REPLACEMENT
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

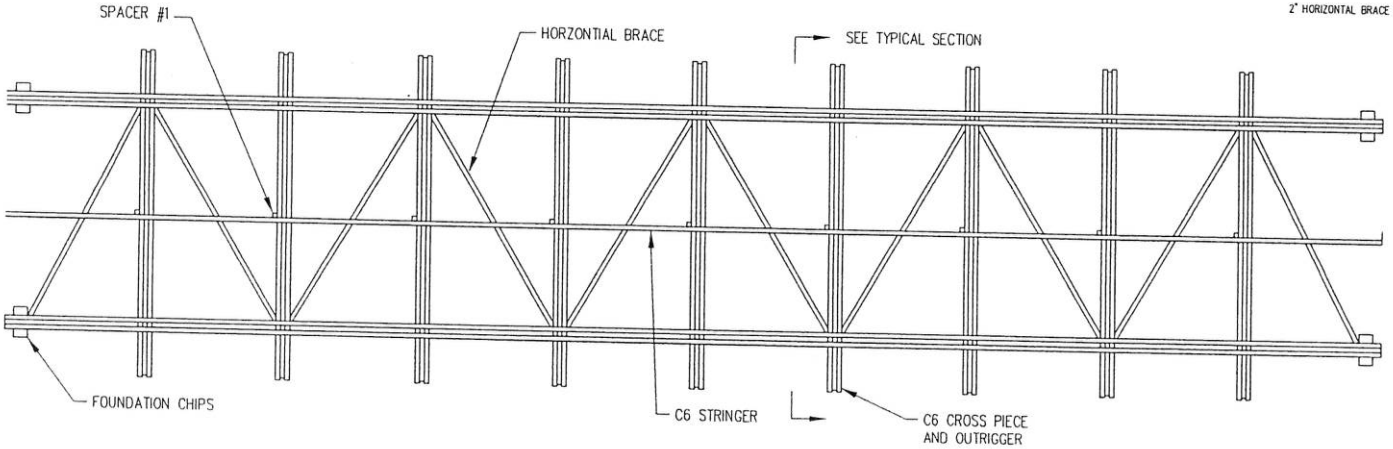
SHEET NO. 2 OF 4



ELEVATION



SECTION



PLAN

DRAWING ISSUE STATUS		
NO.	DESCRIPTION	DATE
5.	REVISE PER "ADD" COMMENTS DATED MARCH 3, 2009	3/25/2009
4.	ADD GABION MATTRESS ENDSILL ON SLOPE. UPDATE CROSS-SECTION	2/6/2009
3.	ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED WETLAND FLAGS LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008

PW-0702

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	4/23/2008
CHECKED BY: S.M.B.	-----
APPROVED BY: D.A.P.	-----
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

NOT FOR CONSTRUCTION

PLAN DEPICTING DETAIL OF
PROPOSED PEDESTRIAN BRIDGE
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

SHEET NO. 3 OF 4

PROJECT SPECIFIC EROSION CONTROL PLAN:

THIS PROJECT INCLUDES THE INSTALLATION OF A PRE-ENGINEERED PEDESTRIAN BRIDGE ON CAST IN PLACE CONCRETE ABUTMENTS TO REPLACE AN EXISTING BRIDGE OVER HOLLAND BROOK. ALSO INCLUDED WITH THE PROJECT IS THE INSTALLATION OF RIPRAP EROSION PROTECTION ALONG TWO SECTIONS OF THE NORTHERLY BANK OF HOLLAND BROOK TO ADDRESS EXISTING EROSION PROBLEMS.

AS SUCH, EXCAVATION AND REGRADING OF THE NORTHERLY BANK OF HOLLAND BROOK OVER A DISTANCE OF APPROXIMATELY 60 LINEAR FEET IS REQUIRED FOR INSTALLATION OF GABION MATTRESSES EROSION PROTECTION MEASURES UPSTREAM OF THE BRIDGE. EXCAVATION AND REGRADING OF THE NORTHERLY BANK OF THE WATERCOURSE BENEATH THE PROPOSED BRIDGE ABUTMENT IS ALSO REQUIRED FOR INSTALLATION OF RIPRAP SLOPE PROTECTION.

CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

1. DEWATERING: THE AREAS OF EXCAVATION FOR THE EROSION PROTECTION MEASURES ON THE BANKS OF THE WATERCOURSE WILL NEED TO BE PROTECTED WITH A TEMPORARY DIKE CONSTRUCTED OF SAND BAGS OR OTHER APPROVED MATERIALS, AND THESE EXCAVATIONS WILL NEED TO BE DEWATERED. IN THESE AREAS, ALL WATER REMOVED FROM THE EXCAVATION SHALL BE ADEQUATELY TREATED PRIOR TO DISCHARGE USING MEASURES DESCRIBED IN SECTION 5-13 OF THE 2002 CT GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THIS MAY INCLUDE A STONE SUMP AND STANDPIPE FOR PUMP INTAKE PROTECTION, AND A DIRT BAG OR PUMPING SETTLING BASIN FOR TREATMENT OF THE PUMPED WATER PRIOR TO DISCHARGE.

2. STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED ADJACENT TO STORM DRAIN INLETS OR WATERCOURSES TO THE EXTENT PRACTICAL. WHEN IT IS NECCESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE VICINITY OF STORM DRAIN INLETS, THE INLETS SHALL BE PROTECTED USING SEDMENT CONTROL SACKS. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER, AND SUCH STOCKPILES SHALL BE RINGED WITH A SEDIMENTATION CONTROL SYSTEM.

3. MULCHING DISTURBED AREAS: DISTURBED UPLAND AREAS ADJACENT TO THE WATER COURSE SHALL BE PROTECTED WITH TEMPORARY STRAW MULCH PRIOR TO SIGNIFICANT RAIN STORM EVENTS.

4. SEVERE WEATHER CONTINGENCY PLAN: TO PREVENT EROSION OF DISTURBED AREAS ADJACENT TO THE WATERCOURSE DURING SEVERE WEATHER EVENTS, THE EXCAVATION WORK ADJACENT TO THE WATERCOURSE SHALL BE PERFORMED IN SUCH A MANNER TO ENSURE THAT THE ENTIRE EXCAVATED AREA CAN BE PROTECTED WITH THE PROPOSED RIPRAP EROSION PROTECTION MEASURES WITHIN THE SAME WORKING DAY OR PRIOR TO THE NEXT ANTICIPATED SEVERE WEATHER EVENT.

RESPONSIBLE PARTIES:
THE DEPARTMENT OF PHYSICAL SERVICES SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

GENERAL EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

1. ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
2. ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING AND GRUBBING.
3. ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
4. NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.
5. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
6. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLAN(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY INDISTURBED.
7. ANY CONTROL MEASURES RETAINING SEDIMENT OVER ½ THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
8. ALL NEW AND EXISTING CATCH BASIN LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM (IN GRASSED AREAS) OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
9. SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL REGULATIONS.
10. THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIROMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.

REFERENCE IS MADE TO THE FOLLOWING MAPS ENTITLED:

"NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP HARTFORD COUNTY, CONNECTICUT (ALL JURSIDICTIONS) PANEL 536 OF 675 U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NUMBER 09003C0536F EFFECTIVE DATE: SEPTEMBER 26, 2008"

NOTE:

EXISTING FOOT BRIDGE IS DEMARCATION POINT OF "BACKWATER EFFECT FROM CONNECTICUT RIVER" AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON.

HOLLAND BROOK BASE FLOOD WATER SURFACE ELEVATION WITH FLOODWAY IS 20.8 NAVD 88. REFERENCE IS MADE TO FLOOD INSURANCE STUDY VOLUME 2 OF 7 HARTFORD COUNTY, CONNECTICUT (ALL JURISDICTIONS) EFFECTIVE SEPTEMBER 26, 2008 U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE NUMBER 09003CV002A; FLOODWAY DATA HOLLAND BROOK, TABLE 16, HOLLAND BROOK, SECTION B.

100 YEAR FLOOD ELEVATION IS 27.4 WITH BACKWATER EFFECT FROM CONNECTICUT RIVER AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON. ELEVATION IS BASED ON NAVD 88.

500 YEAR FLOOD ELEVATION IS 31.83 WITH BACKWATER EFFECT FROM CONNECTICUT RIVER AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON. ELEVATION IS BASED ON NAVD 88.

DIFFERENTIAL BETWEEN NGVD29 TO NAVD88 IS –(0.90±) FEET. EXAMPLES FROM CONNECTICUT GEODETIC SURVEY CONTROL

BM 2944
NGVD29 ELEV. 72.60 – NAVD88 ELEV. 71.70 = –(0.90)
ADJUSTMENT

BM 3235
NGVD29 ELEV. 70.39 – NAVD88 ELEV. 69.49 = –(0.90)
ADJUSTMENT

NOTE:

LOCATION OF FEATURES AND CONTOUR DATA DEPICTED HEREON WHERE ACQUIRED THROUGH FIELD SURVEY CONDUCTED 1-2007, AND SUPPLEMENTED 4-2008 AND 5-2008.

THERE IS NO BOUNDARY/DETERMINATION OPINION.

NO EASEMENTS PERTAINING TO THE SUBJECT PARCEL ARE DEPICTED HEREON.

NOT ALL IMPROVETMENTS ARE DEPICTED HEREON.

HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 – (NAD83).

ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 – (NAVD88).

WETLAND DELINEATION WAS PERFORMED ON MARCH 31, 2008 BY RICHARD SNARSKI, CERTIFIED PROFESSIONAL SOIL SCIENTIST #1975.

DRAWING ISSUE STATUS

NO.	DESCRIPTION	DATE
5.	REVISE PER "ACOE" COMMENTS DATED MARCH 4, 2009	3/25/2009
4.	ADD GABION MATTRESS EROSION ON SLOPE, UPDATE CROSS-SECTIONS	2/6/2009
3.	ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008

PW-0702

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	4/23/2008
CHECKED BY: S.M.B.	-----
APPROVED BY: D.A.P.	-----
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

NOT FOR CONSTRUCTION

GENERAL NOTES FOR
PROPOSED PEDESTRIAN BRIDGE
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
4
OF 4

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SECTION 401 WATER QUALITY CERTIFICATION

Permittee:	Raymond Purtell, Director of Parks and Recreation Department Town of Glastonbury 1086 New London Turnpike Glastonbury, CT 06033 Attn: Raymond Purtell
Permit No.:	WQC-200901181
Permit Type:	Section 401 Water Quality Certificate
USACOE No.:	NAE-20080408
Town:	Glastonbury
Project:	Replacement of an existing footbridge over Holland Brook

Pursuant to Section 401 of the Federal Clean Water Act (33 USC 1341) Water Quality Certification is hereby issued to Raymond Purtell, for the Town of Glastonbury (the federal permittee) for activities, including but not limited to the construction or operation of facilities, which may result in any discharge into the waters of the state associated with the replacement of an existing footbridge over Holland Brook located in Earle Park on Main Street in Glastonbury in accordance with the application referenced above and filed with this Department on April 23, 2009 and described herein (the "project").

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to construct and operate the replacement of an existing footbridge with a 50-foot long, 8-foot wide pre-engineered bridge on concrete footings as well as the placement and grading of rip-rap to correct and prevent erosion of the northern channel bank of Holland Brook in accordance with said application and plans which are a part thereof entitled: "**Site Plan Depicting Pedestrian Bridge Replacement Over Holland Brook Located at Earle Park Behind 1361 Main Street Glastonbury, Connecticut**", dated April 23, 2008, revised through October 2, 2009, prepared by The Town of Glastonbury (the "site"). 1,080 square feet of watercourse/wetlands will be affected by the discharge(s).

Said discharge(s) will comply with the applicable provisions of Section 301, 302, 303, 306 and 307 of said Act and will not violate Connecticut's Water Quality Standards.

This authorization is subject to the following conditions:

SPECIAL CONDITIONS

1. Any unconfined instream work within Holland Brook should be restricted to the period from June 1 to September 30, inclusive.

2. Bituminous debris that has fallen into the Holland Brook at the footbridge location shall be removed as part of the installation of the new footbridge.

GENERAL TERMS AND CONDITIONS

1. **Rights.** This certificate is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected hereby. This certification does not comprise the permits or approvals as may be required by Chapters 440, 446i, 446j and 446k of the Connecticut General Statutes.

2. **Expiration of Certificate.** This certificate shall expire upon the expiration of the U.S. Army Corps of Engineers (USACOE) Section 404 permit for the same activity.

