The State of Connecticut

Department of Housing (DOH)

Community Development Block Grant Disaster Recovery Program (CDBG-DR)

Owner Occupied Rehabilitation and Rebuilding Program (OORR)

BID PACKAGE

For

Rosenfield Residence

Rehabilitation and Mitigation

28 West End Drive

Old Lyme, CT 06371

Prepared by:

Capital Studio Architects, LLC.

1379 Main Street, East Hartford, CT 06108

860.289.3262

Project #: 1648

CSA Project # 1347-46

October 5, 2015

EQUAL HOUSING OPPORTUNITY

Project # 1648

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Section 1

Section 1

ADVERTISEMENT FOR BIDS

Project #1648

The State of Connecticut Department of Housing (DOH) is seeking proposals through a Request for Proposal (RFP) process for the rehabilitation, reconstruction and/or mitigation of residential structures damaged by Superstorm Sandy in compliance with all applicable local, federal, and state statutory requirements with special attention paid to requirements for Community Development Block Grants under the United States Department of Housing and Urban Development ("HUD") Disaster Recovery grant program.

Separated sealed bids for **Project #1648, Rosenfield Residence Rehabilitation and Mitigation, 28 West End Drive, Old Lyme, CT 06371** will be received by Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 until **4:00 o'clock PM on Thursday, November 05, 2015.**

A **Mandatory Walk Through** will be held at the Project Site located at **28 West End Drive, Old Lyme, CT 06371 at 10:00AM on Thursday, October 22, 2015.**

The Information to Bidders, Form of Bid, Form of Contract, Plans, Specifications, Form of Bid Bond and Performance and Payment Bond and other contract documents may be examined on the Department of Housing Hurricane Sandy Recover website at www.ct.gov/doh/ and click on the "Hurricane Sandy" link, and at the office Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108.

Copies of plans may be downloaded directly from the Department of Housing website under bid notices or obtained, when requested in advance, at the office of Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 upon payment of $50.00 for each set.

DOH reserves the right to waive any informalities or to reject any or all bids.

Each bidder must deposit with his bid, security in the amount, form and subject to the conditions provided in the Information to Bidders.

Attention to bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wages rates to be paid under the contract (if applicable), Section 3, Segregated Facilities, Section 109 and E. O. 11246.

No bidder may withdraw his bid within 30 calendar days after the actual date of the bid opening thereof.

INFORMATION FOR BIDDERS

Receipt and Opening of Bids:

The State of Connecticut Department of Housing (herein called the "DOH"), invites bids on the form attached. Bids will be received by DOH at the office of David Holmes, Project Manager at Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108, until **4:00 o'clock PM on Thursday, November 05, 2015.**

The envelopes containing the bids must be sealed, addressed to David Holmes, Project Manager at Capital Studio Architects, LLC. and designated as bid for **Project #1648, Rosenfield Residence Rehabilitation and Mitigation, 28 West End Drive, Old Lyme, CT 06371**.

DOH may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement there considered. NO bidder may withdraw a bid within 30 days after the actual date of the opening thereof.

Mandatory Walk Through: All bidders must attend a mandatory walk through of the property designated above. The date and time of the walk through is set for **10:00 AM on Thursday, October 22, 2015.**

Preparation of Bids:

Each bid must be submitted on the prescribed form and accompanied by Certification by Bidder Regarding Equal Employment Opportunity, Form HUD-950.1, and Certification of Bidder Regarding Section 3 and Segregated Facilities. All blank spaces for bid process must be filled in, in ink or typewritten, in both words and figures, and the foregoing Certifications must be fully completed and executed when submitted.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form.

Subcontracts: The bidder is specifically advised that any person, for, or other party to whom it is proposed to award a subcontract under this contract:

1. Must be acceptable to the DOH after verification by the State of the current eligibility status; and,
2. Must submit Form HUD-950.2, Certification by Proposed Subcontractor Regarding Equal Employment Opportunity and Certification of Proposed Subcontractor Regarding Section 3 and Segregated Facilities. Approval of the proposed subcontractor award cannot be given by the DOH unless and until the proposed subcontractor has submitted the Certifications and/or other evidence showing that it has fully complied with any reporting requirements to which it is or was subject. Although the bidder is not required to attach such Certifications by proposed subcontractors to his/her bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

Method of Bidding: DOH invites the following bid(s):

Qualifications of Bidder: The DOH may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the DOH all such information and date for this purpose as the DOH may request. The DOH reserves the right to reject any bid if the evidence submitted by, or

investigation of, such bidder fails to satisfy the DOH that such bidder is property qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted. The State's set Contractor Prequalifications are available at the Department of Housing's Hurricane Sandy Recovers website www.ct.gov/doh/ and click on the "Hurricane Sandy" link.

Bid Security: Each bid must be accompanied by an irrevocable letter of credit from the bank, certified check, or bank cashier's check in the amount not less than five percent (5%) of the bid. Bid bonds may be accepted as bid security. Such checks will be returned to all except the three lowest bidders within three days after the opening of bids, and the remaining cash, or checks will be returned promptly after DOH and the accepted bidder have executed the contract, or opening of bids, upon demand or the bidder at any time thereafter, so long as he/she has been notified of the acceptance of his/her bid.

Conditions of Work: Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provision of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

Addenda and Interpretations: No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally.

Every request for such interpretation should be in writing addressed to: David Holmes, Project Manager at Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 and, to be given consideration, must be received at least three days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instruction will be in the form of written addenda to the specifications which, if issued, will be forwarded by electronic mail and posted on DOH's Hurricane Sandy website to all prospective bidders (at the respective email addresses furnished for such purposes), not later than two days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

Security for Faithful Performance: Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the DOH.

Performance and Payment Bonds: A performance and payment bond will be required of the successful bidder (contractor) for 100 percent of the contract price on contracts over $100,000.

Contract Progress Schedule: Each bid shall be accompanied by a Contract Progress Schedule. Such Schedule shall list the bidder's timetable for completion of the contract.

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

Notice of Special Conditions: Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

1. Inspection and testing of materials
2. Insurance requirements
3. Wage rates (if applicable)
4. State allowances

Laws and Regulations: The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

Method of Award-Lowest Qualified Bidder: If at the time this contract is to be awarded, the lowest base bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the DOH as available to finance the contract; the contract will be awarded on the base bid only. If such bid exceeds such amount, the DOH may reject all bids or may award the contract on the base bid combined with such deductible alternatives applied in numerical order in which they are listed in the Form of Bids, as produces a net amount which is within the available funds.

If the homeowner wishes to select a prequalified bidding contractor other than the lowest and most responsible bidder, said owner is responsible for paying the difference between the lowest bidder and their chosen bidder from their own financing.

Obligation of Bidder: At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his/her bid.

Safety Standards and Accident Prevention: With respect to all work performed under this contract, the contractor shall:

1. Comply with the safety standards provision of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register," Volume 36, No 75, Saturday, April 17, 1971.
2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) who may be injured on the job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

BID FORM

The undersigned, being familiarized with the local conditions affecting the cost of the work and with the Drawings, Specifications, Invitation to Bidders, Instructions to Bidders, General Conditions, Bid Form, Form of Contract and Form of Bonds for **Project No. 1648** and Addenda No. _____ and _____ thereto, as prepared by Capital Studio Architects, LLC. East Hartford, Connecticut, and on file in the office of DOH, hereby proposes to furnish all permits, labor, materials, tools, equipment and related items required for the rehabilitation and reconstruction including general construction, site improvements, plumbing, heating, electrical and finish items for said **Project No. 1648 located at 28 West End Drive, Old Lyme, State of Connecticut 06371**, all in accordance with the Drawings and Specifications, for the sum of:

_____Dollars ($_____).

Section #	***Scope of Work***	***Subcontractor***	***Labor Cost***	***Material***	***Total***
TOTAL COST					

ALTERNATE PROPOSALS AND UNIT PRICES

The undersigned bidder further proposes and agrees that should any or all of the following Alternates be accepted and included in the Contract, the amount of the Base Bid, as heretofore stated, shall be adjusted by the amount stated for each Alternate, or Unit Price. All materials and workmanship shall be in strict accordance with the Drawings and Specifications and shall be in-place prices.

Alternates

No. 1 _____

No. 2 _____

No. 3 _____

No. 4 _____

No. 5 _____

Unit Price		Unit Measure
No. 1	_____	**$/ sf**
No. 2	_____	**$/ lf**
No. 3	_____	**$/ lf**
No. 4	_____	**$/ lf**
No. 5	_____	**$/ lf**
No. 6	_____	**$/ sf**
No. 7	_____	**$/ sf**
No. 8	_____	**$/ sf**
No. 9	_____	**$/ gb**

The undersigned agrees to commence the work on a date to be specified in the contract and to complete such work within **180** consecutive calendar days.

The undersigned agrees that if within the period of thirty (30) days after the opening of bids, or when extended to the next work day immediately following said period, notice of the acceptance of this bid shall be mailed, or delivered to him/her at the business address given below, or at any time thereafter before this bid is withdrawn, will within fifteen (15) days thereafter deliver to the DOH, where directed, a contract properly executed in such number of counterparts as may be required by said DOH, on the forms annexed, with such changes therein as shall have been made by DOH, prior to the time named for delivery of this proposal, together with all executed documents in a form satisfactory to the DOH and a letter indicating those Small/Minority Business Enterprises that will perform work and/or provide materials, equipment or services as part of the contract.

In submitting this bid, it is understood that the right is reserved by the abovementioned DOH to reject any and all bids; and it is agreed that this bid may not be withdrawn for a period of thirty (30) days from the date of bid opening or until the next work day immediately following said period if such period ends on a weekend or a State holiday.

Attached hereto is an affidavit, in proof that the undersigned has not entered into any collusion with any person in respect to this proposal, or any other proposal, or the submitting of proposals for the above Project. Also attached is a statement of contractor's qualifications, Certification of Bidder Regarding Equal Employment Opportunity, and Segregated Facilities.

Acknowledgement of Bidder

I, THE UNDERSIGNED AS AN AUTHORIZED OFFICER OF:

_____	_____
(Company Name)	(Date)
_____	_____
(Address)	(Telephone)
_____	_____
(City/State/Zip)	(Fax No.)
_____	
(FEIN)	

I HEREBY SUBMIT THE FOLLOWING PRICES FOR THE PROJECT IDENTIFIED ABOVE: (Indicate in words and numerals)
BASE BID PRICE: Cost_____
AMOUNT IN WORDS:_____
_____

_____	_____
(Signature)	(Date)
_____	_____
(Printed Name)	(Title/Position)

(Email address) _____

(Bank Letterhead)

BID SECURITY

IRREVOCABLE LETTER OF CREDIT

Dear _____:

We hereby authorize you to draw on us to the aggregate amount of $_____ (five percent of the amount of the bid) in the event _____ withdraws its bid within the bid holding period, or upon being awarded a contract, fails to provide adequate performance and payment security as required by the Contract documents.

Such drafts must be accompanied by the following document:

A written certification by you that the proceeds of any draft drawn on this Letter of Credit will be used solely to indemnify the DOH against loss or damage suffered by it resulting from any act or omission described in the above paragraph.

We warrant to you that all drafts drawn in compliance with the terms of this Letter of Credit will be unconditionally and duly honored upon delivery of the documentation specified and presented to this office.

This Letter of Credit is irrevocable and shall be in full force and effect until notification in writing is received from you that a contract for Project_____ has been awarded and executed, whereupon this Letter of Credit shall automatically be canceled.

This Letter of Credit shall not be modified or amended except upon the written agreement of this Bank and the DOH.

Sincerely yours,

President

FORM OF NON-COLLUSIVE AFFIDAVIT
AFFIDAVIT

State of _____)

County of _____)

_____, being first duly sworn, deposes and says:

That he/she is,_____ the party making the foregoing proposal for bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not, in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against DOH or any person interested in the proposed contract, and that all statements in said proposal for bid are true.

Project No._____

Location _____

_____

Signature

_____

Name and Title

_____

Date

(Signature should be notarized.)

BIDDER'S CERTIFICATION OF ELIGIBILITY

By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government or HUD; or,

(2) Participate in HUD programs pursuant to 24 CFR part 24.

_____

(Name of Bidder)

_____

(Address)

BY:_____

Title: _____

NOTE: This certification is a material representation of fact upon which reliance is placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal programs.

CERTIFICATION OF GENERAL BIDDERS ON CDBG-DR CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies that neither he/she nor any firm, corporation, partnership or association in which he/she has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 USC 276a). The undersigned further certifies that said undersigned is not presently debarred from doing public construction work in the State of Connecticut.