3. **Compliance with Certificate.** All work and all activities authorized herein conducted by the permittee at the site shall be consistent with the terms and conditions of this certificate. Any regulated activities carried out at the site, including but not limited to, construction of any structure, excavation, fill, obstruction, or encroachment, that are not specifically identified and authorized herein shall constitute a violation of this certificate and may result in its modification, suspension, or revocation. In carrying out the certified discharge(s) authorized herein, the permittee shall not store equipment or construction material, or discharge any material including without limitation, fill, construction materials or debris in any wetland or watercourse on or off site unless specifically authorized by this certificate. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this certificate.

4. **Transfer of Certificate.** This authorization is not transferable without the written consent of the Commissioner.

5. **Reliance on Application.** In evaluating the permittee's application, the Commissioner has relied on information provided by the permittee. If such information subsequently proves to be false, deceptive, incomplete or inaccurate, this certificate may be modified, suspended or revoked.

6. **Best Management Practices.** In constructing or maintaining the activities authorized herein, the permittee shall employ best management practices, consistent with the terms and conditions of this certificate, to control storm water discharges and erosion and sedimentation and to prevent pollution. Such practices to be implemented by the permittee at the site include, but are not necessarily limited to:

   a. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground;

   b. Immediately informing the Commissioner's Oil and Chemical Spill Response Division at (860) 424-3338 (24 hours) of any adverse impact or hazard to the environment, including any discharges, spillage, or loss of oil or petroleum or chemical liquids or solids, which occurs or is likely to occur as the direct or indirect result of the activities authorized herein;

   c. Separating staging areas at the site from the regulated areas by silt fences or straw/hay bales at all times;

   d. Prohibiting storage of any fuel and refueling of equipment within twenty-five (25) feet from any wetland or watercourse;

   e. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and Sediment Control" as revised. Said controls shall be inspected by the permittee for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The permittee shall correct any such deficiencies within 48 hours of said deficiencies being found;

   f. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the site will be suspended for a period of thirty (30) or more consecutive days, the permittee shall, within the first seven (7) days

of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation at the site the permittee shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until seeding and mulching can be accomplished.

g. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

h. Immediately informing the Commissioner's Inland Water Resources Division at (860) 424-3019 and the U.S. Army Corps of Engineers' Permit Compliance Section at (617) 647-8674, of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of this certificate. The permittee shall, no later than 48 hours after the permittee learns of a violation of this certificate, report same in writing to the Commissioner. Such report shall contain the following information:

(i) the provision(s) of this certificate that has been violated;

(ii) the date and time the violation(s) was first observed and by whom;

(iii) the cause of the violation(s), if known

(iv) if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

(v) if the violation(s) has not ceased, the anticipated date when it will be corrected;

(vi) steps taken and steps planned to prevent a reoccurrence of the

violation(s) and the date(s) such steps were implemented or will be implemented;

(vii) the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with section 7 of this certificate.

For information and technical assistance, contact the Inland Water Resources Division at (860) 424-3019.

7. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this certificate shall be signed by the permittee, a responsible corporate officer of the permittee, a general partner of the permittee, or a duly authorized representative of the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense in accordance with Section 22a-6 under Section 53a-157 of the Connecticut General Statutes."

8. **Submission of Documents.** The date of submission to the Commissioner of any document required by this certificate shall be the date such document is received by the Commissioner. Except as otherwise specified in this certificate, the word "day" as used in this certificate means the calendar day. Any document or action which falls on a Saturday, Sunday, or legal holiday shall be submitted or performed by the next business day thereafter.

Any document or notice required to be submitted to the Commissioner under this certificate shall, unless otherwise specified in writing by the Commissioner, be directed to:

Director
Department of Environmental Protection
Bureau of Water Protection and Land Reuse
Inland Water Resources Division
79 Elm Street, Third Floor
Hartford, Connecticut 06106-5127

Issued by the Commissioner of Environmental Protection on 1/8/10.

Amey Marella
Commissioner

US Army Corps of Engineers®
New England District

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

1. **Report completion date for Preliminary Jurisdictional Determination (JD):** 5/13/2009

2. **Name and Address of Person Requesting Preliminary JD:** Town of Glastonbury

3. **District office, file name and number**: New England District, Town of Glastonbury, NAE-2008-408

4. **Project location(s) and background information:** Holland Brook in Earle Park off Main Street, Glastonbury, CT

See attached table of waters and wetlands

State: CT County: Hartford City: Glastonbury
Coordinates of site (lat/long in degree decimal format):
Beginning Lat. 41.681° N, Long. 72.603° W
End Lat. 41.681° N, Long. 72.604° W
Universal Transverse Mercator: 18

Name of nearest waterbody: Hubbard Brook

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 116 linear feet: 50 width (ft) and/or acres.
Cowardin Class: Riverine
Stream Flow:
Wetlands: acres
Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal:
Non-Tidal:

5. **Review performed for site evaluation (check all that apply):**
☒ Office (Desk) Determination. Date: 5/13/09
☐ Field Determination. Date(s):

a. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

b. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

c. Supporting Data. Data reviewed for Preliminary JD - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- [X] Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- [X] Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - [X] Office concurs with data sheets/delineation report.
  - [ ] Office does not concur with data sheets/delineation report.
- [ ] Data sheets prepared by the Corps:
- [ ] Corps navigable waters' study:
- [X] U.S. Geological Survey Hydrologic Atlas:
  - [X] USGS NHD data.
  - [X] USGS 8 and 12 digit HUC maps. 01080205
- [X] U.S. Geological Survey map(s). Cite scale & quad name:GLASTONBURY, CONN. 1:24:000
- [ ] USDA Natural Resources Conservation Service Soil Survey. Citation:
- [X] National wetlands inventory map(s). Cite name:GLASTONBURY, CONN.

☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps: September 26, 2008
☑ 100-year Floodplain Elevation is: 27.4' (National Geodetic Vertical Datum of 1929) NAVD 1988 ~~NGVD 1929~~
☐ Photographs: ☐ Aerial (Name & Date):
or ☐ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter:
☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Susan Lee 5/13/09
Susan Lee Date
Regulatory Project Manager

R. Pluta 3/12/10
NAME Date
COMPANY IF APPLICABLE
Town of Glastonbury
Parks & Recreation

RPW 02.
ERS-- MJS 3/11/2010

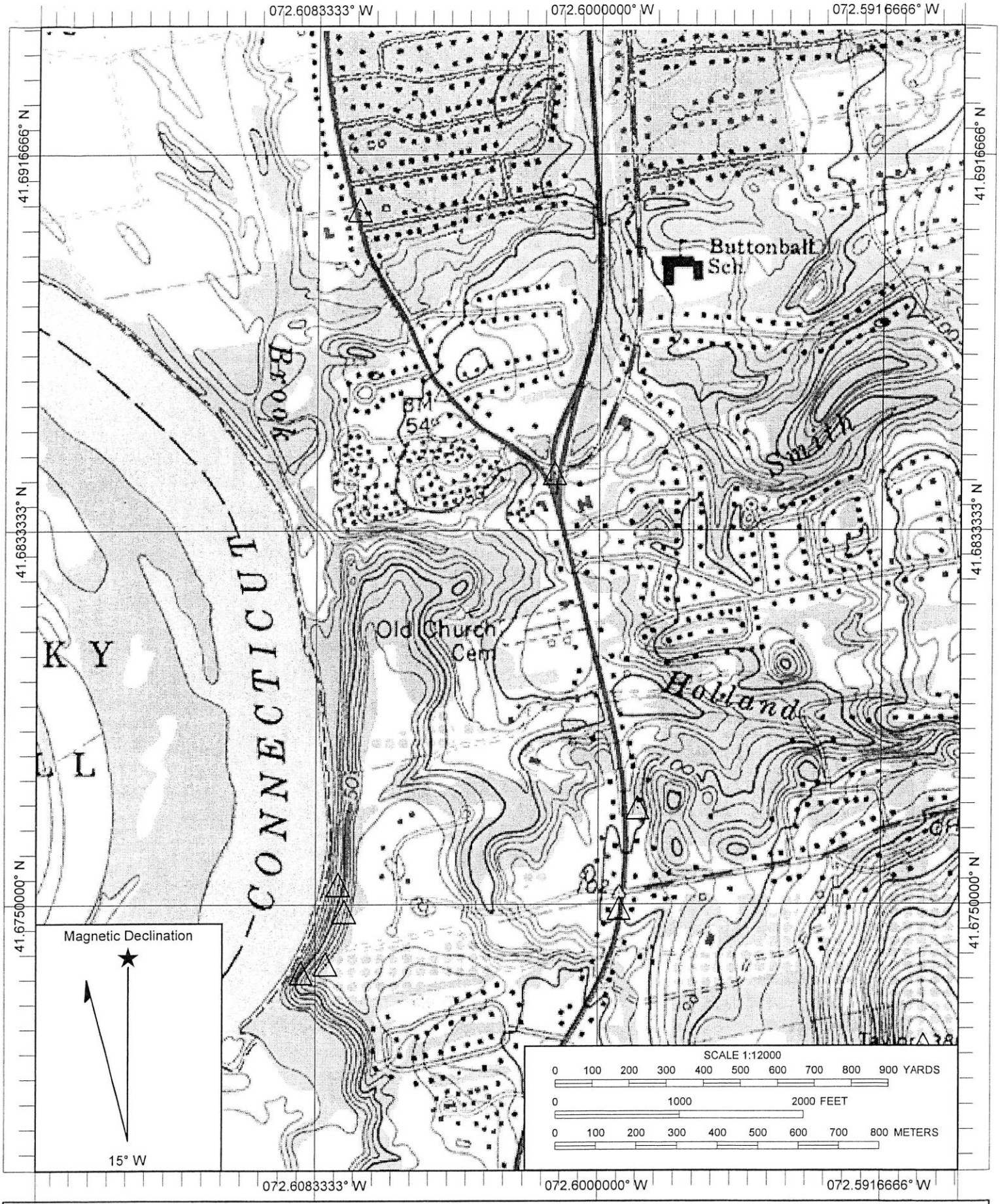
WETLAND AND WATERS TABLE

Water #	Water Name	Cowardin	Type (optional)	Lat.	Long.	Estimate aquatic resource in review area		Class of aquatic resource
						SF	LF	
1	Holland Brook	PEM/PSS/ POW OW	perennial	41.681	72.603	116 X 50	116	non-sec. 10 RPW
						5800	116	

3/11/10

Notes:

1. Water ID can be either the applicant's or the Corps number.
2. Cowardin info can be found at:
   R:\REGDOCS\Jurisdiction
   R:\REGDOCS\Guidance & Useful Information
   R:\General\Resource-Reference Materials\Cowardin
3. Only use LF if applicable (e.g., pipeline project)



Name: GLASTONBURY
Date: 5/13/2009
Scale: 1 inch equals 1000 feet

Location: 041.6817980° N 072.6029583° W NAD27
Caption: nae-2008-408 - holland brook
in Earle Park, Glastonbury, CT

Datum: NAD27

ATTACHMENT B: GEOTECHNICAL REPORT

075-26
Earle Park

GEODESIGN
INCORPORATED

GEOTECHNICAL / CONSTRUCTION / ENVIRONMENTAL
ENGINEERS and SCIENTISTS

January 11, 2010
File No. 3254-004.0

Mr. Timothy J. Young, P.E.
Anchor Engineering Services, Inc.
41 Sequin Drive
Glastonbury, Connecticut 06033

Re: Geotechnical Engineering Report
Earle Park Pedestrian Bridge
Glastonbury, Connecticut

Dear Mr. Young:

We are pleased to provide our findings and recommendations resulting from our geotechnical engineering investigation for the proposed Earle Park Pedestrian Bridge in Glastonbury, Connecticut.

PURPOSE AND SCOPE

GeoDesign, Inc. (GeoDesign) has completed a subsurface exploration program and geotechnical engineering evaluation for the proposed Earle Park Pedestrian Bridge in Glastonbury, Connecticut. Our geotechnical engineering services for this project included characterizing the subsurface conditions within the footprint of the proposed bridge abutments, performing geotechnical engineering analyses, and providing geotechnical design and construction recommendations for the project

Our services were provided in accordance with our December 24, 2009 proposal, which were based in part on drawings provided to us by your office depicting site topography (Site Plan Depicting Pedestrian Bridge Replacement Over Holland Brook, dated September 23, 2008) and structure details (Plan Depicting Pedestrian Bridge Replacement Over Holland Brook, dated September 23, 2008). Elevations (El.) stated in this report are in feet and based on the NAVD88 datum.

SITE DESCRIPTION

The site is located in Earle Park in Glastonbury, Connecticut, which is bordered by Main Street (Route 17) to the east and the Connecticut River to the west. The site generally slopes downward from east to west and Holland Brook traverses the site in a meandering fashion.