Date: _____

_____

Name of General Bidder

By _____

Signature

_____

Print name and title

_____

Business Address

_____

Street Address City and State

OSHA-10 OSHA-10

CERTIFICATION OF SUB- BIDDERS (IF ANY) ON CDBG-DR CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under penalties of perjury that this subbid is in all responses bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies that neither he/she nor any firm, corporation, partnership or association in which he/she has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 USC 276a). The undersigned further certifies that said undersigned is not presently debarred from doing public construction work in the State of Connecticut.

Date _____

_____

Name of Sub-bidder

By _____

Signature

_____

Print Name and Title

_____

Business Name

_____

Street Address, City and State

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ _____as Principal, and _____Surety, are hereby held and firmly bound unto _____ as DOH in the penal sum of _____ , for the payment of which, well and truly be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 2015.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted to _____ a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the _____

_____

NOW, THEREFORE,

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

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

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

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

_____ (L.S)
Principal

_____
Surety

SEAL By: _____

PERFORMANCE AND PAYMENT BOND

(For contracts over $100,000)

KNOW ALL MEN BY THESE PRESENTS: THAT we, _____, as PRINCIPAL, and_____ , as SURETY, are held firmly bound unto_____ hereinafter called the DOH, in the penal sum of _____ ($_____), for the payment of which sum we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally.
WHEREAS, Principal has entered into a certain Contract with DOH, dated _____, a copy of which is hereto attached and made a part hereof.

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall in all respects fully perform the Contract and all duly authorized modifications thereof, during its original term and any extensions thereof that may be granted and during any guaranty period for which the Contract provides, and if the Principal shall fully satisfy all claims arising out of the prosecution of the work under the Contract and shall fully indemnify DOH for all expenses which it may incur by reason of such claims, including its attorney's fees and court costs, and if the Principal shall make full payment to all persons supplying labor, services, materials, or equipment in the prosecution of the work under the Contract, in default of which such persons shall have a direct right of action hereupon; and if the Principal shall pay or cause to be paid all sales and use taxes payable as a result of the performance of the Contract as well as payment of gasoline and special motor fuel taxes in the performance of the Contract and all motor vehicle fees required for commercial motor vehicles used in connection with the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect. No modification of the Contract or extension of the term thereof, nor any forbearance on the part of DOH shall in any way release the Principal or the Surety from liability hereunder. Notice to the Surety of any such modification, extension, or forbearance is hereby waived.

IN WITNESS WHEREOF, the aforesaid Principal and Surety have executed this instrument and affixed their seals hereto, this _____ day of _____.

_____ _____

Principal Surety

_____ _____

Name and Title

(Signatures must be notarized.)

(Power-of-Attorney for person signing for Surety Company must be attached to bond.)

The rate of premium on this bond is $_____ per thousand.

The total amount of premium charge is $_____.

(The above is to be filled in by Surety Company.)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the

_____ Secretary of the corporation

named as Principal in the foregoing bond; that _____,

who signed the bond on behalf of the Principal, was then _____

of said corporation; that I know his/her signature thereto is genuine; and that said bond was fully signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

SUBCONTRACTOR IDENTIFICATION

(Provide additional forms for more subcontractors, as needed.)

This form is a part of your bid package and must be submitted along with the itemized and formal bid forms at the time of the bid opening. Failure to submit a completed document could result in the disqualification of your bid.

Name of Subcontractor: _____

Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

Name of Subcontractor: _____
Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

Name of Subcontractor: _____
Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

_____ _____
Contractor's Signature Date

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F R 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION OF BIDDER

Name and address of Bidder (include zip code)

_____

_____

_____

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
   ( ) YES ( ) NO

2. Compliance reports were required to be filed in connection with such contract or subcontract.
   ( ) YES ( ) NO

3. Bidder has filed all compliance reports due under applicable instructions, including SF.100.
   ( ) YES ( ) NO ( ) NOT REQUIRED

4. Have you ever seen or are you being considered for sanction due to violation of Executive Order 11246, as amended?
   ( ) YES ( ) NO

5. No segregated facilities will be maintained.

NAME AND TITLE OF SIGNER (Please type.)

_____

_____ _____

SIGNATURE DATE

CERTIFICATION OF BIDDERS REGARDING SECTION 3 AND SEGREGATED FACILITIES

Project Name:

Project No:

Name of Prime Contractor:

The undersigned hereby certifies that:

1. Section 3 provisions are included in the Contract
2. A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $100,000.00)
3. No segregated facilities will be maintained.

_____

Name and Title of Signer (Print or Type)

_____ _____

Signature Date

CONTRACTOR

Section 3 Plan Format

_____ agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and business within the _____.

A. To ascertain from the DOH the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plans.
B. To attempt to recruit from within the city the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U. S. Employment Service.
C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
D. To insert this Section 3 plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 Affirmative Action Plan including utilization goals and the specific steps planned to accomplish these goals.
E. To insure that contracts which are typically let on a negotiated rather than a bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, wherever feasible, when let in a Section 3 covered project area.
F. To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.
G. To insure that all appropriated project area business concerns are notified or pending subcontractural opportunities
H. To maintain records, including copies of correspondence, memoranda, etc., that document all above affirmative action steps have been taken.
I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of the Section 3 plan.
J. To list on Table A, information related to subcontracts to be awarded.
K. To list on Table B, all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

As officers and representatives of _____

We, the undersigned, have read and fully agree to this Affirmative Action Plan, and become a party to the full implementation of this program.

_____	_____	_____
Signature	Title	Date

Loans, grants, contracts and subsidies for less than $100,000.00 will be exempt.

Table A

Proposed Subcontracts Breakdown

For Period Covering _____, 20____ Through _____, 20____
(Duration of CDBG-DR OORR Assisted Project)

Column 1	*Column 2*	*Column3*	*Column 4*	*Column 5*
Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*

*The Project Area is defined as the Town/City boundaries in which the assisted project resides.

_____
Company

_____ _____
Project Name/Residence Project Number

_____ _____
EEO Officer or Designee's Signature Date

Table B

Estimated Project Workforce Breakdown

Column 1	*Column 2*	*Column 3*	*Column 4*	*Column 5*
Job Category	Total Estimated Population	No. Positions Currently Occupied by Permanent Employees	No. Positions Not Currently Occupied	No. Positions to be filled with LIPAR*
Officers/Supervisors				
Professionals				
Technicians				
Housing Sales/Rental Management				
Office Clerical				
Service Workers				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
Total				

**Lower Income Project Area Residents. Individuals residing within the project area whose family income does not exceed 80% of the area median income in the SMSA.*

_____

Company

Green Building Standards Checklist

HUD CPD Green Building Retrofit Checklist

The CPD Green Retrofit Checklist promotes energy efficiency and green building practices for residential retrofit projects. Grantees must follow the checklist in its entirety and apply all measures within the Checklist to the extent applicable to the particular building type being retrofitted. The phrase "when replacing" in the Checklist refers to the mandatory replacement with specified green improvements, products, and fixtures only when replacing those systems during the normal course of the retrofit.

WATER AND ENERGY CONSERVATION MEASURES

N/A **Water-Conserving Fixtures**

Install or retrofit water conserving fixtures in any unit and common facility, use the following specifications: Toilets-- 1.28 gpf; Urinals-- 0.5 gpf; Showerheads-- 2.0 gpm; Kitchen faucets-- 2.0 gpm; and Bathroom faucets-- 1.5gpm. [gpf = gallons per flush; gpm = gallons per minute]

N/A **ENERGY STAR Appliances**

Install ENERGY STAR-labeled clothes washers, dishwashers, and refrigerators, if these appliance categories are provided in units or common areas.

N/A **Air Sealing: Building Envelope**

Seal all accessible gaps and penetrations in the building envelope. If applicable, use low VOC caulk or foam.

N/A **Insulation: Attic** (if applicable to building type)

For attics with closed floor cavities directly above the conditioned space, blow in insulation per manufacturer's specifications to a minimum density of 3.5 Lbs. per cubic foot (CF). For attics with open floor cavities directly above the conditioned space, install insulation to meet or exceed IECC levels.

X **Insulation: Flooring** (if applicable to building type)

Install ≥ R-19 insulation in contact with the subfloor in buildings with floor systems over vented crawl spaces. Install a 6-mil vapor barrier in contact with 100% of the floor of the crawl space (the ground), overlapping seams and piers at least 6 inches.

N/A **Duct Sealing** (if applicable to building type)

In buildings with ducted forced-air heating and cooling systems, seal all penetrations of the air distribution system to reduce leakage in order to meet or exceed ENERGY STAR for Homes' duct leakage standard.

N/A **Air Barrier System**

Ensure continuous unbroken air barrier surrounding all conditioned space and dwelling units. Align insulation completely and continuously with the air barrier.

N/A **Radiant Barriers: Roofing**

When replacing or making a substantial repair to the roof, use radiant barrier sheathing or other radiant barrier material; if economically feasible, also use cool roofing materials.

X **Windows**

When replacing windows, install geographically appropriate ENERGY STAR rated windows.

N/A **Sizing of Heating and Cooling Equipment**

When replacing, size heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manuals, Parts J and S, or 2012 ASHRAE Handbook--HVAC Systems and Equipment or most recent edition.

N/A **Domestic Hot Water Systems**

When replacing domestic water heating system(s), ensure the system(s) meet or exceed the efficiency requirements of ENERGY STAR for Homes' Reference Design. Insulate pipes by at least R-4.

N/A **Efficient Lighting: Interior Units**

Follow the guidance appropriate for the project type: install the ENERGY STAR Advanced Lighting Package (ALP); ***OR*** follow the ENERGY STAR MFHR program guidelines, which require that 80% of installed lighting fixtures within units must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; ***OR*** when replacing, new fixtures and ceiling fans must meet or exceed ENERGY STAR efficiency levels.

N/A **Efficient Lighting: Common Areas and Emergency Lighting** (if applicable to building type)

Follow the guidance appropriate for the project type: use ENERGY STAR-labeled fixtures or any equivalent high-performance lighting fixtures and bulbs in all common areas; ***OR*** when replacing, new common space and emergency lighting fixtures must meet or exceed ENERGY STAR efficiency levels. For emergency lighting, if installing new or replacing, all exist signs shall meet or exceed LED efficiency levels and conform to local building codes.

N/A **Efficient Lighting: Exterior**

Follow the guidance appropriate for the project type: install ENERGY STAR-qualified fixtures or LEDs with a minimum efficacy of 45 lumens/watt; ***OR*** follow the ENERGY STAR MFHR program guidelines, which require that 80% of outdoor lighting fixtures must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; ***OR*** when replacing, install ENERGY STAR compact fluorescents or LEDs with a minimum efficacy of 45 lumens/watt.

INDOOR AIR QUALITY

N/A **Air Ventilation: Single Family and Multifamily** (three stories or fewer)

Install an in-unit ventilation system capable of providing adequate fresh air per ASHRAE 62.2 requirements.

N/A **Air Ventilation: Multifamily** (four stories or more)

Install apartment ventilation systems that satisfy ASHRAE 62.2 for all dwelling units and common area ventilation systems that satisfy ASHRAE 62.1 requirements. If economically feasible, consider heat/energy recovery for 100% of corridor air supply.

N/A **Composite Wood Products that Emit Low/No Formaldehyde**

Composite wood products must be certified compliant with California 93120. If using a composite wood product that does not comply with California 93120, all exposed edges and sides must be sealed with low-VOC sealants.

X **Environmentally Preferable Flooring**

When replacing flooring, use environmentally preferable flooring, including the FloorScore certification. Any carpet products used must meet the Carpet and Rug Institute's Green Label or Green Label Plus certification for carpet, pad, and carpet adhesives.

X **Low/No VOC Paints and Primers**

All interior paints and primers must be less than or equal to the following VOC levels: Flats--50 g/L; Non-flats--50 g/L; Floor--100 g/L. [g/L = grams per liter; levels are based on a combination of the Master Painters Institute (MPI) and GreenSeal standards.]

X **Low/No VOC Adhesives and Sealants**

All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks and sealants must comply with regulation 8, rule 51, of the Bay Area Air Quality Management District.

N/A **Clothes Dryer Exhaust**

Vent clothes dryers directly to the outdoors using rigid-type duct work.

X **Mold Inspection and Remediation**

Inspect the interior and exterior of the building for evidence of moisture problems. Document the extent and location of the problems, and implement the proposed repairs according to the Moisture section of the EPA Healthy Indoor Environment Protocols for Home Energy Upgrades.

N/A **Combustion Equipment**

When installing new space and water-heating equipment, specify power-vented or direct vent combustion equipment.

N/A **Mold Prevention: Water Heaters**

Provide adequate drainage for water heaters that includes drains or catch pans with drains piped to the exterior of the dwelling.

N/A **Mold Prevention: Surfaces**

When replacing or repairing bathrooms, kitchens, and laundry rooms, use materials that have durable, cleanable surfaces.