An existing 38 foot long by 11 foot wide timber pedestrian bridge currently spans across Holland Brook at the location of the proposed bridge. The existing bridge is supported on top of the stream bank at each end with a steel pier in the center. The existing abutments appear to be dry stacked stone, but the foundation of the center pier is unknown.

Erosion of the stream bank has impacted the existing bridge abutments causing considerable settlement (i.e. total and differential) to the structure. The existing bridge deck is at approximately El. 25 and the bed of Holland Brook is at approximate El. 17.

PROPOSED CONSTRUCTION

The proposed bridge will replace the existing bridge. We understand the proposed bridge will be a prefabricated structure supported by reinforced concrete abutments at each end. The proposed bridge will be approximately 50 feet long and 8 feet wide with the deck at approximately El. 25.8.

Foundation loads for the proposed bridge were not available to prepare this report. However, based on the size and nature of the structure, we anticipate the foundations will be relatively lightly loaded.

SUBSURFACE EXPLORATIONS AND SUBSURFACE CONDITIONS

Subsurface explorations were completed on December 31, 2009. Explorations were located in the field by taping and visual estimations from existing site features. The approximate test boring locations are shown on the Boring Location Plan in Appendix A. The approximate ground surface elevations, estimated from the above referenced Site Plan, are provided on the test boring logs in Appendix B.

Test Borings

Two test borings (B-1 and B-2) were performed to depths up to approximately 32 feet below existing grade to explore the subsurface conditions in the area of the proposed bridge abutments. Representative samples were obtained by split barrel sampling procedures in general accordance with ASTM Specification D-1586. The split-barrel sampling procedure utilizes a standard 2-inch O.D. split-barrel sampler that is driven into the bottom of the boring with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampler the middle 12-inches of a normal 24-inch penetration is recorded as the Standard Penetration Resistance Value (N). These "N" values provide an indication of the relative density of the material.

Regional Geology

Published surficial geological data (*1:24,000 scale Surficial Geologic Map of the Glastonbury Quadrangle, Hartford and Middlesex Counties, Connecticut, 1977 William H. Langer*) was consulted. The subsurface materials at the site were described as Undifferentiated Lake Bottom Deposits that generally consist of yellowish-brown to light reddish-brown lacustrine sands, generally 10 feet thick, overlying light gray very fine sand and (or) silt and clay.

Published bedrock geologic data (*1:31680 scale Bedrock Geology of the Glastonbury Quadrangle, 1953 Norman Herz*) was also consulted. The bedrock at the site is described as a sedimentary rock consisting of coarse Arkosic Sandstone.

Soil and Bedrock

The results of recent subsurface explorations are consistent with the published geological information summarized above. The generalized subsurface profile, as inferred from the subsurface exploration data, consists of Topsoil overlying Sand, Sandy Silt, and Silty Sand. Bedrock was not encountered within the limits (27 to 32 feet below grade) explored in the test borings. The following is a description of the subsurface materials encountered.

Topsoil was encountered in both test borings and was approximately 2 inches thick. The Topsoil generally consisted of dark brown fine Sand with little Silt and trace Roots. A loose to medium dense stratum of Sand was encountered below the Topsoil, which ranged in thicknesses from approximately 3 to 7 feet. This stratum consisted of light brown fine to coarse Sand with trace amounts of Silt. A stiff to very stiff stratum of Sandy Silt was encountered below the Sand, which ranged in thicknesses from approximately 3 to 18 feet. This stratum consisted of light brown Silt and fine Sand with trace amounts of Clay. A medium dense stratum of Silty Sand was encountered below the Sandy Silt, which extended to the limits of the test borings. This stratum consisted of light brown fine to coarse Sand with varying amounts of Silt.

Groundwater

Groundwater was estimated to be at approximate El. 15 during drilling. Static groundwater was not observed in the test borings likely due the fine grained nature of the soils and relatively short standing time but was estimated from sample saturation.

GEOTECHNICAL RECOMMENDATIONS

Based on our understanding of the project and the subsurface conditions summarized

above, we recommend that support of the proposed structure be provided by conventional spread footings.

We recommend that footings bear on either undisturbed natural Sands and/or Silts or compacted granular fill or crushed stone over undisturbed natural Sands and/or Silts. Topsoil is not a suitable bearing material for support of foundations.

The recommended net allowable bearing pressure is one and one-half tons per square foot (tsf). Continuous wall footings should be at least 18 inches wide. The anticipated total settlement and differential settlement for the recommended bearing pressure is less than one-half inch.

Spread footings should bear at least 42 inches below final grade to protect against frost and should be located such that they bear below a line drawn upward and away from the near bottom edge of all new and existing construction at a slope of two horizontal to one vertical (2H:1V).

CONSTRUCTION RECOMMENDATIONS

Subgrade Preparation

Subgrade preparation should be conducted in such a way as to minimize disturbance since we anticipate encountering silty soils at the subgrade level. The final six inches of excavation should be performed with a bucket with a smooth-edged blade or by hand so that the subgrade is essentially undisturbed. Disturbed subgrades should be over-excavated to stable ground and replaced by compacted sand-gravel fill or crushed stone. Final subgrades shall be proof compacted with hand operated compaction equipment.

Reuse of Excavated Material

Excavated soils may not satisfy the requirements for granular fill but may be used as ordinary fill in non-load bearing areas outside of the bridge abutments. Where excavated materials will be reused on-site, they must be segregated by backfill type and stockpiled. All other unsuitable materials should be disposed of in accordance with project requirements. Reuse of any surplus excavated materials will limit the amount of off-site backfill and the amount of soil disposal required for the project.

Fill Material and Compaction

Fill derived from an off site sources for use below footings should consist of Granular Fill graded within the following limits:

Sieve Size	Percent finer by weight
2/3 loose lift thickness*	100%
No. 10	30 –100
No. 40	10 – 90
No. 200	5 – 15

* 8-inches maximum

Fill materials shall consist of inorganic soil free of clay, loam, ice and snow, tree stumps, roots, and other organic matter. All backfill materials placed should be compacted to at least 95 percent of the maximum dry density as determined by the Modified Proctor Test (ASTM D-1557, Method C).

Temporary Groundwater Control

We do not anticipate encountering groundwater during the excavations for the proposed abutments. We anticipate that any surface water runoff that enters excavations can be managed by means of sumps within the excavations and grading the excavation to low points.

LIMITATIONS

This report is subject to the Limitations in Appendix 3.

Thank you for the opportunity to assist you with this project. If you have any questions please feel free to call the undersigned at 203-758-8836; (extension 133).

Sincerely,

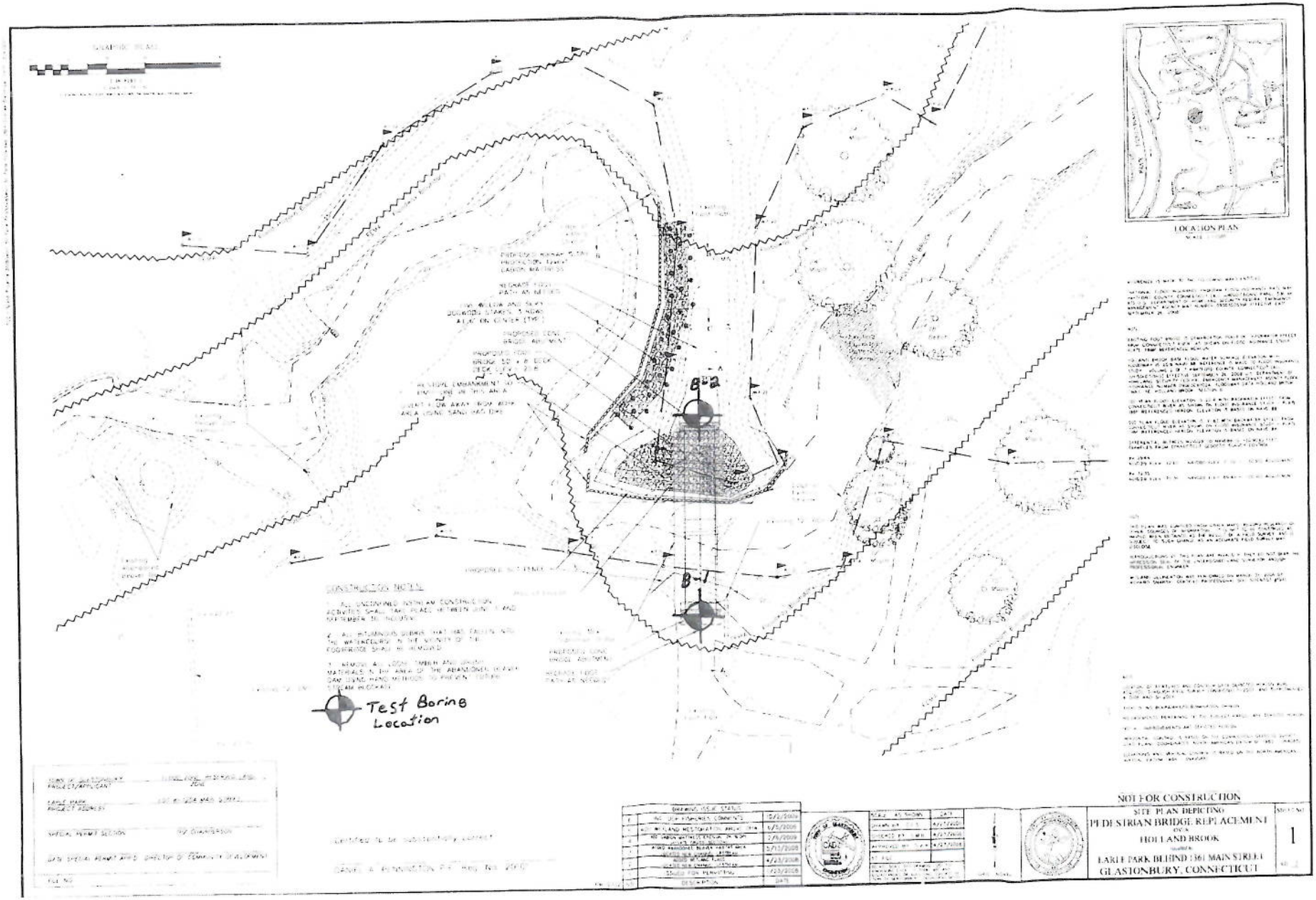
GeoDesign, Inc.

Joseph W. Kidd, P.E.
Senior Associate

Attachments: Appendix 1 Boring Location Plan
Appendix 2 Test Boring Logs
Appendix 3 Limitations

APPENDIX 1

BORING LOCATION PLAN



LOCATION PLAN

NOT FOR CONSTRUCTION

SITE PLAN DEPICTING
PEDESTRIAN BRIDGE REPLACEMENT
OVER
HOLLAND BROOK
LAKE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

SHEET NO. 1

APPENDIX 2

TEST BORING LOGS

GEODESIGN INCORPORATED
Geotechnical | Construction | Environmental
Engineers & Scientists
984 Southford Road - Middlebury, Connecticut 06762
Telephone: 203.758.8836 Fax: 203.758.8842

BORING LOG

Project Name

Earle Park Pedestrian Bridge

Glastonbury, Connecticut

Boring No.: B-1
Page No.: 1 of 1
File No.: 3254-004.0
Checked By: JWK

Boring Company:	New England Boring Co.		
Foreman:	Tim Carpenter		
GeoDesign Rep.:	Daniel LaMesa		
Date Started:	December 31, 2009	Date Finished:	December 31, 2009
N. Coordinate:		E. Coordinate:	
Ground Surface Elevation (feet):	24.5		
Station:		Offset: ft	

	Casing:	Sampler:
Type:	H.S.A.	SS
I.D.:	3.25 in.	1.38 in.
Hammer Wt.:	N/A	140 lbs
Hammer Fall:	N/A	30 in.
Rig Type:	ATV	
Hammer Type:	Safety - Hydraulic	

Groundwater Observations			
Date	Depth (ft)	Elev. (ft)	Notes
12/31/09	9.0	15.5	Wet spoon

Depth (ft)	Casing Blows/ft	Sample Information: Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval: 0 - 6	6 - 12	12 - 18	18 - 24	Coring Time (min./ft)	Moisture Content (%)	Strata Description: Depth & Elevation (feet)	Symbol	Sample Description (Classification System: Modified Burmister)
		1	S	24	8	0.0	9	7	8	7			Sand		Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand
		2	S	24	22	2.0	5	13	15	7			3.5		Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand, (moist)
5		3	S	24	15	4.0	3	4	5	5			Sandy Silt 21.0 6.0		Stiff, light brown SILT and fine SAND, trace Clay, (moist)
		4	S	24	16	6.0	9	11	12	15			Sand 18.5		Medium dense, light brown fine to medium SAND, trace Silt, (moist)
		5	S	24	24	8.0	7	8	9	9			9.5 ▼		Medium dense, Top 18": fine to medium SAND, trace Silt, (wet)
10		6	S	24	17	10.0	3	4	4	5			Sandy Silt 15.0 12.0		Bottom 6": SILT and fine SAND, trace Clay, (wet)
													Silty Sand 12.5		Very stiff, light brown SILT, and fine Sand, trace clay, (wet)
15		7	S	24	5	15.0	11	12	11	12					Medium stiff, light brown SILT and fine SAND, trace Clay, (wet)
															Medium dense, light brown fine SAND and SILT, (wet)
20		8	S	24	13	20.0	12	18	12	13					Medium dense, light brown fine SAND, little Silt, trace fine Gravel, (wet)
25		9	S	24	19	25.0	8	10	11	16					Medium dense, light brown Top 6": fine to coarse SAND, little Silt, trace fine Gravel
													27.0 Bottom of Exploration at 27.0 ft -2.5		Bottom 13": fine SAND, little Silt, trace fine Gravel, (wet)
30															Medium dense, light brown fine SAND, little Silt, trace fine Gravel, (wet)

Remarks: Top 2 inches of sample S-1 was topsoil/organics.