N/A **Mold Prevention: Tub and Shower Enclosures**

When replacing or repairing tub and/or shower enclosures, use non-paper-faced backing materials such as cement board, fiber cement board, or equivalent in bathrooms.

N/A **Integrated Pest Management**

Seal all wall, floor, and joint penetrations with low-VOC caulking or other appropriate sealing methods to prevent pest entry. [If applicable, provide training to multifamily buildings staff.]

X **Lead-Safe Work Practices**

For properties built before 1978, if the project will involve disturbing painted surfaces or cleaning up lead contaminated dust or soil, use certified renovation or lead abatement contractors and workers using lead-safe work practices and clearance examinations consistent with the more stringent of EPA's Renovation, Repair, and Painting Rule and HUD's Lead Safe Housing Rule.

[X] **Radon Testing and Mitigation** (if applicable based on building location)

For buildings in EPA Radon Zone 1 or 2, test for radon using the current edition of American Association of Radon Scientists and Technologists (AARST)'s Protocols for Radon Measurement in Homes Standard for Single-Family Housing or Duplexes, or AARST's Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings. To install radon mitigation systems in buildings with radon level of 4 pCi/L or more, use ASTM E 2121 for single-family housing or duplexes, or AARST's Radon Mitigation Standards for Multifamily Buildings. For new construction, use AARST's Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses, or ASTM E 1465.

Section 2

Section 2

General Conditions

1. The purpose of this HUD and DOH sponsored 0% interest loan Owner Occupied Rehabilitation and Rebuilding program is to make good faith efforts to assist qualified property owners in making repairs to their property damaged by Superstorm Sandy. Eligible repairs include code, health and safety compliance modifications, including but not limited to building envelope and energy efficiency upgrades (See Green Building Standards).

2. In the event that the homeowner is dissatisfied with the work performed although the work has been completed to industry standards, approved by the local municipality's code enforcement officials and approved by the DOH or its agent, the homeowner's approval will be overridden, full payment will be issued to the contractor and the project will be officially closed.

3. The owner is responsible for removal or relocation from the respective work areas the following, including but not necessarily limited to: personal belongings, window treatments, small furniture, fixtures, area carpets, interior and exterior plants. The contractor will be responsible for covering and protecting large furniture unable to be removed from the respective work areas.

4. The Contractor, unless otherwise specified, shall provide all labor, materials, tools, equipment, and related items required for the erection and completion of all work indicated in this project manual and as may be inferred, implied or otherwise necessary for the proper execution of the work.

5. The Contractor shall pay all necessary taxes, fees, and permits necessary to complete all of his work as detailed on the attached scope of work.

6. The premises herein shall be occupied during the course of the construction work.

7. All rehabilitation, alterations, repairs, or extensions shall be in compliance with all applicable codes of the Municipality, HUD requirements or compliance with the latest edition of the International Building Code, which ever applies and is the more strict. All electrical, heating, and plumbing work shall comply with the rules and regulations of the National, State and Local Codes. Before commencing work, contractors and/or subcontractors shall obtain all necessary permits.

8. The Contractor certifies that he has familiarized himself with the requirements of the specifications and plans and understands the extent and character of the work to be done, and inspected the premises and given his full attention to any and all areas with which he might become specifically involved. He must familiarize himself with all conditions relating to and affecting his work and bid.

9. The selected Contractor must, prior to contract signing, supply the DOH and the Owner with the original certificates of insurance in accordance with the following insurance requirements:

A. Contractor shall procure and maintain for the duration of the Agreement the following types of insurance, in amounts no less than the stated limits, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder:

1) Workers' Compensation Insurance: The Contractor shall maintain full and complete Workers' Compensation Insurance for all of its employees and those of its subcontractors engaged in work on the premises, in accordance with the local and state laws governing the same, in the minimum amounts of $100,000 each accident, $500,000 disease – Policy limit, $100,000 disease – each employee.

2) General Liability Insurance: The Contractor shall furnish evidence of a comprehensive general liability insurance coverage with a combined single limit for bodily injury, death, and property damage in the amount of $1,000,000 per occurrence, naming the Owner and the State as additional insured. This shall cover the use of all equipment, hoists and vehicles on the Premises not covered by any automobile liability policy. If the Contractor has a "claims-made" policy, then the following additional requirements apply: (a) the policy must provide a retroactive date which must be on or before the execution date of this Agreement and (b) the extended reporting period may not be less than five (5) years following the Construction Completion Date.

3) Automobile Liability: The Contractor shall furnish evidence of Automobile Liability insurance with minimum limits of $1,000,000 per occurrence, combined single limit for bodily injury and property damage liability. This shall include owned vehicles, non-owned vehicles and employee non-ownership.

4) Cargo Insurance: The Contractor shall furnish evidence of all-risk cargo insurance, with a minimum limit of $_____ per occurrence when the project involves raising a structure above the Base Flood Elevation.

5) Builders Risk: The Contractor shall maintain Builder's Risk (fire and extended coverage) insurance providing coverage for the entire work at the project site, including all work in place, all materials stored at the building site, foundations and building equipment. Coverage shall be on a completed value form basis in an amount equal to the projected value of the project. The Contractor agrees to endorse the State of Connecticut and the Owner as Loss Payees.

B. Additional Insurance Provisions

1) Each of the Owner and the State of Connecticut Department of Housing, and their successors and assigns, as their interests may appear, shall be named as an Additional Insured on the Commercial General Liability policy.

2) Described insurance shall be primary coverage and Applicant and Applicant's insurer shall have no right of subrogation recovery or subrogation against the State of Connecticut.

3) Applicant shall assume any and all deductibles in the described insurance policies.

4) Without limiting Applicant's obligation to procure and maintain insurance for the duration identified in (A) above, each insurance policy shall not be suspended, voided, cancelled or reduced except after thirty (30) days prior written notice by certified mail has been given to the State of Connecticut, with the exception that a ten (10) day prior written notice by certified mail for non-payment of premium is acceptable.

5) Each policy shall be issued by an Insurance Company licensed to do business by Connecticut Department of Insurance and having a minimum Best Rating of A- or equivalent or as otherwise approved by the State.

10. DOH and its agents must be notified prior to start of work of any subcontractor to be paid for work on the job who is different from the subcontractor identified in original bid proposal.

11. Working times for the project shall be Monday through Friday 8 am to 5 pm (EST). Contractors must request permission from owner and be in compliance with local municipal ordinances prior to working longer hours or weekends.

12. All materials shall be new and of acceptable quality. The Contractor shall submit proof of purchase of warrantee items at closeout. The property Owner shall select all colors, models, etc. as per scope of work. All materials and work must be applied in accordance with the applicable manufacturer's latest instructions and specifications, and in accordance with Federal prohibitions against the use of lead paint.

13. All manufacturers' warranties are to be extended to the property Owner free and clear of all liens. Unless otherwise specified, all labor, material, and workmanship provided by the Contractor shall be guaranteed by the Contractor, including that of subcontractors, for a one (1) year period from the date of the Final Payment. This guarantee shall be in addition to and not in limitation of, in lieu of, or modify and other guarantee that is due the property Owner from any manufacturer.

14. The Contractor shall repair or replace all work, materials and equipment which are found to be defective during construction and the guarantee period. Repair shall include all damage to surrounding work caused by the failure and/or necessary for the repair or replacement of the defect. All repairs and replacements shall be performed at no additional expense to the Owner and shall be completed promptly after the Contractor receives notice of the defect.

15. The Contractor shall take all necessary measures and precautions to protect the surroundings from damage occurring due to performance of the work. All areas and surfaces of the existing building which are affected by the execution of the new work (removals, demolition, repairs etc.) shall be patched and restored to either match the existing adjacent conditions or to match the new work, whichever is applicable. If such damage occurs it will be repaired by the Contractor at no cost to the Owner. Contractor shall provide all temporary shoring, bracing and other construction (interior and exterior) required to perform the work of this contract.

16. The Contractor shall dispose of all debris and remove all material resulting from his work in accordance with local and State law. The Contractor shall police and maintain a clean and safe job site daily. He shall reinstall accessories taken down and clean up all scrap around the project and remove fingerprints. All on-site maintenance relating to the performance of the work shall be the responsibility of the Contractor until the Certificate of Completion is issued. The project shall be maintained in a habitable and safe condition daily if the project is to remain occupied.

17. Materials and products not otherwise specified in these documents shall be to match building standards and existing conditions, provided such items are in compliance with all applicable codes. Such codes set the minimum standards to be achieved.

18. All work shall be neat and accurate and done in a manner in accordance with customary trade practices**. The Contractor, at a minimum, shall leave the premises broom clean and orderly after each working day and shall keep the premises free from accumulation of materials and rubbish by disposing of such debris in an onsite disposal container (provided by the contractor) or removed by vehicle in accordance with all applicable state and local regulations.** At the completion of the project the Contractor shall remove all excess materials from the site. Any surplus material agreed to be left for the owner shall be stored neatly by the contractor in a location directed by the owner free from weather, spoilage or pilferage.

19. The Contractor shall coordinate any work which interfaces with other Contractors or with the operations of the Owner. The Contractor shall take all necessary precautions to prevent fire, bodily injury, damage to property and any other calamities that may arise which pose a threat to life, limb property.

20. The Contractor shall not make any changes to the scope of work unless a change order is processed and fully executed by the DOH.

21. The Owner may cancel this contract within three days of signing and not be liable to the Contractor or DOH. Should the Owner opt to cancel they must sign and send a Notice of Cancellation to DOH, otherwise DOH shall issue a Notice to Proceed authorizing the contractor to commence with the proposed improvements.

22. The Contractor shall commence work under this contract within 15 work days of the date of the notice to proceed and complete work within **60** calendar days of the notice to proceed.

23. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner or by any employee of the Owner, or by any separate Contractor employed by the Owner, or by changes ordered in the work or by labor disputes, fire, unusual delay in delivery of materials, transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any cause beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, or by any other cause which justifies the delay, the contract time may be extended by Change Order for such reasonable time as may be agreed upon by all parties. It shall be the responsibility of the Contractor to request and document in writing such extensions within three (3) work days.

24. In the event that the Contractor does not commence or pursue the work as hereinafter stated, then DOH shall have the right to terminate this agreement and to hire a successor Contractor to perform the work. Any such termination shall be by certified mail to the address noted in this agreement, and shall be effective as of the date of mailing. Payments by the DOH/Owner in the event of termination shall be as follows:

25. The successor Contractor shall first be paid and then the terminated Contractor. Payments to the terminated Contractor shall be limited both as to those funds remaining after payment to the successor Contractor but shall not exceed the value of the work actually performed by the terminated Contractor. Further, should the total cost for work performed under this contract exceed the amount stated in this agreement due to the Contractor's termination, then the Owner shall have a cause of action against the terminated Contractor for any such additional cost.

26. If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, DOH shall, thereupon, have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date of such termination. In such event, all unfinished work required by the Contractor under this Contract shall, at the option of the DOH, be completed or not.

27. Payments

1) DOH/Homeowner shall pay the Contractor the price as provided in this contract.

2) DOH shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. DOH may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.

3) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to DOH. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

4) The Contractor shall submit, on AIA forms provided by DOH, periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted not later than 14 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

5) Along with each request for progress payments and the required estimates, the Contractor shall furnish lien waivers and labor releases as good and sufficient evidence that the premises are free from all liens, damages, and anything chargeable to said contractor.

6) Except as otherwise provided in State law, DOH shall retain five (5) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, DOH may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, DOH shall reinstate the five (5) percent retainage until such time as the Contracting Officer determines that performance and progress are satisfactory. Retainage will be released 90 days after project completion.

7) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments. Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of DOH's/Homeowner's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the Homeowner.

8) All material and work covered by progress payments made shall, at the time of payment become the sole property of the Homeowner, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of DOH/Homeowner to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of DOH in the course of their employment, the Contractor shall restore such damaged work without cost to DOH/Homeowner and to seek redress for its damage only from those who directly caused it.

9) DOH shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against DOH/Homeowner arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

10) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

11) DOH shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of DOH to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Disputes

1) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
2) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.
3) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision.
4) A claim by the Homeowner against the Contractor shall be subject to a written decision by the Contracting Officer.
5) The Contracting Officer shall, within calendar 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
6) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in DOH in accordance with DOH's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) calendar days after receipt of the Contracting Officer's decision.
7) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

29. The Contractor will not discriminate against any employee or applicant for employment because of race, color, creed, religion, sex, sexual preference, national origin, or mental or physical disability during the performance of this agreement. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship, without regard to their race, color, creed, religion, sex, sexual preference, national origin or mental or physical disability. This provision will be inserted in all subcontracts, if any, for work covered by this agreement.

30. Equal Employment Opportunity (EEO) Clause

During the performance of this contract, the Contractor agrees as follows:

1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by the rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

31. In the event of the Contractor's noncompliance with this equal opportunity clause or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further contracts in accordance with procedures authorized in Presidential Executive Order 11246, or by rule, regulations, or order of the Secretary of Labor or as provided by law.

32. The following applies to all contracts of $10,000,000.00 or more: SECTION 402 VETERANS OF THE VIETNAM ERA. AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VEITNAM ERA. The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran of the Vietnam era in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veteran status in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship.

33. No officer, employee or member of the Governing Body of the Municipality shall have any financial interest, direct or indirect, in this contract or the proceeds of this loan.

34. DOH retains the right to reject any or all bids or any part of any bid in part or in whole if deemed to be in the best interest of the project.

35. Substitutions of materials from that specified are only allowed on an approved/equal basis. The Contractor must submit written documentation of the substitute item or material for approval by the Owner and Program prior to making such substitution. Any items or material substituted by the Contractor without prior written approval of the Owner and Program will at the Contractor's expense be replaced if it is determined not to be equal to the item or material specified. Any surrounding, adjoining, or dependent items affected by replacement of the unequal substituted material shall also be replaced, reworked, and reinstalled at no cost to the Owner.

36. Bids shall contain prices for general categories of work and/or items as specified on the provided bid sheets. In the case of a mathematical error by the Contractor, the correct sum of the individual line items in the cost summary shall be the Contractor's bid.

37. All bids shall remain in effect for thirty (30) calendar days.

38. The Owner will supply all necessary power required by the Contractor at no additional cost to complete his work. Power shall be limited to the use of existing outlets and shall not exceed the existing capacity of the system. Power required over the capacity of the existing electrical system shall be the responsibility of the Contractor. Heating during construction shall be supplied by the Owner.

39. If any unseen or unknown asbestos related conditions arise during the work the Contractor shall stop all work immediately and notify the DOH of such.

40. OTHER PROVISIONS – LEAD BASED PAINT

For properties built before 1978, if the project will involve disturbing painted surfaces or cleaning up lead contaminated dust or soil, use certified renovation or lead abatement contractors and workers using lead-safe work practices and clearance examinations consistent with the more stringent of EPA's Renovation, Repair, and Painting Rule and HUD's Lead Safe Housing Rule. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35 and EPA's Repair Renovation, and Painting Rule at 40 CFR.80 Subpart E.

Any and all rehabilitation work under this Agreement will comply with the requirements of the Federal Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4831) which prohibits the use of lead-based paint in residential structures constructed or rehabilitated with Federal Assistance in any form.

The construction or rehabilitation of residential structures with assistance provided under this contract is subject to the final regulations "Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally owned Residential Property and Housing Receiving Federal Assistance." The regulation is at 24 CFR part 35. It implements sections 1012 and 1013 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, Title X, of the Housing and Community Development Act of 1992. Sections 1012 and 1013 amend the Lead-Based Paint Poisoning Prevention Act of 1971.

Beginning April 22, 2010, the Contractor is required to have a certificate from a 6 hour EPA/HUD RRP lead remediation course.

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

Section 3

SECTION 00900 - SPECIAL CONDITIONS

1. SPECIAL CONDITIONS DEFINITIONS

A. Where the Specifications refer to the DOH this shall be construed to mean the Connecticut Department of Housing, 505 Hudson Street, Hartford, CT 06106. Its designated agent shall be referred to as the "Contracting Officer" in these specifications.

B. Where the Specifications refer to Property Owner, this shall be construed to mean the property owner or homeowner living in the residence where the work will be performed.

2. BIDDING REQUIREMENTS

A. Contractor shall contact the DOH regarding site visit questions. Contact should be by the telephone to:

Lillian Ruiz, Grants and Contracts Specialist
CDBG-Disaster Recovery Program
Connecticut Department of Housing
505 Hudson Street
Hartford, CT 06106
(860) 270-8027

B. Architectural questions on specifications and drawings are to be addressed to:

Mr. David Holmes, or Mr. Jason Pitts
Capital Studio Architects, LLC
1379 Main Street
East Hartford, CT 06108
Tel: (860) 289-3262
Fax: (860) 289-3163
Email: dholmes@capitalstudio.net, or jpitts@capitalstudio.net

3. SALES TAX

A. The DOH is **NOT** exempt from Connecticut Sales Tax. Other fees accessed by the State of Connecticut may be passed through to the contractor.

4. INSURANCE

A. No insurance shall be terminated by the Contractor without ten (10) days notice to the DOH.

B. All insurance companies shall be licensed and registered in the State of Connecticut.

5. INTERPRETATIONS OF DRAWINGS

A. Any questions or disagreements arising as to the true intent of this specification or the drawings, or the kind and quality of work required thereby, shall be decided by the Architect, whose interpretations thereof shall be final, conclusive, and binding on all parties.

B. In the case of disagreement between drawings and specifications, or within either document itself, the better quality, greater quantity, or more costly work shall be included in the contract price, and the matter referred to the Architect's attention for decision and/or adjustment.

C. If the disagreement between the drawings and specification cannot be resolved through either A. or B. above, the specifications shall take precedence over the drawings.

6. VISITING THE SITE

A. Before submitting his final proposal, the Contractor shall examine the site of the proposed work to determine the existing conditions that may affect his work, as he will be held responsible for any assumptions made by him in regard thereto.

7. CONTRACTOR'S PROPOSAL

A. The Contractor's proposal and bid must cover all items on the drawings and in the specifications exactly as drawn and specified.

B. Proposals and bids that do not conform to drawings and specifications will not be accepted.

8. SUBSTITUTIONS

A. Substitutions of equipment or materials other than those shown on the Drawings or in the Specifications will only be entertained during the submittal process after contract award. Substitutions will only be entertained during the bid period if specified material or equipment is either unavailable, or unworkable for the proposed use. Determinations regarding product equality shall be made solely by the Architect, who’s decision shall be final.

9. SUB-CONTRACTORS

A. All sub-contractors shall be subject to approval of the DOH and listed on the Form of Bid.

B. When requested by the DOH, the prospective contractors should submit a list with names, addresses, and telephone numbers of similar type projects previously completed.

10. LAWS, ORDINANCES, PERMITS AND FEES

A. The Contractor shall give all necessary notices, obtain all permits and pay for governmental taxes, fees, and other costs in connection with his work; file all necessary plans, prepare all documents and obtain all necessary plans, prepare all documents and obtain all necessary approvals of the Governmental departments having jurisdiction; obtain all required Certificates of Inspection for his work and deliver to the Architect before request for acceptance and final payment for the work. The DOH is **not** exempt from paying Building Permit Fees to local towns and cities where the work of this contract will be performed. The Contractor shall include costs for any and all State of Connecticut Department of Environmental Protection Permits in addition to all Local Permits.

11. APPROVALS

A. The materials, workmanship, design and arrangement of all work installed under the contract shall be subject to the approval of the Architect. If material or equipment is installed before it is approved, the contractor shall be liable for the removal and replacement, at no extra charge to the owner, if, in the opinion of the Architect, the material or equipment does not meet the intent of the drawings and specifications.

B. The words "approved equal" shall be understood to apply only to those items of equipment and material approved in advance by the Architect.

C. Equipment and materials that do not conform to the specifications or the previous paragraph will not be approved.

12. NON-SEGREGATED FACILITIES

A. By signing the bid, the bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, or under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this Contract. As used in this certification, the term "segregated facilities" mean any waiting room, work areas, restrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom or otherwise. He further agrees that (except where he has obtained identical certification from proposed sub-contractors for specific time periods) he will obtain identical certification from proposed sub-contractors prior to the award of sub-contracts exceeding $10,000.00, which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files; that he will forward a notice to his proposed sub-contractors as provided in the Instruction to Bidders

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13. JOB MEETINGS

A. The contractor and others concerned with the project whose presence is necessary as determined by the DOH and/or the Architect shall attend job meetings when requested for the purpose of discussing and expediting the prosecution of the work.

B. The schedule for meetings will be established by the DOH and/or the Architect.

C. The proceedings of these meetings will be recorded by the DOH and/or the Architect; the contractor will be furnished a copy for his use and distribution as required.

14. DRAWINGS

A. Drawings are generally schematic and may differ to some degree from field conditions. Specifically, certain drawings may be opposite hand from actual conditions and/or requirements. All dimensions are $\pm$. The contractor shall ascertain for himself the actual field conditions and shall be fully responsible for the indicated, specified and required work as designated and/or implied.

15. SCHEDULE OF THE WORK

A. The standard working hours shall be from 8:00 a.m., until 4:30 p.m., Monday through Friday. The Contractor shall confirm working hours with the Owner prior to starting the work. Holidays shall include those observed by the DOH and the State of Connecticut.

B. The contractor shall at all times, maintain the fire integrity of the structures and shall maintain, free and clear all exitways.

C. The Contractor is required to submit to the Architect, for approval, prior to commencement of the work, a Project Schedule which identifies the time frame and sequence of construction. The Contractor is to provide an updated Project Schedule with each Application for Payment.
D. The Contractor must provide the DOH 48 hours' notice prior to the start of work so they may provide proper notice to the Property Owner.

16. OCCUPANTS' CONTINUED USE OF THE PREMISES

A. In general, the project area is occupied and will remain occupied during the course of the work. All work shall be carried out in such a manner so as to cause minimal interference with the use of the property by the occupants. The occupants are responsible for moving all items to the center of the room (or out of the room) within the areas where the work is to be performed. They are also responsible for moving the items back at the completion of the work.

B. In some cases, the nature of the work requires the occupants to leave the premises for the duration of such work. Generally, this applies to work associated with environmental remediation. The individual technical specification sections that follow specifically address occupancy (or vacating) the premises when this is required. The Contractor shall be responsible for coordinating the specific work requiring vacating the premises with DOH and the occupants. Once a schedule to leave and return to the premises has been established, it is imperative that the Contractor adhere to the schedule.

C. Lifted Structures: For projects requiring lifting (and moving) the structure, the basement, crawl space, attached garage and any other areas affected by the lift shall be emptied by the occupants prior to the start of the Contract of all non-permanent items.

17. MATERIALS AND EQUIPMENT

A. New materials and equipment installed into existing work shall be compatible with the existing work.

B. The contractor shall advise the Architect before ordering and/or installing any materials and equipment if he disputes those items and/or methods specified, otherwise he shall take full responsibility for their performance and suitability.

18. STORAGE OF MATERIALS

A. Storage space for materials and equipment is limited, Property Owner must approve in advance the locations of stored materials and/or dumpster(s).

B. Equipment and materials stored on the project site is the full responsibility of the contractor.

19. TEMPORARY FACILITIES

A. The contractor shall provide and maintain an adequate office at the project site at his discretion. If provided, it shall be located as directed by the DOH. It shall be kept clean, have adequate light and ventilation.

B. The contractor shall provide and maintain telephone service for his own use. No telephone service is available at the sites.

20. TEMPORARY SERVICE

A. The Contractor may connect to water available at the project without payment to the Property

Owner.

B. The Contractor may connect to the existing electrical service without payment to the Property Owner.

C. Fixtures, or other modifications, shall be the responsibility of the contractor.

21. SANITARY FACILITIES

A. Sanitary facilities are not available at the project site. The Contractor shall provide temporary facilities at the site for his workers, at his own expense. Coordinate final locations with the Property Owner.

22. DEMOLITION

A. This work includes the furnishing of all labor, materials, equipment and services necessary for, and reasonable incidental to, completion of all Demolition, as required for the installation of the work, whether or not listed below.

B. The Contractor shall confirm with Property Owner if a dumpster shall be permitted to remain on site for the purpose of disposal of demolished materials and debris. Final location of the dumpster to be coordinated with the Property Owner.

23. SALVAGABLE MATERIALS

A. NO SALVAGABLE MATERIALS.

24. SHOP DRAWINGS AND SUBMITTALS

A. Prior to delivery of materials and equipment to the project site, submit five (5) copies of Shop Drawings or Submittals of each item for approval by the Architect.

B. Submittals shall consist of manufacturer's scale drawings, cuts or catalogs, including descriptive literature and complete characteristics of equipment showing dimensions, capacity, code compliance, motor and drive and testing, all as required for this project.

C. Architect may designate submittal of physical samples for approval on items where actual color, texture or other characteristics might not be adequately described by drawing or written material.

25. PROTECTION OF WORK AND PROPERTY

A. The contractor shall be responsible for the maintenance and protection of all equipment, materials and tools, supplied by him and stored or installed on the job site, from loss or damage of all causes, until final acceptance by the DOH.