Notes: 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated. fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC = After coring; NR = Not Recorded.
3) Abbreviations: A = Auger, C = Core; MC=Macrocore, D = Driven, G = Grab, PS = Piston Sample, SS = Split Spoon, SSL = 3.5 Inch ID Split Spoon, ST = Shelby Tube, V = Vane, WOR, H = Weight of Rod Hammer
4) Proportions Used: Trace = 1-10%; Little = 10-20%, Some = 20-35%, And = 35-50%

Boring No.: B-1

1 - BORING LOG MC 2008-2009 2009-01-07.GPJ GEODESIGN STANDARD.GDT 1/7/10

GEODESIGN INCORPORATED
Geotechnical | Construction | Environmental Engineers & Scientists
984 Southford Road - Middlebury, Connecticut 06762
Telephone: 203.758.8836 Fax: 203.758.8842

BORING LOG

Project Name: Earle Park Pedestrian Bridge, Glastonbury, Connecticut

Boring No.: B-2
Page No.: 1 of 1
File No.: 3254-004.0
Checked By: JWK

Boring Company: New England Boring Co.
Foreman: Tim Carpenter
GeoDesign Rep.: Daniel LaMesa
Date Started: December 31, 2009 Date Finished: December 31, 2009
N. Coordinate: E. Coordinate:
Ground Surface Elevation (feet): 25.5
Station: Offset: ft

	Casing:	Sampler:
Type:	H.S.A.	SS
I.D.:	3.25 in.	1.38 in.
Hammer Wt.:	N/A	140 lbs
Hammer Fall:	N/A	30 in.
Rig Type:	ATV	
Hammer Type:	Safety - Hydraulic	

Groundwater Observations

Date	Depth (ft)	Elev. (ft)	Notes
12/31/09	9.0	16.5	Wet spoon

Depth (ft)	Casing Blows/ft	Sample Info: Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval: 0 - 6	6 - 12	12 - 18	18 - 24	Coring Time (min./ft)	Moisture Content (%)	Strata Description (Depth & Elevation (feet))	Symbol	Sample Description (Classification System: Modified Burmister)
		1	S	24	14	0.0	8	4	4	5			Sand		Loose, light brown fine to medium SAND, trace coarse Sand, trace fine Gravel
		2	S	24	17	2.0	5	4	4	8					Loose, light brown fine to medium SAND, trace coarse Sand, trace fine Gravel, (moist)
5		3	S	24	10	4.0	5	5	4	4					Loose, light brown fine to medium SAND, little Silt, trace coarse Sand, (moist)
		4	S	24	7	6.0	6	3	3	4			7.0		Loose, brown fine to medium SAND, little Silt, trace coarse Sand, (moist)
													Sandy Silt 18.5		
		5	S	24	19	8.0	7	8	10	11					Very stiff, light brown SILT and fine SAND, trace Clay, (wet)
10		6	S	24	16	10.0	4	5	5	4					Stiff, light brown SILT and fine SAND, trace Clay, (wet)
15		7	S	24	24	15.0	5	5	5	7					Stiff, light brown SILT and fine SAND, trace Clay, (wet)
20		8	S	24	24	20.0	8	12	14	14					Very stiff, light brown SILT and fine SAND, trace clay, (wet)
25		9	S	24	24	25.0	7	11	7	12			25.0 Silty Sand 0.5		Medium dense, light brown fine SAND, little Silt, (wet)
30		10	S	24	24	30.0	9	10	14	15			32.0		Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand, (wet)
													Bottom of Exploration at 32.0 ft 6.5		

Remarks: Top 2 inches of sample S-1 was topsoil/organics.

Notes:
1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC = After coring; NR = Not Recorded.
3) Abbreviations: A = Auger; C = Core; MC=Macrocore; D = Driven; G = Grab; PS = Piston Sample; SS = Split Spoon; SSL = 3.5 Inch ID Split Spoon; ST = Shelby Tube; V = Vane; WOR H = Weight of Rod/Hammer
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

APPENDIX 3

LIMITATIONS

LIMITATIONS

Explorations

1. The analysis and recommendations submitted in this report are based in part upon the data obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more erratic. For specific information, refer to the boring logs.

3. Water level readings have been made in the drill holes at times and under conditions stated on the logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature and other factors occurring since the time measurements were made.

Review

4. In the event that any changes in the nature, design or location of the proposed structures are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by GeoDesign, Inc. It is recommended that this firm be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications.

Uses of Report

5. This report has been prepared for the exclusive use of Anchor Engineering Services, Inc. for specific application to the proposed Earle Park Pedestrian Bridge in Glastonbury, Connecticut, in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

ATTACHMENT C: CONSTRUCTION PLANS

FILE:H:\Land Projects 2008\Main St-Earle Park\dwg\Main St-Earle Park.dwg USER:Charles Steinhiper DATE:5/11/2010

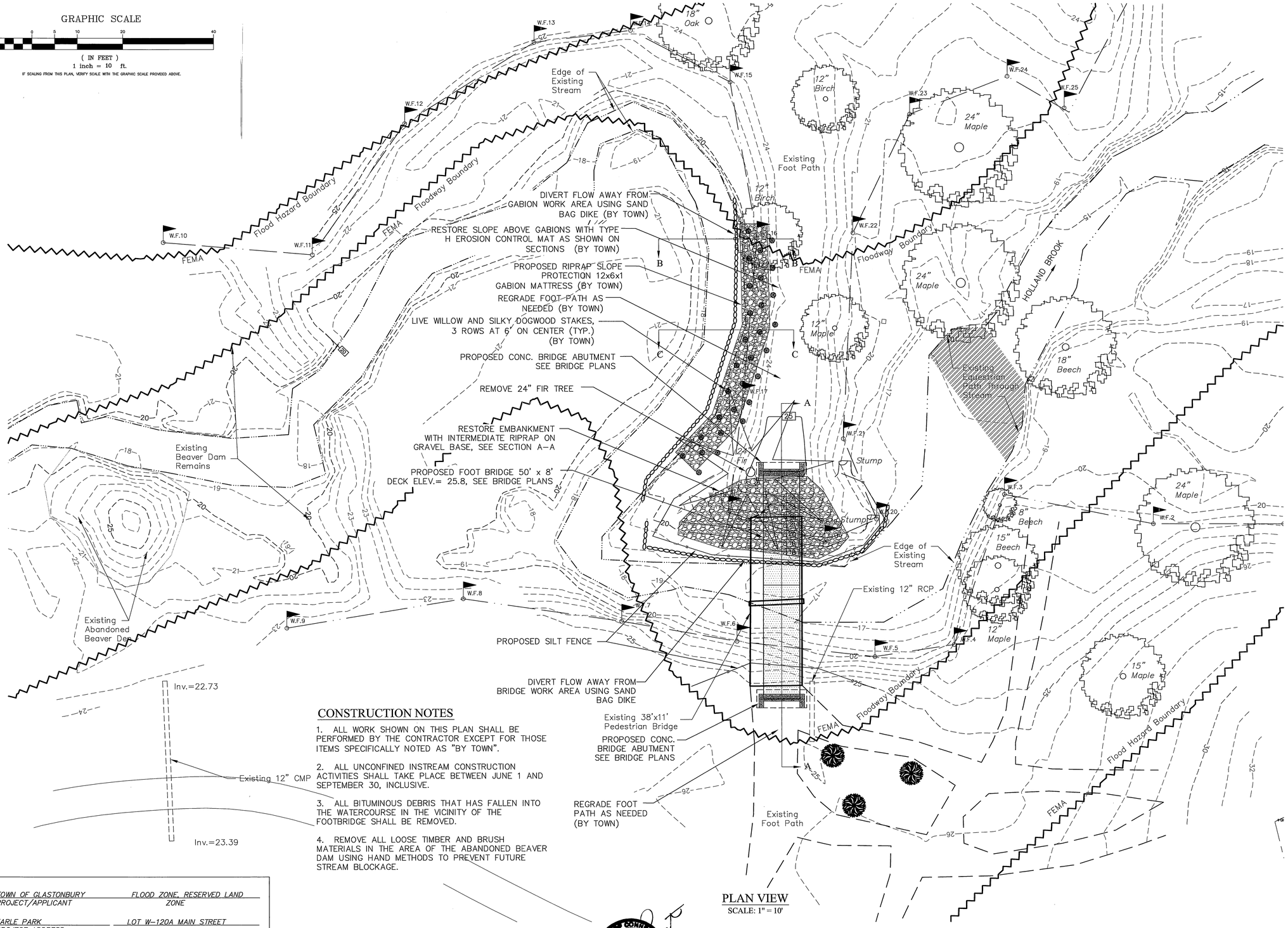
GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

1 inch = 10 ft.

IF SCALING FROM THIS PLAN, VERIFY SCALE WITH THE GRAPHIC SCALE PROVIDED ABOVE.



CONSTRUCTION NOTES

1. ALL WORK SHOWN ON THIS PLAN SHALL BE PERFORMED BY THE CONTRACTOR EXCEPT FOR THOSE ITEMS SPECIFICALLY NOTED AS "BY TOWN".

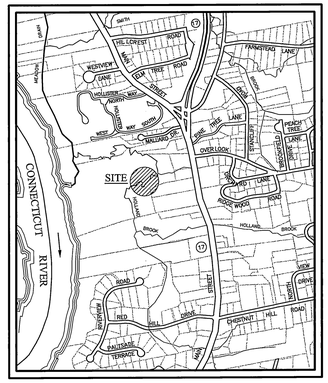
2. ALL UNCONFINED INSTREAM CONSTRUCTION ACTIVITIES SHALL TAKE PLACE BETWEEN JUNE 1 AND SEPTEMBER 30, INCLUSIVE.

3. ALL BITUMINOUS DEBRIS THAT HAS FALLEN INTO THE WATERCOURSE IN THE VICINITY OF THE FOOTBRIDGE SHALL BE REMOVED.

4. REMOVE ALL LOOSE TIMBER AND BRUSH MATERIALS IN THE AREA OF THE ABANDONED BEAVER DAM USING HAND METHODS TO PREVENT FUTURE STREAM BLOCKAGE.

PLAN VIEW

SCALE: 1" = 10'



LOCATION PLAN

SCALE: 1"=1000'

REFERENCE IS MADE TO THE FOLLOWING MAPS ENTITLED:

"NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP HARTFORD COUNTY, CONNECTICUT (ALL JURISIDICTIONS) PANEL 536 OF 675 U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NUMBER 09003C0536F EFFECTIVE DATE: SEPTEMBER 26, 2008"

NOTE:

EXISTING FOOT BRIDGE IS DEMARCATION POINT OF "BACKWATER EFFECT FROM CONNECTICUT RIVER" AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON.

HOLLAND BROOK BASE FLOOD WATER SURFACE ELEVATION WITH FLOODWAY IS 20.8 NAVD 88. REFERENCE IS MADE TO FLOOD INSURANCE STUDY VOLUME 2 OF 7 HARTFORD COUNTY, CONNECTICUT (ALL JURISIDICTIONS) EFFECTIVE SEPTEMBER 26, 2008 U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE NUMBER 09003CV002A; FLOODWAY DATA HOLLAND BROOK, TABLE 16, HOLLAND BROOK, SECTION B.

100 YEAR FLOOD ELEVATION IS 27.4 WITH BACKWATER EFFECT FROM CONNECTICUT RIVER AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON. ELEVATION IS BASED ON NAVD 88.