B. The contractor shall be responsible for the protection of any finished work of other trades or existing buildings and tenant’s property and damage or defacement by his operation and must remedy any such injury at his own expense.

C. It shall be the Contractor’s responsibility to protect all parts of the existing site, all trees, roads, streets, sidewalks, driveways, plantings, landscaping, lawns and curbs against damage caused by trucks, etc., driving over them. If they are damaged, the Contractor without cost to the Owner shall replace them.

D. The residence is owner occupied. The Contractor shall take the necessary precautions to protect work areas and debris from potential dangers. Clear paths of egress must be maintained from the building at all times.

26. ACCESSIBILITY

A. The Contractor shall install all work so that all parts required and readily accessible for inspection, operation, maintenance and repair. Minor deviations from the drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval from the Architect.

27. SCAFFOLDING, RIGGING, HOISTING

A. The Contractor shall provide all scaffolding, rigging, hoisting and services necessary for erection and delivery into the premises for all equipment and materials furnished, and remove same from premises when no longer required.

B. The Contractor shall coordinate in advance with the Owner the methods and locations for lifting of materials to the roof. The Contractor cannot assume that any existing site fixture can be temporarily removed or relocated during this construction process, this can only be discussed with the Owner after bids have been awarded.

28. GUARANTEE PERIOD

A. Refer to specific Sections of this project manual for warranty and guarantee periods.

29. FINAL PAYMENT REQUIREMENTS

A. Final Payment will not be approved until all items as outlined in Section 01700 have been completed.

B. All guarantees and warranties for new materials shall commence at date of written Final Acceptance of the Work, by the DOH, or its designated agent.

C. Upon completion of the project, the roofing manufacturer shall provide installation and material inspection warranties and certification of the roof system.

30. CLEAN UP

A. Project shall be cleaned daily or as required to keep project area free from rubbish and debris. Burning of rubbish shall not be allowed. All debris shall be removed from the site and deposited legally off-site.

B. Final clean up shall include all debris, stains, and other defacement caused by the work.

31. LIQUIDATED DAMAGES

A. In case of failure on the part of the contractor to complete the work within the time fixed in the Contract, or any extension thereof, the Contractor shall pay to the DOH as fixed, agreed and liquidated damages the sum of $250.00 for each calendar day of delay.

32. HAZARDOUS MATERIALS

A. A hazardous material report has been completed by Eagle Environmental; this report is available within these Specifications, please refer to this report for handling, removal and disposal of all hazardous materials. It is the intention that this project's Scope of Work be completed in coordination with any hazardous materials encountered and be done within the quantities allowed, as specified by state and local authorities regulating abatement of these materials. If the Contractor suspects that certain building materials may contain hazardous materials, he shall notify the Architect in writing and the Architect will have the suspect materials tested.

33. CHANGE ORDERS

A. For all change orders, the general contractor shall be allowed 10% for overhead, above the direct costs and 5% for profit, above the direct costs to be calculated at 15% total above direct costs, for work performed by the general contractor.

B. For all change orders, the sub-contractors shall be allowed 10% for overhead, above the direct costs and 5% for profit, above the direct costs to be calculated at 15% total above direct costs, for work performed by the sub-contractor.

C. For all change orders, the general contractor shall be allowed 5% for overhead, above the direct costs and 2-1/2% for profit, above the direct costs to be calculated at 7-1/2% total above direct costs, for work performed by the sub-contractor.

34. BUILDER'S RISK INSURANCE

A. Item 36B of HUD General Conditions, Form 5370-A refers to Builder's Risk Insurance. It has been determined that the Builder's Risk Insurance is <u>not</u> required on this project.

35. OSHA REGULATIONS

A. The contractor shall comply with all applicable State and Federal OSHA regulations.

B. The contractor shall submit to the owner, a copy of the OSHA ten (10) hour construction safety and health card for each employee.

C. The contractor shall maintain any and all required OSHA materials, on site, at all times.

36. CONTRACT PERIOD

A. The Contract period will be one hundred eighty (180) consecutive calendar days from day of "Notice to Proceed" until day of "Substantial Completion".

37. GENERAL CONDITIONS

A. In the event a conflict between the Special Conditions and the General Conditions located in Section 2 of these Specifications occurs, the General Conditions shall take precedence.

END OF SECTION 00900

SECTION 01200 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 SUMMARY OF THE WORK

A. The scope of this contract, part of the Community Development Block Grant Disaster Recovery for the Owner Occupied Recovery and Rehabilitation Program for the Connecticut Department of Housing, is known as **Project No. 1648, located at 28 West End Drive, Old Lyme, CT 06371**.

B. Verbal Summary of the Work: Without force and effect on the requirements of the Contract Documents, the Base Bid work includes, but is not limited to the following:

1. Selective demolition, including existing foundation after house lift.
2. Lifting of existing house framing.
3. New concrete pier foundation.
4. New pressure treated wood decks and stairs.
5. Modifications to existing mechanical, electrical, and plumbing systems to accommodate house lift.
6. Asbestos Abatement.

C. Refer to Section 020800 for Scope of Work, quantities and products required to accommodate the remediation of Hazardous Materials.

1.3 EXISTING CONDITIONS

A. This project includes work which is affected by existing conditions. Existing conditions which may affect the Work may be discovered during the progress of the Work. Make adjustments in the work as required accommodating existing conditions. Where products are to be installed in existing construction, perform cutting, removal of old products (if applicable), installation of new products, rebuilding of adjacent construction, and other operations as required.

1. The Architect will issue prompt instructions when unanticipated conditions are encountered.

2. If unanticipated conditions are such as to impose a hardship on the Contractor as interpreted by the Architect, such as faulty structure which must be rebuilt, the Architect shall issue the appropriate change orders for approval by the DOH.

3. Make adjustments in the Work, other than those described in two above, without additional compensation.

B. The Drawings do not attempt to show every item of existing work to be demolished and every item of repair required to existing surfaces. Perform work required to remove existing materials which are not to be saved and to restore existing surfaces to like-new condition.

1. If possible, repairs shall be indistinguishable from adjacent sound surfaces. Where it is impossible to achieve repairs which are indistinguishable from adjacent sound surfaces, notify the Architect, and proceed according to the Architect's instructions.

1.4 - USE OF PREMISES

A. The following are in addition to requirements of the General and Special Conditions governing the Contractor's use of the premises.

1. Assume full responsibility for protection and storage of products stored on the premises.

2. The Contractor shall have use of the premises between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. It is during these hours that all work must take place. Additional hours must be approved in advance by the Owner.

3. The Contractor shall not have use of the premises on holidays which the DOH is closed.

4. The Contractor will have access to specific project site in accordance with the approved project schedule.

5. Work on the building will not be allowed without providing the occupants 48 hours prior notice.

1.5 - REFERENCE STANDARDS

A. Unless date is listed, reference to standard specifications shall mean latest edition of such specification legally adopted and published at the date the Contract is executed.

B. Reference to technical society or organization is made in the project manual according to the following abbreviations:

A.A.M.A.	American Architectural Manufacturers Association
A.C.I.	American Concrete Institute
A.I.A.	American Institute of Architects
A.I.E.E.	American Institute of Electrical Engineers
A.I.S.C.	American Institute of Steel Construction
A.I.T.C.	American Institute of Timber Construction
A.F.P.A	American Forest & Paper Association
A.N.S.I.	American National Standards Institute
A.P.A.	American Plywood Association
A.R.M.A.	Asphalt Roofing Manufacturer's Association
A.S.H.R.A.E.	American Society of Heating, Refrigeration, and Air Conditioning Engineers
A.S.M.E.	American Society of Mechanical Engineers
A.S.T.M.	American Society of Testing Materials
A.W.I.	American Woodwork Institute
A.W.P.I.	American Wood Preservers Institute
A.W.S.	American Welding Society
C.P.S.C.	Consumer Products Safety Commission
C.S.I.	Construction Specification Institute
D.O.H.	Department of Housing
Form 816	Connecticut State Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction

F.M.	Factory Mutual
F.S.	Federal Specification
H.U.D.	U.S. Department of Housing and Urban Development
I.C.C.	International Code Council
I.E.S.	Illuminating Engineers Society
I.S.D.S.I.	Insulated Steel Door Systems Institute
N.A.A.M.M.	National Association of Architectural Metal Manufacturers
N.B.F.U.	National Board of Fire Underwriters
N.B.S.	National Bureau of Standards
N.E.C.	National Electric Code
N.E.M.A.	National Electrical Manufacturers Association
N.F.P.A.	National Fire Protection Association
O.S.H.A.	Occupational Safety and Health Administration
S.D.I.	Steel Deck Institute
S.I.G.M.A.	Sealed Insulating Glass Manufacturer's Association
S.J.I.	Steel Joist Institute
S.M.A.C.N.A.	Sheetmetal and Air Conditioning Contractors National Association, Inc.
S.S.P.C.	Steel Structures Painting Council
TCNA	Tile Council of North America
U.L.	Underwriters Laboratories, Inc.
W.W.P.A.	Western Wood Products Association

1.6 – FINAL PAYMENT REQUIREMENTS

A. Final Payment will not be approved until all items as outlined in Section 01700 have been completed.

B. All guarantees and warranties for new materials shall commence at date of written Final Acceptance of the Work, by the DOH, or its designated agent.

C. Upon completion of the project, the roofing manufacturer shall provide installation and material inspection warranties and certification of the roof system.

1.7 - GENERAL INFORMATION

A. The DOH is a governmental agency, but **is** responsible for paying sales tax under this program. The Contractor shall assume that materials purchased for the use on this project shall be taxed.

1.8 - SCHEDULE

A. Refer to Form of Contract for completion date.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01200

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. This Section includes administrative and procedural requirements governing the following:

1. Lump-sum allowances.

B. See Division 1 Section "Unit Prices" for procedures for using unit prices.

1.3 - SELECTION AND PURCHASE

A. Coordinate first paragraph below with Division 1 Section "Submittal Procedures." Indicate critical dates on both Contractor's Construction Schedule and Submittals Schedule.

B. At the earliest practical date after award of the Contract, advise Architect and Owner of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

C. At Architect's request, obtain proposals for each allowance based on Owner’s input. Include recommendations that are relevant to performing the Work.

D. Purchase products and systems selected by Owner from the designated supplier.

1.4 – SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders. Approved proposals will be the basis for Change Orders to the Contract. Unused allowance sums shall return to DOH in the form of a credit change order. Costs for materials in excess of the allowances stipulated in the Contract Documents shall be borne by the property owner.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

D. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Light Fixtures: Furnish all light fixtures (material only) as selected by the Owner. Costs associated with wiring and fixture installation shall be included in the Base Bid.

1. Lump-Sum Allowance: $300.00

END OF SECTION 01210

SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 WORK INCLUDED

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

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

2. Unless otherwise noted, alternate prices will be adds to the base contract.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule (if any) contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Bid Alternate #1: In lieu of processed stone surface at Grade Level, provide 4" concrete slab in 2 bay area as shown on the Drawings. Reference sheet S-1.0. Also, furnish and install new garage door in break-away frame. Reference drawings 1/A-1.0 & 1/A-2.0, and sheet E-1.0. Also, provide and install processed stone surface from edge of street to new garage door entry. Reference drawing P-1.

B. Bid Alternate #2: Furnish and install new louvered privacy panels in areas shown on the Drawings. Reference sheets A-1.0 & A-2.0.

C. Bid Alternate #3: Furnish and install two (2) additional 3-way WP switches, six (6) additional junction boxes (for light fixtures) and electrical outlet devices as shown in newly created exterior space under lifted structure at Grade Level. Include an allowance of $300.00 to cover the cost of Owner selected light fixtures (fixture material cost). This work shall be in addition to work in the same area included in the Base Bid. Reference Sheet E-1.0.

D. Bid Alternate #4: Furnish and install new vinyl lattice panels in break-away frames in areas shown on the Drawings. Reference drawings 1/A-1.0, 2/A-2.0, 4/A-2.0, 4/A-3.0, & 5/A-3.0.

E. Bid Alternate #5: In lieu of processed stone surface, provide 4" concrete slab in remainder of Grade Level area (extent of work shall be all area beyond slab area of Bid Alternate #1). Reference sheet S-1.0.

END OF SECTION 01230

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 – RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. This Section includes administrative and procedural requirements for Unit Prices.
B. Refer to other specification sections for specific requirements for this work.
C. Enter Unit Price amounts on the enclosed Bid Form.

1.3 – DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 – PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes**,** overhead, and profit.

B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

A. Refer to drawings for details and locations for Unit Price work.

3.1 – LIST OF UNIT PRICES

A. **Unit Price No. 1 – Up to 3/4“ Plywood Roof Sheathing (match existing)**

1. Condition –Existing roof sheathing is a combination of 3/4" plywood and plank boards. Contractor shall verify in field, the thickness of all deteriorated sheathing that shall be removed and replaced.
2. Description – Install new 3/4” CDX plywood sheathing for the following:
   a. Rotted roof sheathing being replaced.
   b. Infill plywood at existing ridge vent cut-outs where deteriorated.
   c. Existing openings for roof mounted attic vents being removed.
3. Unit of measure – Per square foot.

B. **Unit Price No. 2 – Wood Fascia**

1. Condition – Areas where the existing wood fascia is deteriorated, provide new wood fascia to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

C. **Unit Price No. 3 – Wood Trim**

1. Condition – Areas where the existing wood trim is deteriorated, provide new wood trim to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

D. **Unit Price No. 4 – Wood Soffit**

1. Condition – Areas where the existing wood soffit is deteriorated, provide new wood soffit to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

E. **Unit Price No. 5 – Up to 2x10 Wood Framing (match existing)**

1. Condition – Areas where the existing wood framing is deteriorated, provide new wood framing to match existing.
2. Unit of measure – Per linear foot.

F. **Unit Price No. 6 – Remove Existing Flooring Underlayment**

1. Condition – Remove existing flooring underlayment that is unsuitable to receive new resilient flooring. Thickness up to ½”.
2. Unit of measure – Per square foot.

G. **Unit Price No. 7 – New Flooring Underlayment**

1. Condition – Furnish and install new ¼” thick APA rated flooring underlayment as specified in specification section 06100.
2. Unit of measure – Per square foot.

K. **Unit Price No. 8 – Removal of Asbestos-Containing GWB/Compound (>3 SF)**

1. Containment, removal and proper disposal of gypsum board and asbestos-containing joint compound (for quantities exceeding 3 SF) as specified in specification section 020800.
2. Unit of measure – Per square foot.

L. **Unit Price No. 9 - Removal of Asbestos-Containing GWB/Compound (<3 SF)**

1. Glovebag removal of gypsum board and asbestos-containing joint compound as specified in specification section 020800.
2. Unit of measure – Per glovebag.

END OF SECTION 01270

SECTION 01300 - DEMOLITION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification sections, apply to work specified in this section.

1.2 – RELATED WORK SPECIFIED ELSEWHERE

A. Environmental Remediation is specified in Division 2.

1.3 - GENERAL REQUIREMENTS

A. "Demolition" denotes razing and removal of portions of existing structures, Installations and obstructions shown on Drawings or specified to be removed from the site, and includes taking possession of and removing from the site, all material, equipment and debris resulting from demolition work except as otherwise specified herein.

B. Conform to all requirements of local authorities having jurisdiction including the following:

1. Obtain and pay (if required) for all permits and licenses.

2. Provide and maintain fire protection devices.

3. Install and maintain barricades for protection of public and adjacent property (as required).

4. Keep public and private ways free of dirt and debris at all times.

5. All material shall be disposed of legally off the site.

C. Upon completion remove all tools, equipment, temporary structures (if any) and installations and rubbish of every sort. Leave work areas in an orderly condition and the surrounding area in a broom-clean condition.

D. It is the responsibility of the General Contractor to coordinate the demolition work with the general construction process and the work of other trades. The demolition work must be phased accordingly.

E. Provide any temporary weather protection which may be required as a result of demolition work.

1.4 - EXISTING PUBLIC SPACES

A. Before start of demolition, notify and arrange for appropriate utility companies to discontinue services and to remove meters and other regulating devices, not the property of the Owner, as required.

B. Cap and/or plug disconnected service lines as required by utility company concerned.

C. Protect existing services indicated to remain on the site. Replace and/or repair services damaged as a result of demolition work, at no expense to the Owner.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 - SCOPE

A. Portions of structures, installations and obstructions to be demolished are as shown on the Contract Drawings and, in general but not necessarily limited to, those items as listed below:

1. Removal of existing foundation.
2. Removal of selected existing construction.
3. Removal of related interior materials as needed in relation to other work.

B. Demolition work shall not be limited to the above listing. The removal, relocation, or replacement of any item(s) by a trade as may be required (1) to complete the indicated scope of work or (2) to accomplish the intended result may require demolition work not specifically listed or shown on the Drawings. All such requirements shall be considered part of this work.

C. Demolition work involves the removal of hazardous wastes. Refer to the appropriate environmental remediation specifications for additional requirements.

1. Asbestos Abatement is specified in Section 02080.

3.2 - PROTECTION

A. Protect all walls, floors, ceilings and other existing items not to be removed. Portions damaged as a result of the work shall be replaced and repaired in compliance with the regulations of authorities having jurisdiction and without cost to the Owner.

B. Do not close or obstruct means of egress in connection with the work. Materials and debris shall not be placed or stored in egress paths. Conduct operations so as to interfere as little as possible with normal activities.

END OF SECTION 01300

SECTION 01400 - SUBMITTALS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Substitutions and product options are indicated in Item 8 of Section 00900, Special Conditions.

B. Materials and methods requiring submittals are listed, where applicable, within each Respective section of this specification.

1.3 - IDENTIFICATION

A. Identify each submittal with the following information:

1. Date and revision date(s).

2. Project title.

3. The names of: Architect, Contractor, Subcontractor, supplier, manufacturer or separate detailer when pertinent.

4. Identification of products, materials and finishes.

5. Relation to adjacent structure or material.

6. Field dimensions, clearly identified as such.

7. The specification section number, and applicable standards, such as ASTM or FS number.

8. Quantities.

9. Blank spaces, 4" x 4 1/2" each, for the Architect's stamp, and Consultant's stamp where applicable.

10. Identification of deviations from Contract Documents.

11. Contractor's stamp, initials or signed, certifying to review of submittal, the verification of the field measurements and quantities, and compliance with Contract Documents.

B. Accompany the submittals with a transmittal letter containing:

1. Date.

2. Project Title and number.

3. Contractor's name and address.

4. The number and name of each item submitted.

5. Notification of deviations from Contract Documents.

1.4 - SHOP DRAWINGS

A. Provide the following information, where applicable, on all shop drawings:

1. All necessary dimensions. Dimension work illustrated by shop drawings to fit actual field conditions.

2. Sufficient detailing to show appearance, method of assembly or fabrication, and the method of installation or erection.

3. Identification of details by reference to sheet and detail number shown on Contract Drawings.

1.5 - PRODUCT DATA

A. Manufacturer's standard schematic drawings which are:

1. Modified to delete any information which is not applicable to the Project.

2. Supplemented to provide any additional information applicable to Project.

B. Manufacturer's catalog sheets, brochures, diagrams schedules, performance charts, illustrations and other standard descriptive data.

1. Clearly mark each copy to identify the pertinent materials, products, or models.

2. Show dimensions and clearances required.

3. Show performance characteristics and capacities.

C. Test reports performed by independent testing agencies for manufacturer. On test reports list:

1. System, material or work tested.

2. Test results and witnesses.

3. Description of correction of faults.

1.6 - SAMPLES

A. Samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of product or material, with integrally related parts and attachment devices.

2. Full range of color samples.

3. After the review, approved samples may be used in construction of Project, where appropriate.

1.7 - SUBMISSION REQUIREMENTS

A. Submit to the Architect all shop drawings, product data and samples required by the specification sections.

B. Schedule submissions at least 10 working days before dates reviewed submittals will be needed.

C. Submit six black line prints of each shop drawing.

D. Submit six copies each of all product data.

E. Submit two each of required samples unless a greater number is specified or requested by the Architect.

F. Submit samples with delivery charges prepaid. Samples delivered in damaged condition may not be acceptable, and may have to be resubmitted, to Architect's discretion.

G. The Architect may, at his discretion, request submittals in addition to those specified.

H. Facsimile copies are not acceptable for submission and will be returned un-reviewed.

1.8 - RESUBMISSION REQUIREMENTS

A. Shop Drawings:

1. Revise the initial drawings as required and resubmit as specified for initial submission.

2. Indicate on drawings any changes which have been made other than those requested by Architect.

B. Product data and Samples: Submit new data and samples as required for initial submission.

1.9 - ARCHITECT'S DUTIES

A. Architect's responsibilities for processing submittals are defined in other sections of these specifications.

B. Architect is not responsible for verifying quantities, dimensions, field measurements, or co-ordination of work of different trades. Architect's review of submittals shall not be construed to include or imply any such verification.

1.10 - CONTRACTOR'S DUTIES

A. In addition to requirements of other Division 1 Specification sections.

1. Contractor shall be responsible for obtaining and distributing prints of shop drawings after, as well as before final approval, to all parties, including, but not limited to the Owner, subcontractors and suppliers.

2. Prints of approved shop drawings shall be made from sepia transparencies which carry the Architect's and Consultant's stamp of approval.

3. Begin no work which requires shop drawings and product data unless the approved and stamp shop drawings and product data are on file at the job site.

PART 2 - PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION 01400

SECTION 01500 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - DESCRIPTION

A. Definition: "Cutting and Patching" is hereby defined to include, but not necessarily limited to the cutting and patching of nominally completed and previously existing work, in order to accommodate the coordination of work, or the installation of other work, or to uncover other work for access or inspection, or to obtain samples for testing, or for similar purposes; and is defined to exclude integral cutting and patching during manufacturing, fabricating, erecting and installing process for individual units of work.

B. Demolition is recognized as an example of a related, but separate category of work, which may or may not also require cutting and patching as defined in this Section. Refer to Section 01300.

1.3 - QUALITY ASSURANCE

A. Requirements for Structural Work:

1. General: Do not cut and patch structural work in a manner resulting in a reduction of bearing capacity or load/deflection ratio.

2. Call for a structural inspection, and/or obtain the Owner's approval prior to cutting and patching any of the following:

a. Bearing Walls.

b. Structural decking and floor systems.

c. Exterior wall construction - including storefronts.

d. Pressurized piping, vessels and equipment.

B. Visual requirements: Do not cut and patch work which is exposed on the exterior or exposed in occupied spaces of the building in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of cutting and patching work, both as judged solely by the Owner. Remove and replace work judged by the Owner as having been cut and patched in a visually unsatisfactory manner.

1.4 - SUBMITTALS

A. Requests for Owner's Consent:

1. Prior to cutting and patching of structural elements, submit written request to the Owner for permission to proceed with cutting.

2. Should conditions of the Work, or schedule indicate a required change of materials or methods for cutting and patching, so notify the Owner and secure his written permission and the required Change Order prior to proceeding.

B. Notices to the Owner:

1. Prior to cutting and patching performed pursuant to the Owner's instructions, submit cost estimate to the Owner. Secure the Owner's approval of cost estimates and type of reimbursement before proceeding with cutting and patching.

2. Submit written notice to the Owner designating the time the work will be uncovered, to provide for the Owner's observation.

C. Approval by the Owner to proceed with proposed cutting and patching does not waive the right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. For replacement of items removed, use identical materials to those being removed, or materials complying with the various Sections of these Specifications or the drawings, as appropriate. The end result of the cutting and patching operation shall result in equal or better work than the work being cut and patched, in terms of performance characteristics and including visual effects where applicable.

2.2 - PAYMENT FOR COSTS

A. Perform cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner. The Owner will reimburse the Contractor for cutting and patching performed pursuant to written Change Orders, after claim for such reimbursement is submitted by the Contractor, and approved in advance by the Owner.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Inspection:

1. Inspect existing conditions, including elements subject to movement or damage during cutting and patching.

2. After uncovering the work, inspect conditions affecting installation of new work.

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Owner and secure needed directions.

2. Do not proceed until unsatisfactory conditions are corrected.

3.2 - PREPARATION

A. Provide adequate temporary support including, but not necessarily limited to shoring and bracing to maintain structural integrity of the Work. Do not endanger other work.

B. Provide adequate protection of other work during cutting and patching, to prevent damage. Provide protection of the Work from adverse weather exposure.

3.3 - CUTTING AND PATCHING

A. Perform cutting and patching as required under pertinent other Sections of these Specifications.

B. Employ skilled tradesmen to perform all cutting and patching. Proceed with cutting and patching at the earliest feasible time, in each instance, and perform the work promptly.

C. Patch with seams which are durable and as invisible as possible. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

D. Select systems that adequately resist racking and provide acceptable deflection under live and dead loads. Reinforce to prevent cracking. Inspect and test patched areas to demonstrate integrity of work.

E. In all cases of repair and renovation, restore exposed finishes of patched areas and where necessary, extend finished restoration onto retained work adjoining, in a manner which eliminates evidence of patching.

F. Where re-painting areas due to cutting and patching as part of this work, paint the entire wall, to the nearest corner, in colors to match the existing, unless otherwise directed by the Owner.