500 YEAR FLOOD ELEVATION IS 31.83 WITH BACKWATER EFFECT FROM CONNECTICUT RIVER AS SHOWN ON FLOOD INSURANCE STUDY – PLATE 198P REFERENCED HEREON. ELEVATION IS BASED ON NAVD 88.

DIFFERENTIAL BETWEEN NGVD29 TO NAVD88 IS –(0.90±) FEET. EXAMPLES FROM CONNECTICUT GEODETIC SURVEY CONTROL

BM 2944
NGVD29 ELEV. 72.60 – NAVD88 ELEV. 71.70 = –(0.90) ADJUSTMENT

BM 3235
NGVD29 ELEV. 70.39 – NAVD88 ELEV. 69.49 = –(0.90) ADJUSTMENT

NOTE:

THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

REPRODUCTIONS OF THIS PLAN ARE INVALID IF THEY DO NOT BEAR THE IMPRESSION SEAL OF THE UNDERSIGNED LAND SURVEYOR AND/OR PROFESSIONAL ENGINEER.

WETLAND DELINEATION WAS PERFORMED ON MARCH 31, 2008 BY RICHARD SNARSKI, CERTIFIED PROFESSIONAL SOIL SCIENTIST #1975.

NOTE:

LOCATION OF FEATURES AND CONTOUR DATA DEPICTED HEREON WERE ACQUIRED THROUGH FIELD SURVEY CONDUCTED 1–2007, AND SUPPLEMENTED 4–2008 AND 5–2008.

THERE IS NO BOUNDARY/DETERMINATION OPINION.

NO EASEMENTS PERTAINING TO THE SUBJECT PARCEL ARE DEPICTED HEREON.

NOT ALL IMPROVEMENTS ARE DEPICTED HEREON.

HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 – (NAD83).

ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 – (NAVD88).

TOWN OF GLASTONBURY PROJECT/APPLICANT	FLOOD ZONE, RESERVED LAND ZONE
EARLE PARK PROJECT ADDRESS	LOT W-120A MAIN STREET
SPECIAL PERMIT SECTION	TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D	DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.	

STATE OF CONNECTICUT DANIEL A. PENNINGTON No. 20101 LICENSED PROFESSIONAL ENGINEER

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

DRAWING ISSUE STATUS		
6.	INC. DEP FISHERIES COMMENTS	10/2/2009
5.	ADD WETLAND RESTORATION ABOVE OHW	6/5/2009
4.	ADD GABION MATTRESS EROSION ON SLOPE, UPDATE CROSS-SECTIONS	2/6/2009
3.	ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008
NO.	DESCRIPTION	DATE

PW-0702

TOWN OF GLASTONBURY CAD ENGINEERING

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	4/23/2008
CHECKED BY: S.M.B.	4/23/2008
APPROVED BY: D.A.P.	4/23/2008
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