G. Where cutting and patching of ceilings is required, cut ceiling back as little as is required, and later infill to the point at which the existing ceiling is cut back. Refer to typical details on the drawings for additional information.

H. Where floor finishes are to be cut back, cut back to nearest logical point, or as indicated on the drawings. Install new flooring, as indicated on the drawings, utilizing the necessary transitions, reducers, termination bars, etc.

I. Consult with the architect as necessary to insure compliance with the intention of cutting and patching work relative to floors and ceilings.

END OF SECTION 01500

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - GENERAL

A. The following requirements supplement those of other sections of these Specifications.

1.3 - CLEANING

A. Hazard Control:

1. Store all volatile wastes in covered non-flammable containers.

2. Prevent accumulation of wastes which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in the storm or sanitary drains. Dispose of them legally off the site.

2. Do not dispose of wastes in streams or waterways.

3. Dispose of demolition and waste materials, debris and rubbish legally off the site.

C. During construction, in addition to cleaning required other sections of these Specifications, perform the following:

1. Keep building, grounds, and public properties free from accumulations of waste materials and rubbish.

2. Provide on-site containers for the collection of all waste materials, all debris and rubbish. Dispose of waste materials, debris and rubbish at reasonable intervals, legally off the site.

3. Clean interior building areas where construction occurred. after demolition work is complete and when ready to receive finish painting and continue cleaning on an as-needed basis until building is ready for substantial completion or occupancy.

4. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

D. At substantial completion, in addition to leaving the work "broom clean", the following must be completed:

1. Remove dust, dirt, stains identifications stickers, fingerprints, paint droppings and other soil from finished surfaces.

2. Clean and polish hardware, specialties, and equipment.

3. Vacuum clean all sills until all debris is removed. Use a brush if necessary to free up stationary particles. Lubricate all tracks if necessary for smooth, easy opening and closing operations.

4. Clean under and behind all concealed areas.

5. If surfaces cannot be put in clean condition by cleaning, repaint them as required until they are at an acceptable level of quality.

6. Clean site and clean up any debris of dirt off site, which resulted from work under this contract, and dispose of legally off the site.

7. Maintain cleaning until Substantial Completion Certificate, approved by the Architect, is delivered to the Owner or the project is occupied by the Owner. Turn over the work fully clean and fit for occupancy.

8. When workmen call back for "punchlist" or guarantee work, clean up afterwards.

1.4 - SUBSTANTIAL COMPLETION

A. Submit written certification to Architect that Project, or a designated portion of Project, is substantially complete. Submit list of major items to be completed or corrected.

B. The Architect shall prepare and submit a list of the items to be completed or corrected as determined by the inspection.

C. Should the Architect consider that the Work is substantially complete:

1. The Architect shall prepare and submit a list of items to be completed or corrected as determined by the inspection.

2. Architect will prepare and issue a Certificate of Substantial Completion, complete with signatures of Owner and Contractor, accompanied by the list of items to be completed or corrected.

3. Perform final cleaning as specified above.

4. Complete work listed for completion or correction, within designated time.

5. Obtain Certificate of Occupancy, if required.

D. Should Architect consider that the Work is not substantially complete:

1. He/she shall immediately notify the Contractor, in writing, stating reasons.

2. Contractor shall complete the Work, and send second written notice to the Architect, certifying that the Project, or a designated portion of the Project, is substantially complete.

3. Architect will re-inspect the work.

1.5 - FINAL INSPECTION

A. Contractor shall submit written certification, as required above, that:

1. Contract documents have been reviewed.

2. Project has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in presence of Owner's representative and are operational.

5. Project is completed, and ready for final inspection.

B. Architect will make final inspection within three days after receipt of certification.

C. If Architect considers that Work is finally complete in accordance with requirements of the Contract Documents, he/she shall request Contractor to make Project Closeout Submittals.

D. If Architect considers that Work is not finally complete:

1. He shall notify Contractor, in writing, stating reasons.

2. Contractor shall take immediate steps to remedy the stated deficiencies, and submit a second written notice to Architect certifying the Work is complete.

3. Architect will re-inspect work.

E. Should Architect be required to perform second inspection because of failure of Work to comply with original certifications of Contractor, Owner will compensate Architect for additional services, and deduct amount paid from final payment to Contractor.

1.6 - CLOSEOUT SUBMITTALS

A. Upon completion of the Work, deliver the following to the Owner's Representative, as required by the General Conditions and Specifications.

1. Project Record Documents. (Submit one (1) clean, legible marked up set of prints and other items, if required, as indicated in 1.7 below.)

2. Operation and Maintenance Data.

3. The guarantees, warranties and bonds.

4. Parts and Maintenance Materials.

5. Evidence of Compliance with requirements of governing authorities, including:

   a. Certificate of Occupancy, if required.

B. Accompany closeout submittals with transmittal letter, in duplicate, containing:

1. Date

2. Project title and number.

3. Contractor's name and address.

4. Certification that each Project Record Document, as submitted is complete and accurate.

5. Signature of the Contractor, or his authorized representative.

C. Instruct Owner's personnel in operation of all systems and other equipment.

1.7 - PROJECT RECORD DOCUMENTS

A. Drawings, shop drawings, product data, specifications and addenda, marked by Contractor to record all changes made during construction described below, shall be referred to as "Project Record Documents."

B. In addition to changes, record on Project Record Drawings the following as-built conditions:

1. Locations and sizes of conduit runs.

2. Locations and sizes of access panels and doors.

3. Location of all the mechanical and electrical control points.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01700

SECTION 020800
ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 GENERAL PROVISIONS

A. The structure located at 28 West End Drive in Old Lyme, Connecticut is scheduled for renovation. The site building consists of two story wood framed structure. Asbestos abatement work may be performed to accommodate the renovation of the existing building.

B. The work is being performed under the State of Connecticut Department of Housing Community Development Block Grant - Disaster Recovery Program (Program). Asbestos containing material (ACM) testing has identified materials that contain asbestos and may require removal prior to the work. The work covered in this section includes the minimum procedures that shall be employed during abatement of the ACM.

C. The sheetrock/joint compound composite sample was confirmed to be ACM. If any of the sheetrock/joint compound walls are impacted or require removal during the renovations, the removal must be done by a licensed Asbestos Abatement Contractor. It is not anticipated that sheetrock removal will be required under this scope of work. However, the General Contractor should obtain unit pricing from a State of Connecticut licensed Asbestos Contractor for sheetrock removal and disposal in the event sheetrock removal becomes necessary.

D. Peter J. Folino of Eagle Environmental, Inc. is the designer of this Specification. Mr. Folino is a State of Connecticut Department of Public Health (CTDPH) Licensed Asbestos Project Designer (License #000195).

1.2 RELATED DOCUMENTS

A. Drawings and General Provisions of the Owner Contractor Agreement and the General Conditions of the contract apply to this Section.

B. Architect's Specifications

C. Environmental Assessment Report Dated August 3, 2015.

1.3 DESCRIPTION OF WORK

A. The work includes filing and permitting all necessary applications, notifications, requirements and fees; insurance; necessary design services; providing skilled, licensed and certified labor; materials; and equipment necessary for proper preparation, handling, removal and legal disposal of the specified asbestos-containing materials in accordance with all requirements of applicable Federal, State and local regulations.

B. The Asbestos Abatement Contractor (AAC) is responsible for reviewing the Architect's specifications to determine the extent of asbestos abatement work necessary to support the overall renovation work of the project. Refer to the Environmental Assessment Report for a list of known ACM's that will potentially be impacted by the renovation work.

C. The AAC is responsible for the removal of ACM that will be impacted by the renovation work only. In some instances, ACM may be present but may not be impacted by the renovation work. It is the sole responsibility of the AAC to review the Architects specifications to determine the full extent of asbestos abatement.

D. The AAC shall be responsible for selective demolition and disposal of construction materials impacting the removal of the specified ACM.

E. Under the base bid work, the AAC shall be responsible for removal and disposal of the following estimated quantities of asbestos containing materials.

1. Potential removal of sheetrock/joint compound walls/ceilings in localized areas to accommodate general renovation work.

F. There is water and power available at the site. The AAC shall verify that the power and water sources are sufficient to support the work. Any additional fees associated with temporary power and water shall be borne by the AAC.

1.4 QUALITY ASSURANCE

A. For regulated ACM, the AAC shall be licensed by the State of Connecticut Department of Public Health to perform asbestos abatement.

B. The Asbestos Abatement Supervisor(s) and Asbestos Abatement Workers shall be accredited in accordance with EPA regulation 40 CFR Part 763, subpart E, Appendix C; and shall be licensed by the State of Connecticut Department of Public Health.

C. For non-regulated exterior ACM, The AAC shall employ a 40 hour trained Asbestos Competent person to oversee the asbestos removal work.

D. Workers removing and handling exterior non-friable asbestos-containing materials shall comply with the OSHA Class II training requirements.

E. Workers removing and handling non-friable asbestos-containing roofing materials shall have a minimum of eight (8) hours asbestos awareness training.

F. Removal of exterior non-friable materials shall not render the material friable during the removal procedure.

1.5 APPLICABLE CODES

A. The AAC shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state and local regulations and guidelines pertaining to asbestos abatement. Specifically, the AAC shall comply with the requirements of the following:

1. USEPA AHERA Regulation (40 CFR 763 Final Rule and Notice);
2. NESHAP Regulations (40 CFR 61, Subpart M);
3. OSHA Asbestos Regulations (29 CFR 1910.1001 and 1926.1101);
4. Connecticut DEP Regulations (Section 22a-209-8 (I) and Section 22a-220 of the Connecticut General Statutes);
5. Connecticut DPH Standard for Asbestos Abatement Sections 19a-332-1 to 19a-332-16;
6. Licensure and Training Requirements Section 20-440-1 to Section 20-440-9;
7. Connecticut Basic Building Code;
8. Connecticut Fire Safety Code;
9. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including ASTM, ANSI, and Underwriter's Laboratories.

1.6 EXEMPTIONS

A. This project was designed by a licensed State of Connecticut Department of Public Health Asbestos Abatement Designer (Peter J. Folino – license No. 000195). Any deviation from these specifications requires the written approval and authorization from the Owner.

B. The designer must be notified in writing by the Program's Consultant that a change in scope is required to achieve the desired end results for the project. The designer in turn will assess the requested change and will issue a written approval for the change in the scope of work.

1.7 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. The AAC shall carefully examine and read and review all aspects of the Contract Documents and visit the site of work to become familiar with the existing site conditions.

B. All work called for in the Contract Documents but not shown on the Contract Drawings in their present form, or visa versa, is required, and shall be performed by the AAC as though it were originally delineated or described.

C. Work not particularly specified in the Contract Documents, but involved in carrying out their intent or in the complete and proper execution of work, is required pursuant to this Contract and shall be performed by the AAC.

D. The apparent silence of the Contract Documents as to any detail, or the apparent omission from the Contract Documents of a detailed description concerning any work to be done and materials to be furnished, shall be interpreted to mean that only the best practice of the industry is to prevail and that only the best materials and workmanship is to be used.

E. Should any conflict occur in or between the Contract Drawings, Specification and/or other elements of the Contract Documents, the AAC shall be deemed to have estimated on the most expensive way of performing the work unless the AAC shall have asked for and obtained a decision in writing from the Owner's Representative before the submission of its bid as to which shall govern.

1.8 INDEMNIFICATION

A. The AAC and its subcontractors shall indemnify and hold harmless the Owner and the Owner's Representative, and their directors, officers, agents, employees and consultants from and against all claims, damages, losses, liabilities and expenses, out of or resulting from the performance of the work specified herein.

1.9 NOTIFICATIONS, POSTINGS AND PERMITS

A. The AAC will make the following notifications, and provide the submittals to the following agencies ten (10) days prior to the commencement of work where regulated ACM will be removed:

Chief, Environmental Health Services
Department of Public Health
Division of Environmental Health
450 Capitol Ave., P.O. Box 340308
Hartford, CT 06134-0308

B. The minimum information included in the notification includes:

1. Name and address of building owner/operator
2. Building location
3. Building size, age, and use
4. Amount of friable asbestos
5. Work schedule, including proposed start and completion date
6. Asbestos removal procedures to be used
7. Name and location of disposal site for generated asbestos waste, residue, and debris

1.10 WORK SITE SAFETY PLAN

A. The AAC shall establish a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1. Evacuation of injured workers.
2. Emergency and fire exit routes from all work areas.
3. Emergency first aid treatment.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify workers in the event of a fire or other emergency requiring evacuation of the building.
6. Confined space entry program.
7. 24 hour site security program.

B. The AAC is responsible for training all workers in these procedures.

1.11 ALTERNATE WORK PRACTICES (AWP)

A. Any modification from the standard work practices identified in the State of Connecticut DPH Standard for Asbestos Abatement Section 19a-332a-1 to 19a-332a-16 must be requested in writing to the State DPH.