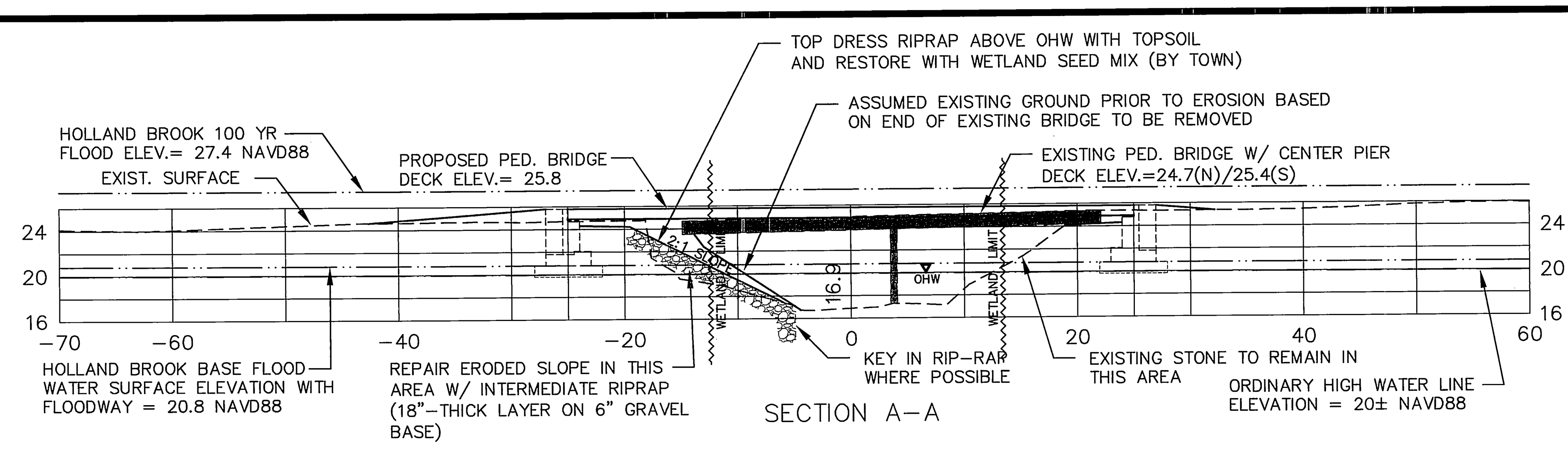
GRID NORTH

TOWN OF GLASTONBURY INCORPORATED MAY 1, 1693 SEAL CONNECTICUT

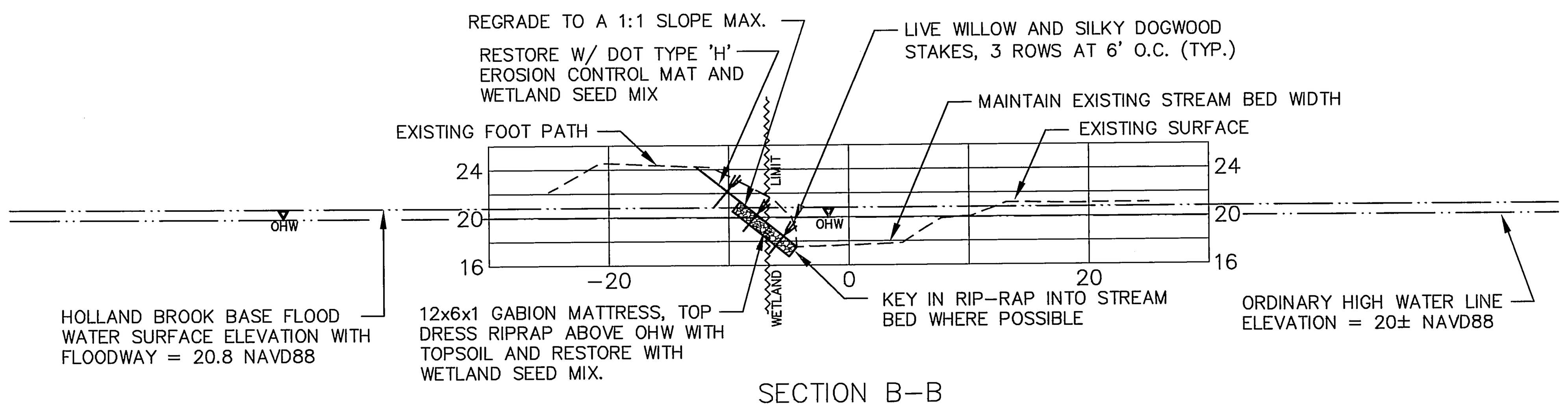
ISSUED FOR CONSTRUCTION

SITE PLAN DEPICTING
PEDESTRIAN BRIDGE REPLACEMENT
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

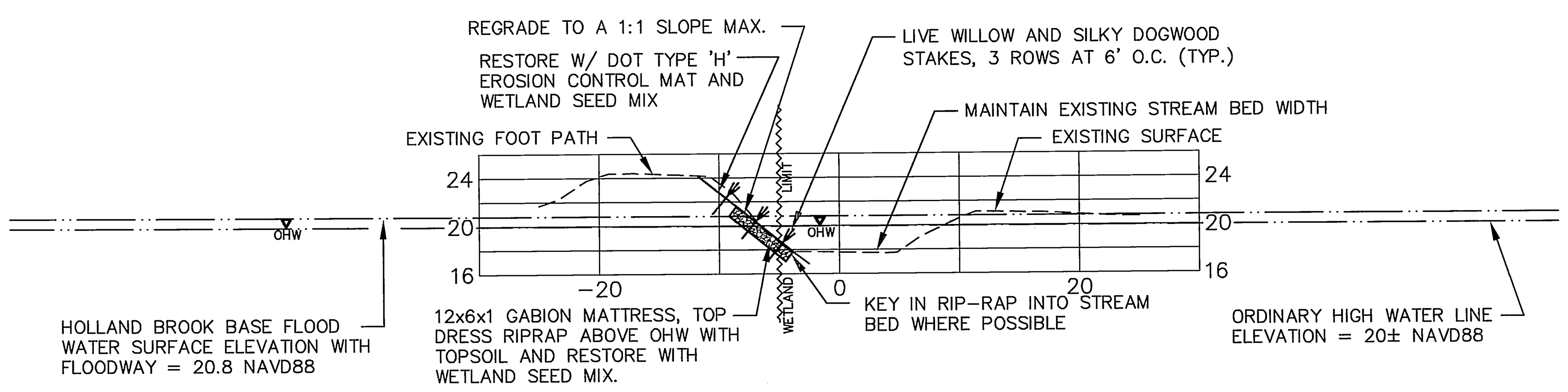
SHEET NO. 1 OF 2



SECTION A–A

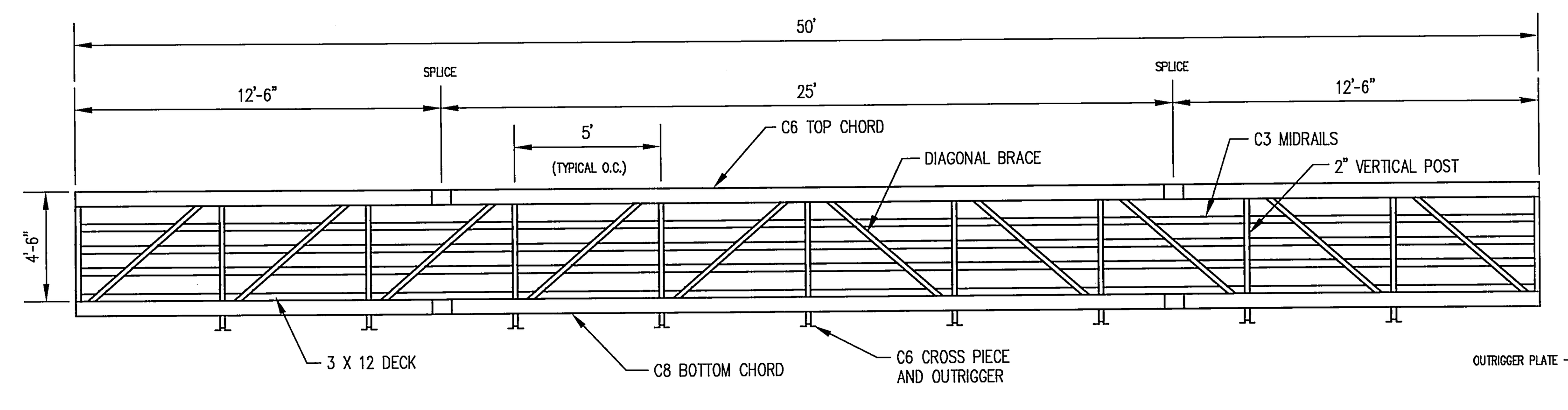


SECTION B–B

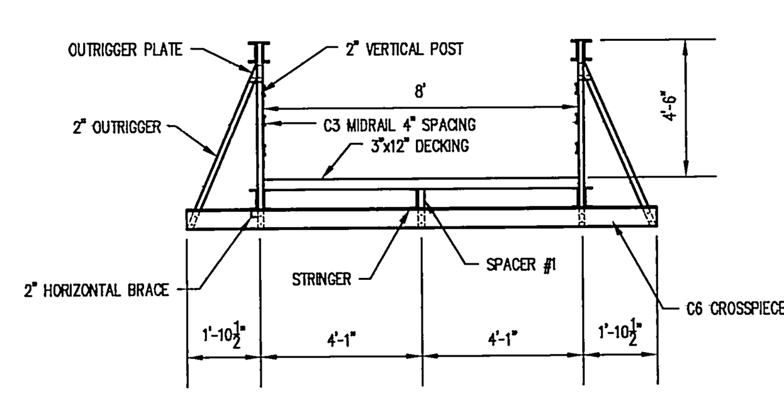


SECTION C–C

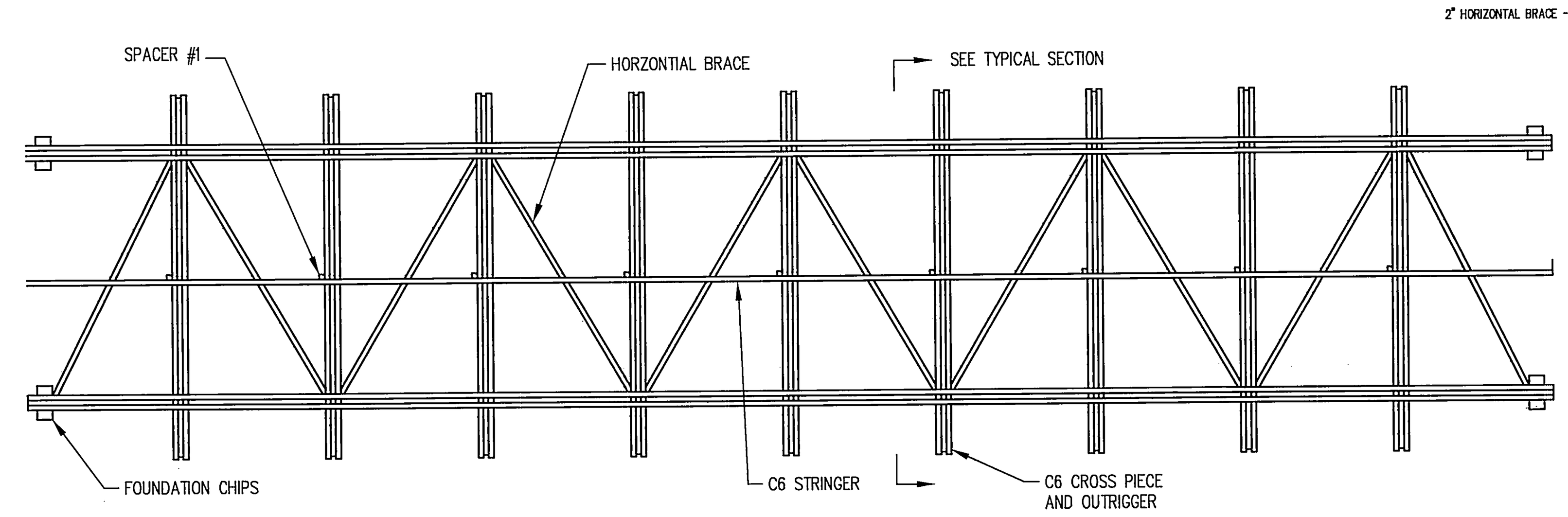
CROSS SECTIONS
1" = 10'



ELEVATION



SECTION



PLAN

BRIDGE DETAILS
N.T.S.

PROJECT SPECIFIC EROSION CONTROL PLAN:

THIS PROJECT INCLUDES THE INSTALLATION OF A PRE-ENGINEERED PEDESTRIAN BRIDGE ON CAST IN PLACE CONCRETE ABUTMENTS TO REPLACE AN EXISTING BRIDGE OVER HOLLAND BROOK. ALSO INCLUDED WITH THE PROJECT IS THE INSTALLATION OF RIPRAP EROSION PROTECTION ALONG TWO SECTIONS OF THE NORTHERLY BANK OF HOLLAND BROOK TO ADDRESS EXISTING EROSION PROBLEMS.

AS SUCH, EXCAVATION AND REGRADING OF THE NORTHERLY BANK OF HOLLAND BROOK OVER A DISTANCE OF APPROXIMATELY 60 LINEAR FEET IS REQUIRED FOR INSTALLATION OF GABION MATTRESSES EROSION PROTECTION MEASURES UPSTREAM OF THE BRIDGE. EXCAVATION AND REGRADING OF THE NORTHERLY BANK OF THE WATERCOURSE BENEATH THE PROPOSED BRIDGE ABUTMENT IS ALSO REQUIRED FOR INSTALLATION OF RIPRAP SLOPE PROTECTION.

CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

1. DEWATERING: THE AREAS OF EXCAVATION FOR THE EROSION PROTECTION MEASURES ON THE BANKS OF THE WATERCOURSE WILL NEED TO BE PROTECTED WITH A TEMPORARY DIKE CONSTRUCTED OF SAND BAGS OR OTHER APPROVED MATERIALS, AND THESE EXCAVATIONS WILL NEED TO BE DEWATERED. IN THESE AREAS, ALL WATER REMOVED FROM THE EXCAVATION SHALL BE ADEQUATELY TREATED PRIOR TO DISCHARGE USING MEASURES DESCRIBED IN SECTION 5-13 OF THE 2002 CT GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THIS MAY INCLUDE A STONE SUMP AND STANDPIPE FOR PUMP INTAKE PROTECTION, AND A DIRT BAG OR PUMPING SETTLING BASIN FOR TREATMENT OF THE PUMPED WATER PRIOR TO DISCHARGE.

2. STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED ADJACENT TO STORM DRAIN INLETS OR WATERCOURSES TO THE EXTENT PRACTICAL. WHEN IT IS NECCESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE VICINITY OF STORM DRAIN INLETS, THE INLETS SHALL BE PROTECTED USING SEDMENT CONTROL SACKS. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER, AND SUCH STOCKPILES SHALL BE RINGED WITH A SEDIMENTATION CONTROL SYSTEM.

3. MULCHING DISTURBED AREAS: DISTURBED UPLAND AREAS ADJACENT TO THE WATER COURSE SHALL BE PROTECTED WITH TEMPORARY STRAW MULCH PRIOR TO SIGNIFICANT RAIN STORM EVENTS.

4. SEVERE WEATHER CONTINGENCY PLAN: TO PREVENT EROSION OF DISTURBED AREAS ADJACENT TO THE WATERCOURSE DURING SEVERE WEATHER EVENTS, THE EXCAVATION WORK ADJACENT TO THE WATERCOURSE SHALL BE PERFORMED IN SUCH A MANNER TO ENSURE THAT THE ENTIRE EXCAVATED AREA CAN BE PROTECTED WITH THE PROPOSED RIPRAP EROSION PROTECTION MEASURES WITHIN THE SAME WORKING DAY OR PRIOR TO THE NEXT ANTICIPATED SEVERE WEATHER EVENT.

RESPONSIBLE PARTIES:
THE DEPARTMENT OF PHYSICAL SERVICES SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

GENERAL EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

1. ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
2. ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING AND GRUBBING.
3. ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
4. NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.
5. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
6. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLAN(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY INDISTURBED.
7. ANY CONTROL MEASURES RETAINING SEDIMENT OVER ½ THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
8. ALL NEW AND EXISTING CATCH BASIN LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM (IN GRASSED AREAS) OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
9. SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL REGULATIONS.
10. THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIROMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.

SITE ACCESS PLAN
SCALE: 1"=500'

Town of Glastonbury
2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

TOWN PLAN AND ZONING COMMISSION

SECTION 4.11 FLOOD ZONE SPECIAL PERMIT

APPLICANT: TOWN OF GLASTONBURY
PARKS & RECREATION DEPT.
1086 NEW LONDON TURNPIKE
GLASTONBURY, CT 06033

OWNER: TOWN OF GLASTONBURY
2155 MAIN STREET
GLASTONBURY, CT 06033

FOR: FOOTBRIDGE REPLACEMENT
HOLLAND BROOK AT
EARLE PARK

MOVED, that the Town Plan and Zoning Commission approve the application of the Town of Glastonbury (Parks and Recreation Department) for a Section 4.11 (Flood Zone) Special Permit – replacement of a footbridge over Holland Brook at Earle Park – west of the Audubon Center at 1371 Main Street – Reserved Land Zone and Flood Zone, in accordance with the following plans:

"SITE PLAN DEPICTING PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK LOCATED AT EARLE PARK BEHIND 1361 MAIN STREET GLASTONBURY, CONNECTICUT SCALE: AS SHOWN DRAWN BY: C.F.S. CHECKED BY: S.M.B. APPROVED BY: D.A.P. DATE: 4/23/2008 PW-0702 SHEET NO. 1 OF 2 DRAWING ISSUE STATUS NO. 1. ISSUED FOR PERMITTING 1/23/2008 NO. 2. ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM 4/23/2008 NO. 3 ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM 5/13/2008 NO. 4 ADD GABION MATTRESS EROSION ON SLOPE, UPDATE CROSS-SECTIONS 2/6/2009 NO. 5. ADD WETLAND RESTORATION ABOVE OHW 6/5/2009"

"PLAN DEPICTING PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK LOCATED AT EARLE PARK BEHIND 1361 MAIN STREET GLASTONBURY, CONNECTICUT SCALE: AS SHOWN DRAWN BY: C.F.S. CHECKED BY: S.M.B. APPROVED BY: D.A.P. DATE: 4/23/2008 PW-0702 SHEET NO. 2 OF 2 DRAWING ISSUE STATUS NO. 1. ISSUED FOR PERMITTING 1/23/2008 NO. 2. ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM 4/23/2008 NO. 3 ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM 5/13/2008 NO. 4 ADD GABION MATTRESS EROSION ON SLOPE, UPDATE CROSS-SECTIONS 2/6/2009 NO. 5. ADD WETLAND RESTORATION ABOVE OHW 6/5/2009"

and in compliance with the following conditions:

1. This project's work shall be limited to expected low-flow brook time periods of the year and extended fair-weather forecasted time periods, as deemed by the Town's Environmental Planner.
2. Additional environmental mitigation measures shall be implemented as situations arise during the project and as determined by the Environmental Planner or Assistant Town Engineer.

APPROVED: TOWN PLAN AND ZONING COMMISSION
JULY 21, 2009

SHARON M. JAGEL, CHAIRMAN

Town of Glastonbury
2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

July 13, 2009

CONSERVATION COMMISSION AND INLAND WETLANDS & WATERCOURSES AGENCY

Steve Braun, Assistant Town Engineer
Town of Glastonbury
2155 Main Street
Glastonbury, Connecticut 06033

Re: Application of the Town of Glastonbury (Department of Parks & Recreation) for an inland wetlands and watercourses permit – Replacement of a Footbridge over Holland Brook at Earle Park project – west of the Audubon Center at 1371 Main Street – Reserved Land Zone, Flood Zone and Groundwater Protection Zone 1 – Steve Braun, Assistant Town Engineer – Raymond Purtell, Director of Parks & Recreation

Dear Steve:

At its Regular Meeting of June 25, 2009, the Conservation Commission/Inland Wetlands & Watercourses Agency approved an Inland Wetlands and Watercourses Permit, in accordance with the plans and conditions cited in the attached motions.

Please read the conditions of approval carefully and comply with them. Some of the conditions may require interacting with the Environmental Planner (e.g. inspection of soil erosion and sediment control); it will be your responsibility to schedule such interactions. Any questions you may have about the stated conditions can be directed to the Office of Community Development at 652-7511.

This Permit:

- requires that the approved regulated activities be completed within one (1) year from commencement of said activities;
- is valid for five (5) years and thus expires on June 25, 2014; and
- may not be transferred unless authorized by the Inland Wetlands & Watercourses Agency

This Permit may be revoked if you exceed the conditions or limitations of this Permit or have secured this Permit through inaccurate information.

Once again should you have any questions, please do not hesitate to contact me.

Sincerely,

Tom Mocko
Environmental Planner

TM:gfm
Attachment

cc: Daniel Pennington, Town Engineer
Edward P. Pierydia, Building Official
Raymond Purtell, Director of Parks & Recreation

APPROVED WETLANDS PERMIT MOTION

MOVED, that the Inland Wetlands and Watercourses Agency grants an inland wetlands and watercourses permit to the Town of Glastonbury's Department of Parks and Recreation for construction a 50-foot long by 8-foot wide replacement footbridge across Holland Brook and for bank and channel stabilization in proximity to the proposed location of the footbridge within Earle Park, located west of 1371 Main Street, in accordance with plans and other application materials which are on file in the Office of Community Development, and in compliance with the following conditions:

1. This project's work shall be limited to expected low-flow brook time periods of the year and extended fair-weather forecasted time periods, as deemed by the Town's Environmental Planner.
2. This project shall have adequate resources assigned to it in order to accomplish the project in the shortest time period possible.
3. Additional environmental mitigation measures shall be implemented as situations arise during the project and as determined by the Environmental Planner or Assistant Town Engineer.

NOTE:
THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

REPRODUCTIONS OF THIS PLAN ARE INVALID IF THEY DO NOT BEAR THE IMPRESSION SEAL OF THE UNDERSIGNED LAND SURVEYOR AND/OR PROFESSIONAL ENGINEER.

TOWN OF GLASTONBURY	FLOOD ZONE, RESERVED LAND ZONE
PROJECT/APPLICANT	
EARLE PARK	LOT W-120A MAIN STREET
PROJECT ADDRESS	
SPECIAL PERMIT SECTION	TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D	DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.	

STATE OF CONNECTICUT — DANIEL A. PENNINGTON — No. 20101 — LICENSED PROFESSIONAL ENGINEER

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

ISSUED FOR CONSTRUCTION

NO.	DRAWING ISSUE STATUS — DESCRIPTION	DATE
6.	INC. DEP FISHERIES COMMENTS	10/2/2009
5.	ADD WETLAND RESTORATION ABOVE OHW	6/5/2009
4.	ADD GABION MATTRESS EROSION ON SLOPE, UPDATE CROSS-SECTIONS	2/6/2009
3.	ADDED ABANDONED BEAVER HABITAT AREA, LOCATED NEW CHANNEL UPSTREAM	5/13/2008
2.	ADDED WETLAND FLAGS, LOCATED NEW CHANNEL UPSTREAM	4/23/2008
1.	ISSUED FOR PERMITTING	1/23/2008

PW-0702

	DATE:
SCALE: AS SHOWN	
DRAWN BY: C.F.S.	4/23/2008
CHECKED BY: S.M.B.	4/23/2008
APPROVED BY: D.A.P.	4/23/2008
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

PLAN DEPICTING
PEDESTRIAN BRIDGE REPLACEMENT
OVER
HOLLAND BROOK
located at
EARLE PARK BEHIND 1361 MAIN STREET
GLASTONBURY, CONNECTICUT

SHEET NO. 2 OF 2

GEODESIGN INCORPORATED
Geotechnical | Construction | Environmental Engineers & Scientists
984 Southford Road - Middlebury, Connecticut 06762
Telephone: 203.758.8836 Fax: 203.758.8842

BORING LOG
Project Name
Earle Park Pedestrian Bridge
Glastonbury, Connecticut

Boring No.: B-1
Page No.: 1 of 1
File No.: 3254-004.0
Checked By: JWK

Boring Company: New England Boring Co.
Foreman: Tim Carpenter
GeoDesign Rep.: Daniel LaMesa
Date Started: December 31, 2009 Date Finished: December 31, 2009
N. Coordinate: E. Coordinate:
Ground Surface Elevation (feet): 24.5
Station: Offset: ft

Casing: Type: H.S.A. I.D.: 3.25 in. Hammer Wt.: N/A Hammer Fall: N/A Rig Type: ATV Hammer Type: Safety / Hydraulic
Sampler: SS 1.38 in. 140 lbs 30 in.

Groundwater Observations

Date	Depth (ft)	Elev. (ft)	Notes
12/31/09	9.0	15.5	Wet spoon

Sample Information

Depth (ft)	Casing Blows/ft	Sample No.	Type	Penetration Resistance (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval 0 - 6	6 - 12	12 - 18	18 - 24	Casing Type (HSA/B)	Moisture Content (%)
	2	S	24	22	2.0	5	13	15	7			
5	3	S	24	15	4.0	3	4	5	5			
	4	S	24	16	6.0	9	11	12	15			
	5	S	24	24	8.0	7	8	9	9			
10	6	S	24	17	10.0	3	4	4	5			
15	7	S	24	5	15.0	11	12	11	12			
20	8	S	24	13	20.0	12	18	12	13			
25	9	S	24	19	25.0	8	10	11	16			
30												

Strata Depth & Elevation(feet)		Symbol	Sample Description (Classification System: Modified Burmister)
Sand			Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand
	1.5		Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand, (moist)
Sandy Silt	21.0		Stiff, light brown SILT and fine SAND, trace Clay, (moist)
	6.0		
Sand	19.5		Medium dense, light brown fine to medium SAND, trace Silt, (moist)
	9.5		Medium dense, Top 18": fine to medium SAND, trace Silt, (wet) Bottom 6": SILT and fine SAND, trace Clay, (wet)
Sandy Silt	15.0		Very stiff, light brown SILT, and fine Sand, trace clay, (wet)
	12.0		
Silty Sand	12.5		Medium stiff, light brown SILT and fine SAND, trace Clay, (wet)
			Medium dense, light brown fine SAND and SILT, (wet)
			Medium dense, light brown fine SAND, little Silt, trace fine Gravel, (wet)
			Medium dense, light brown Top 6": fine to coarse SAND, little Silt, trace fine Gravel Bottom 13": fine SAND, little Silt, trace fine Gravel, (wet)
	27.0		Medium dense, light brown fine SAND, little Silt, trace fine Gravel, (wet)
Bottom of Exploration at 27.0 ft	-2.5		

Remarks: Top 2 inches of sample S-1 was topsoil/organics.

Notes: 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC – After coring; WR – Wet Rotation.
3) Abbreviations: A – Auger; C – Core; MC–Manuscore; D – Driven; G – Grab; PS – Piston Sample; SS – Split Spoon; SSL – 3.5 inch ID Split Spoon; ST – Shelby Tube; V– Vane; WOH/R – Weight of Rod/Hammer
4) Proportions Used: Trace – 1-10%; Little – 10-20%; Some – 20-35%; And – 35-50%

Boring No.: B-1

BORING LOGS

GEODESIGN INCORPORATED
Geotechnical | Construction | Environmental Engineers & Scientists
984 Southford Road - Middlebury, Connecticut 06762
Telephone: 203.758.8836 Fax: 203.758.8842

BORING LOG
Project Name
Earle Park Pedestrian Bridge
Glastonbury, Connecticut

Boring No.: B-2
Page No.: 1 of 1
File No.: 3254-004.0
Checked By: JWK

Boring Company: New England Boring Co.
Foreman: Tim Carpenter
GeoDesign Rep.: Daniel LaMesa
Date Started: December 31, 2009 Date Finished: December 31, 2009
N. Coordinate: E. Coordinate:
Ground Surface Elevation (feet): 25.5
Station: Offset: ft

Casing: Type: H.S.A. I.D.: 3.25 in. Hammer Wt.: N/A Hammer Fall: N/A Rig Type: ATV Hammer Type: Safety / Hydraulic
Sampler: SS 1.38 in. 140 lbs 30 in.

Groundwater Observations

Date	Depth (ft)	Elev. (ft)	Notes
12/31/09	9.0	16.5	Wet spoon

Sample Information

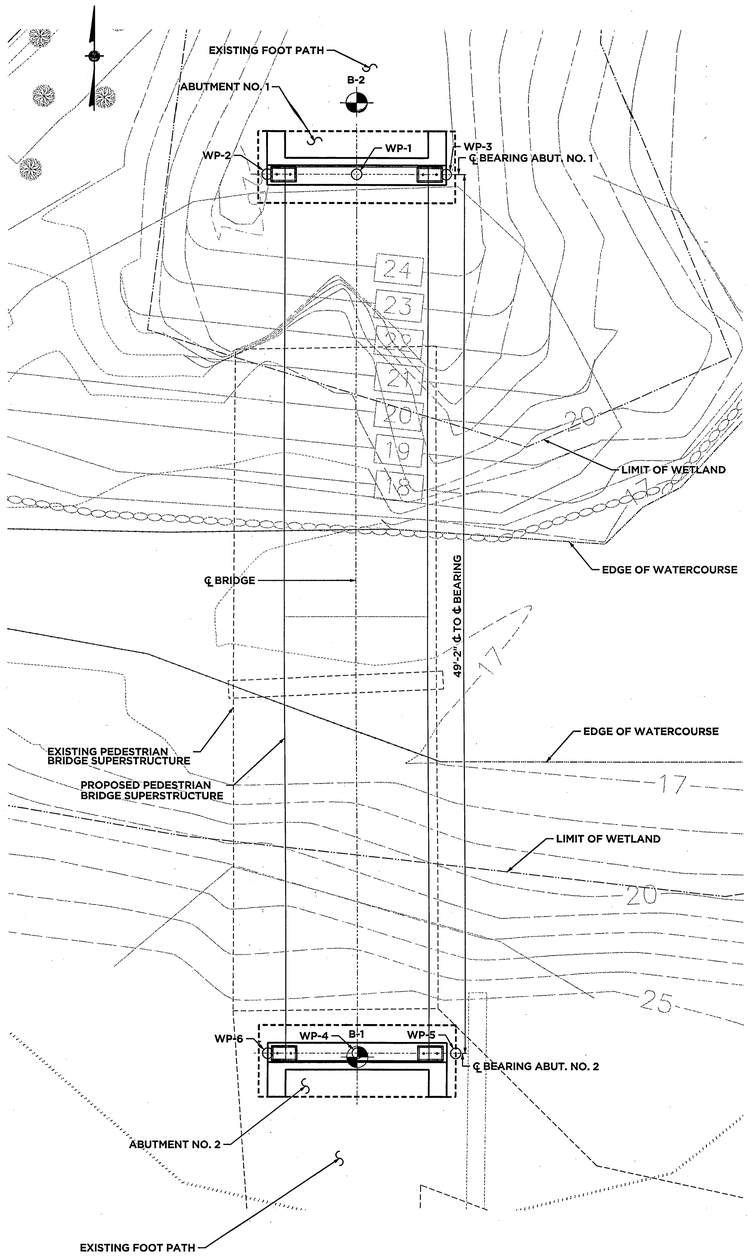
Depth (ft)	Casing Blows/ft	Sample No.	Type	Penetration Resistance (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval 0 - 6	6 - 12	12 - 18	18 - 24	Casing Type (HSA/B)	Moisture Content (%)
	1	S	24	14	0.0	8	4	4	5			
	2	S	24	17	2.0	5	4	4	8			
5	3	S	24	10	4.0	5	5	4	4			
	4	S	24	7	6.0	6	3	3	4			
	5	S	24	19	8.0	7	8	10	11			
10	6	S	24	16	10.0	4	5	5	4			
15	7	S	24	24	15.0	5	5	5	7			
20	8	S	24	24	20.0	8	12	14	14			
25	9	S	24	24	25.0	7	11	7	12			
30	10	S	24	24	30.0	9	10	14	15			

Strata Depth & Elevation(feet)		Symbol	Sample Description (Classification System: Modified Burmister)
Sand			Loose, light brown fine to medium SAND, trace coarse Sand, trace fine Gravel
			Loose, light brown fine to medium SAND, trace coarse Sand, trace fine Gravel, (moist)
			Loose, light brown fine to medium SAND, little Silt, trace coarse Sand, (moist)
	7.0		Loose, brown fine to medium SAND, little Silt, trace coarse Sand, (moist)
Sandy Silt	18.5		Very stiff, light brown SILT and fine SAND, trace Clay, (wet)
			Stiff, light brown SILT and fine SAND, trace Clay, (wet)
			Stiff, light brown SILT and fine SAND, trace Clay, (wet)
			Very stiff, light brown SILT and fine SAND, trace clay, (wet)
	26.0		
Silty Sand	0.5		Medium dense, light brown fine SAND, little Silt, (wet)
	12.0		Medium dense, light brown fine to medium SAND, trace Silt, trace coarse Sand, (wet)
Bottom of Exploration at 30.0 ft	-4.5		

Remarks: Top 2 inches of sample S-1 was topsoil/organics.

Notes: 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC – After coring; WR – Wet Rotation.
3) Abbreviations: A – Auger; C – Core; MC–Manuscore; D – Driven; G – Grab; PS – Piston Sample; SS – Split Spoon; SSL – 3.5 inch ID Split Spoon; ST – Shelby Tube; V– Vane; WOH/R – Weight of Rod/Hammer
4) Proportions Used: Trace – 1-10%; Little – 10-20%; Some – 20-35%; And – 35-50%

Boring No.: B-2



BRIDGE LAYOUT
SCALE: ¼"=1'-0"

STRUCTURAL NOTES:

SPECIFICATIONS:	CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 816 (2004), WITH SUPPLEMENTAL SPECIFICATIONS DATED JANUARY 2009 AND SPECIAL PROVISIONS.
DESIGN SPECIFICATIONS:	STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (AASHTO 2002), AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003).
ALLOWABLE DESIGN STRESSES:	CLASS "A" CONCRETE BASED ON f'c = 3000 PSI REINFORCEMENT (ASTM A615 GRADE 60) Fy = 60,000 PSI
DESIGN LOAD:	LIVE LOADS: EMERGENCY VEHICLE: 5 KIP PER AXLE. PEDESTRIAN/EQUESTRIAN UNIFORM LOADING: 85 PSF STREAM FORCE: 90 PSF ON EXPOSED SURFACE
FUTURE PAVING ALLOWANCE:	NONE
CLASS "A" CONCRETE:	CLASS "A" CONCRETE SHALL BE USED FOR THE ENTIRE SUBSTRUCTURE.
EXPOSED EDGES:	**EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.**
REINFORCEMENT:	ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
CONCRETE COVER:	ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.
FOUNDATION PRESSURES AND PILE LOADS:	THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE GROUP LOADS AS GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
CONSTRUCTION JOINTS:	CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
DIMENSIONS:	WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.
ANCHOR BOLTS:	ANCHOR BOLTS USED ON THE BEARINGS SHALL CONFORM TO ASTM A449 WITH NUTS AND WASHERS CONFORMING TO A563 GRADE B. ANCHOR BOLTS AND WASHERS SHALL BE GALVANIZED IN CONFORMANCE WITH THE REQUIREMENTS OF ASTM A153. ALL ANCHORAGE MATERIALS USED ON THE BEARINGS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND FOR "DEFORMED STEEL BARS".
GROUT:	GROUT SHALL BE PAID FOR UNDER THE PAY ITEM FOR "CLASS A CONCRETE".
MASONRY PLATES:	MASONRY PLATES SHALL BE ASTM GRADE A36 STEEL AND SHALL BE PAID FOR UNDER THE PAY ITEM FOR "STRUCTURAL STEEL".

GENERAL NOTES:

1. ABUTMENT DESIGNED BASED ON PLANS ENTITLED "PLAN DEPICTING PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK LOCATED AT EARLE PARK BEHIND 1361 MAIN STREET" & "SITE PLAN DEPICTING PEDESTRIAN BRIDGE REPLACEMENT OVER HOLLAND BROOK LOCATED AT EARLE PARK BEHIND 1361 MAIN STREET", BOTH PLANS REVISED 10 -02 -2009, AS PROVIDED BY TOWN OF GLASTONBURY.
2. ABUTMENT DESIGN BASED ON PROPOSED PRE-ENGINEERED PEDESTRIAN BRIDGE COMPOSED OF FIBER-REINFORCED POLYMER MEMBERS AS SHOWN ON ABOVE REFERENCED DRAWING.
3. ANCHOR BOLTS AND MASONRY PLATE LAYOUT BASED ON INFORMATION SUPPLIED BY E.T. TECHTONICS . CONTRACTOR TO VERIFY DIMENSIONS AND LAYOUT FOR SUPPLIER HE UTILIZES AND NOTIFY ENGINEER IF ANY DISCREPANCIES FOUND.
4. ABUTMENTS DESIGNED FOR DESIGN REACTIONS NOTED ON THIS SHEET. CONTRACTOR TO NOTIFY ENGINEER IF ACTUAL DEAD LOADS FROM SUPERSTRUCTURE SUPPLIED ARE DIFFERENT THAN THOSE SHOWN.
5. BRIDGE SEAT ELEVATIONS GIVEN ARE BASED ON AN ASSUMED SUPERSTRUCTURE DEPTH, MEASURED FROM TOP OF DECKING TO BOTTOM OF LONGITUDINAL C8 CHANNELS AT THE CENTERLINE OF BEARING, OF 10¾ INCHES BASED ON DRAWING NOTED IN NOTE 1 ABOVE. CONTRACTOR TO VERIFY AND NOTIFY ENGINEER IF DIFFERENT FROM VALUE ASSUMED.

ABUTMENT DESIGN REACTIONS

	VERTICAL	HORIZONTAL
SUPERSTRUCTURE DEAD LOAD	3.0 KIPS	N/A
LIVE LOAD	17.0 KIPS	N/A
STREAM FORCE PERPENDICULAR TO BRIDGE ℄	N/A	4.8 KIPS

ABUTMENT QUANTITIES

CONSTRUCTION ITEM	PAY UNIT	QUANTITY
STRUCTURE EXCAVATION - EARTH (COMPLETE)	C.Y.	37
STRUCTURE EXCAVATION - ROCK (COMPLETE)	C.Y.	3
GRANULAR FILL	C.Y.	7
PERVIOUS STRUCTURE BACKFILL	C.Y.	10
CLASS "A" CONCRETE	C.Y.	9
DEFORMED STEEL BARS	LB.	1200
STRUCTURAL STEEL	LB.	100
CONCRETE CYLINDER CURING BOX	EA.	1
DAMPROOFING	S.Y.	10

STATE OF CONNECTICUT TIMOTHY J. YOTH No. 19455 LICENSED PROFESSIONAL ENGINEER
5/17/2010

ANCHOR ENGINEERING SERVICES, INC.
41 Sequin Drive
Glastonbury, CT 06033
Phone: (860) 633-8770
Fax: (860) 633-5971
www.anchorengr.com

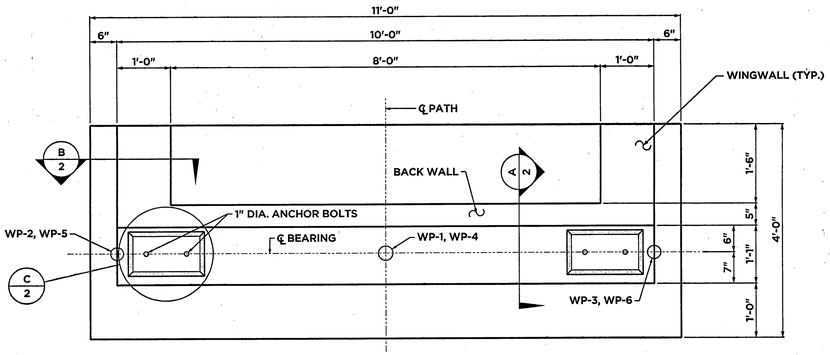
Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

PROJ. ENGINEER	SJG/MEA
PROJ. MANAGER	TJY
OFFICE REVIEW	TJY
REVISIONS	
SCALE:	AS NOTED

EARLE PARK PEDESTRIAN BRIDGE
OVER HOLLAND BROOK
GENERAL PLAN
TOWN OF GLASTONBURY GLASTONBURY, CT

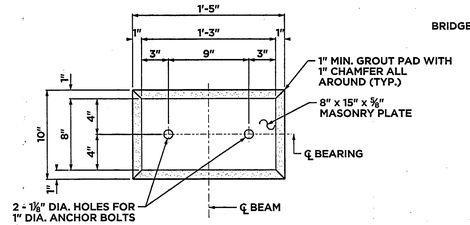
PROJECT	DATE	SHEET NO.	OF
075-26	02/12/10	1	2

J:\075-26\Drawings\01 Earle Park Pedestrian Bridge.dgn

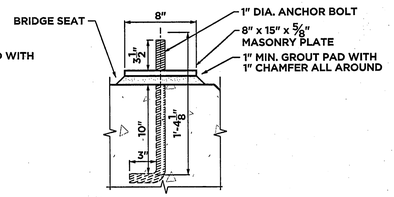


ABUTMENT PLAN

SCALE: 3/4"=1'-0"



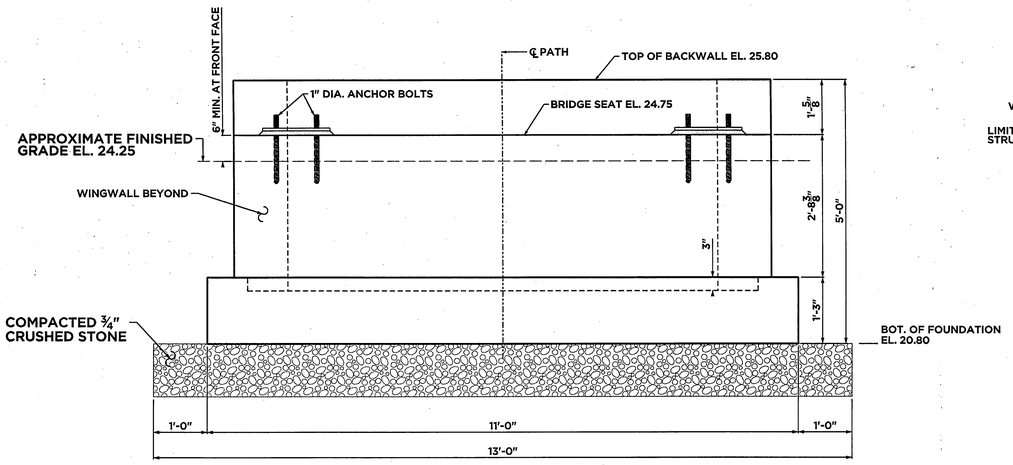
DETAIL C/2



DETAIL D/2

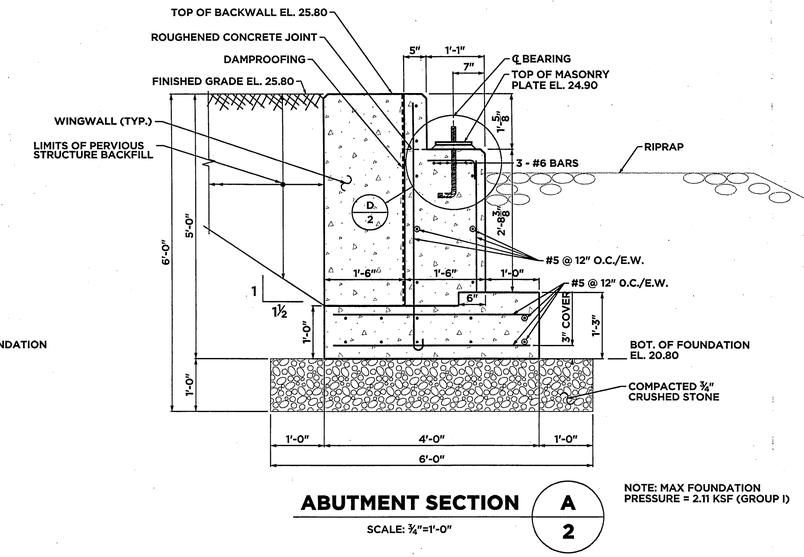
BEARING PAD DETAILS

SCALE: 1½"=1'-0"



ABUTMENT ELEVATION

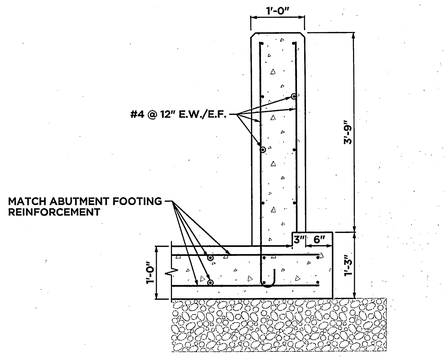
SCALE: 3/4"=1'-0"



ABUTMENT SECTION A/2

SCALE: 3/4"=1'-0"

NOTE: MAX FOUNDATION
PRESSURE = 2.11 KSF (GROUP I)



WINGWALL SECTION B/2

SCALE: 3/4"=1'-0"

WORKING POINT DATA			
ABUTMENT 1 (NORTH)	DESCRIPTION	NORTH	EAST
WP-1	℄ BRIDGE @ ℄ BRG	809,107.652	1,040,128.571
WP-2	℄ BRIDGE @ OUTSIDE EDGE ABUTMENT STEM	809,107.652	1,040,123.571
WP-3	℄ BRIDGE @ OUTSIDE EDGE ABUTMENT STEM	809,107.652	1,040,133.571
ABUTMENT 2 (SOUTH)	DESCRIPTION	NORTH	EAST
WP-4	℄ BRIDGE @ ℄ BRG	809,058.485	1,040,128.571
WP-5	℄ BRIDGE @ OUTSIDE EDGE ABUTMENT STEM	809,058.485	1,040,123.571
WP-6	℄ BRIDGE @ OUTSIDE EDGE ABUTMENT STEM	809,058.485	1,040,133.571

NOTES:

1. SEE ADDITIONAL NOTES ON SHEET NO. 1.
2. ANCHOR BOLTS AND MASONRY PLATE LAYOUT AND DIMENSIONS SHOWN ON THIS SHEET ARE BASED ON INFORMATION SUPPLIED BY E.T. TECHTONICS . CONTRACTOR TO VERIFY DIMENSIONS AND LAYOUT FOR SUPPLIER HE UTILIZES AND NOTIFY ENGINEER IF ANY DISCREPANCIES FOUND.

STATE OF CONNECTICUT
TIMOTHY J. YOUNG
No. 19425
LICENSED
PROFESSIONAL ENGINEER
2/7/2010

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PROJ. ENGINEER	SJG/MEA
PROJ. MANAGER	TJY
OFFICE REVIEW	TJY
REVISIONS	
SCALE:	AS NOTED

EARLE PARK PEDESTRIAN BRIDGE
OVER HOLLAND BROOK
ABUTMENT PLAN
TOWN OF GLASTONBURY — GLASTONBURY, CT

PROJECT	DATE	SHEET NO.	OF
075-26	02/12/10	2	2

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