B. No AWP has been approved for this project.

1.12 REOCCUPANCY CLEARANCE

A. The Program shall be responsible for payment of the sampling and analysis of initial final air clearance samples only. The AAC shall be responsible for payment of all costs associated with the collection and analysis of additional final air clearance samples for areas that failed the initial test.

B. Phase Contrast Microscopy (PCM) air samples will be analyzed on a twenty - four hour turn around. Transmission Electron Microscopy (TEM) air samples will be analyzed on a twenty-four hour turn around time.

1.13 CONTROL OVER REMOVAL WORK

A. All AAC work procedures shall be monitored by the AAC's "competent person" to ensure that areas outside the designated work locations do not become contaminated. The following controls shall be implemented each working day to help ensure this:

1. Prior to work on any given day, the AAC's designated "competent person" shall evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of

the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

B. The AAC shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

1. Nonessential personnel are prohibited from entering the area;
2. All authorized personnel entering the work area shall sign the work area entry log;
3. All authorized personnel entering the work area shall read the "worker protection procedures" which are posted at the entry points to the enclosure system, and shall be equipped with properly fitted respirators and protective clothing;

4. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;
5. Asbestos waste that is taken out of the work area must be properly bagged and labeled in accordance with these specifications. The surface of the bags shall be decontaminated. Asbestos leaving the enclosure system must be transported off site or immediately placed in locked, posted temporary storage on site, and be removed within 24 hours of the project conclusion.
6. Any material, equipment, or supplies that are brought out of the decontamination enclosure system shall be cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

1.14 SITE SECURITY

A. The AAC shall be responsible for the security of regulated areas. Post asbestos abatement warning signs at entrances to the work area including the waste loadout and worker decontamination chamber. The AAC shall have an outside supervisor monitoring the entrance of the worker decontamination chamber during abatement work.

B. The AAC shall be responsible for the security of exterior regulated areas. Post asbestos abatement warning signs at ten (10) foot intervals around the exterior work zone. Construct the exterior regulated work area with warning tape secured with stakes.

1.15 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

A. The AAC shall monitor airborne asbestos concentrations in the workers' breathing zone to establish conditions and work procedures for maintaining compliance with OSHA Regulations 29 CFR 1910.1001 and 1926.1001.

B. The AAC’s air sampling professional shall document all air sampling results and provide all air sampling reports as soon as feasible. OSHA air monitoring results shall be posted at a conspicuous location at the job site.

C. All personnel air sampling shall be conducted in accordance with methods described in OSHA standards 29 CFR 1910.1001 and 1926.1101.

1.16 SUBMITTALS

A. The AAC will submit two (2) copies of the following submittals to the Owner's Representative ten (10) calendar days prior to the commencement of removal work:

1. AAC’s construction schedule
2. Waste generator label to be used

3. Waste shipment and disposal form to be used with generated information
4. Waste hauling contractor
5. Landfill to be used
6. Training and licenses of each employee who may be on the project site
7. A notarized statement from the AAC that all their employees performing abatement operations at this site comply with the OSHA medical and respiratory protection requirements.
8. The qualifications of the hygiene firm that the AAC proposes to use for this project to analyze contractor employee OSHA monitoring samples and final visual inspections and reoccupancy air sampling
9. Copies of all notifications and permits
10. Copies of the written respirator plan compliant with the most current issue of OSHA 1910.134
11. Copies of all MSDS sheets for materials to be used on site
12. Work Site Safety Plan
13. Negative Exposure Assessment (if applicable)
14. Contractor's State of Connecticut Asbestos Contractor license

B. The AAC will submit two (2) copies of the following submittals to the Owner's Representative no later than thirty (30) calendar days following the completion of removal work at each site:

1. State Notifications and any revisions
2. Work area access logs for each containment area
3. OSHA personnel monitoring results
4. Worker and Supervisor training certificates and State of Connecticut licenses
5. Completed waste shipment records

1.17 DEFINITIONS

A. ABATEMENT - Procedures to control fiber release from asbestos-containing materials; includes removal, encapsulation, and enclosure.

B. AIRLOCK - A system for permitting ingress and egress while assuring air movement to a contaminated area from an uncontaminated area. Two curtained doorways spaced a minimum of six feet apart can form an airlock.

C. AIR MONITORING - The process of measuring the fiber concentration of an area or of a person.

D. AIR SAMPLING PROFESSIONAL – A licensed professional capable of developing air sampling protocols and conducting air monitoring and analysis. This individual should be an industrial hygienist, an environmental scientist, or an engineer with experience in asbestos air monitoring and worker protection equipment and procedures. This individual should have demonstrated proficiency in conducting air sample collection in accordance with 29 CFR 1910.1001 and 1926.1101.

E. ADEQUATELY WETTED - means sufficiently mixed or coated with water, amended or an aqueous solution; or the use of removal encapsulant to prevent dust emissions.

F. AMENDED WATER - Water to which a surfactant has been added.

G. ASBESTOS - The name given to a number of naturally occurring fibrous silicates. This includes the serpentine forms and the amphiboles and includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, or any of these forms that have been chemically altered.

H. ASBESTOS ABATEMENT - Means the removal, encapsulation, enclosure, renovation, or repair of asbestos-containing materials except activities that are related to the removal or repair of asbestos

cement pipe and are performed by employees of a water company as defined in Section 25-32a of the Connecticut General Statutes.

I. ASBESTOS ABATEMENT SITE SUPERVISOR - Means any licensed individual who is employed or engaged by an AAC to supervise an asbestos abatement project.

J. ASBESTOS ABATEMENT WORKER - Means any employee of an AAC who engages in asbestos abatement.

K. ASBESTOS CONSULTANT - Any person who engages in any activity directly involved with asbestos consultation services and who has been issued a certificate by the commissioner and a license by the department.

L. ASBESTOS CONTAINING MATERIAL (ACM) - A material composed of asbestos of any type and in an amount greater than one percent be weight, either alone or mixed with other fibrous or nonfibrous material.

M. ASBESTOS CONTRACTOR - Any person or entity engaged in asbestos abatement whose employees actually perform asbestos abatement work.

N. ASBESTOS CONTROL AREA - An area where asbestos abatement operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris.

O. ASBESTOS FIBERS - Those particles with a length greater than five (5) microns and a length to diameter ratio of 3: 1 or greater.

P. ASBESTOS PERMISSIBLE EXPOSURE LIMIT (PEL) - The maximum airborne concentration of asbestos fibers to which an employee is allowed to be exposed. The current level established by OSHA is 0.1 fibers per cubic centimeter of air as an eight (8) hour time weighted average and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an excursion limit. The AAC is responsible for maintaining work areas in a manner that this standard is not exceeded.

Q. ASBESTOS PROJECT MONITOR - The licensed asbestos consultant who is certified as a project monitor and who functions as an on-site representative of the facility Owner or other persons by over-seeing the activities of the asbestos abatement contractor.

R. AUTHORIZED VISITOR - Any person authorized by the Owner to enter the building.

S. BUILDING OWNER - For this Contract only, the building Owner is Carol and Steven Rosenfield.

T. CLEAN ROOM - An uncontaminated area or room, which is a part of the workers' decontamination enclosure with provisions for storage of workers' street clothes and protective equipment.

U. CLEARANCE SAMPLING - Final air sampling performed aggressively after the completion of the abatement project in a regulated area. Five (5) air samples collected by the asbestos abatement project monitor inside the work area, and having a fiber concentration of less than 0.010 fibers/cc of air will denote acceptable clearance sampling by Phase Contrast Microscopy. Five air samples collected by the asbestos abatement project monitor having an average asbestos concentration of less than 70 asbestos structures mm/sq. will denote acceptable clearance sampling for Transmission Electron Microscopy.

V. COMMISSIONER - Means the Commissioner of the Connecticut Department of Health Services or his/her authorized agent.

W. COMPETENT PERSON - A representative of the AAC who is capable of identifying an asbestos hazard and who has the authority to take prompt corrective measures to eliminate the hazard during asbestos removal.

X. CONFINED SPACE - A work zone where access and egress are restricted, a potential for gaseous vapors to accumulate exist, or a potential for low oxygen content exists.

Y. DECONTAMINATION ENCLOSURE SYSTEM - A series of connected areas, with curtained doorways between any two adjacent areas, for the decontamination of workers and equipment. A decontamination enclosure system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.

Z. DEPARTMENT - The Department of Public Health.

AA. EPA - Means the U.S. Environmental Protection Agency.

BB. ENCAPSULANT - A liquid material that can be applied to asbestos-containing material that controls the possible release of asbestos fibers from the materials by either creating a membrane over the surface (bridging encapsulant) or penetrating the material and binding its components together (penetrating encapsulant).

CC. ENCAPSULATION - A specified asbestos remediation strategy involving the application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.

DD. EQUIPMENT DECONTAMINATION ENCLOSURE - That portion of a decontamination enclosure system designed for controlling the transfer of materials and equipment, typically consisting of a washroom and a holding area.

EE. EQUIPMENT ROOM - A contaminated area or a room, which is part of the workers' decontamination enclosure with, provisions for storage of contaminated clothing and equipment.

FF. FACILITY - Means any private or public building or structure including but not limited to those used for institutional, residential (including single family homes), commercial or industrial purposes and vessels while ashore or in dry-dock.

GG. FIXED OBJECT - A unit of equipment or furniture in the work areas which cannot be removed from the work area.

HH. FRIABLE ASBESTOS MATERIAL - Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized or reduced to powder by hand pressure.

II. GLOVE BAG - An impervious plastic bag-like enclosure affixed around asbestos containing material, with glove-like appendages through which materials and tools may be handled.

JJ. HAZARDOUS MATERIALS ABATEMENT CONTRACTOR (AAC) - Means the asbestos abatement contractor, lead based paint abatement contractor and or the pigeon guano removal.

KK. HEPA FILTER - A high efficiency particulate air (HEPA) filter in compliance with ANSI Z9.2-1979.

LL. HEPA VACUUM EQUIPMENT - Vacuum equipment with a HEPA filter system for filtering the effluent air from the unit.

MM. HOLDING AREA - An air-locked chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.

NN. INSPECTOR (ASBESTOS ABATEMENT PROJECT MONITOR)- An individual, retained by the Building Owner, who is a "qualified asbestos abatement project monitor" as defined by the State of Connecticut Department of Public Health, and who will be responsible for monitoring the AAC during the asbestos abatement project.

OO. MOVABLE OBJECT - A unit of equipment or furniture in the work area, which can be removed from the work area.

PP. NEGATIVE AIR FILTRATION EQUIPMENT - A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a regulated area (negative with respect to adjacent unregulated areas) and capable of maintaining a constant, low velocity air flow into regulated areas from adjacent unregulated areas.

QQ. OWNER'S REPRESENTATIVE -The Asbestos Consultant for the project.

RR. NESHAPS - National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.

SS. PLASTICIZE - To cover floors and walls with plastic sheeting as specified herein.

TT. SEPARATION BARRIER - A rigid barrier sealed with two (2) layers of six (6) mil polyethylene sheeting installed between an occupied area and the asbestos abatement work area.

UU. SHOWER ROOM - A room between the clean room and the equipment room in the workers' decontamination enclosure with hot/cold running water and suitably arranged for employee showering during decontamination. The shower room is located in an airlock between the contaminated area and the clean area.

VV. STRIPPING - Removing asbestos materials from any structural member, pipe surface, HVAC, or other equipment.

WW. WASHROOM - A room between the work area and the holding area in the equipment decontamination enclosure with provisions for storage of contaminated clothing and equipment.

XX. WET CLEANING - The process of reducing asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools, which have been dampened by amended water, and by then disposing of these cleaning items as asbestos contaminated waste.

YY. WORK AREA - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are occurring and which may become contaminated as a result of such abatement actions. The work area must be totally self-contained by sealing, plasticizing and equipping the area with a decontamination enclosure system.

ZZ. WORKER DECONTAMINATION ENCLOSURE SYSTEM - That portion of a decontamination enclosure system designated for controlled passage of workers, other personnel, and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

AAA. WORK STOPPAGE CLEANUP PROCEDURE - A process following the issuance of a written stop work order, whereby the AAC thoroughly cleans and decontaminates the work area, the decontamination enclosure system, and any other areas of the building affected by the removal project, to the satisfaction of the Asbestos Abatement Project Monitor.

BBB. WORK ZONE - The area of the decontamination enclosure system where asbestos is being removed.

PART 2 MATERIALS AND EQUIPMENT

2.1 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with asbestos shall be decontaminated or disposed of as asbestos waste.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 4 or 6 mil.

D. Polyethylene disposable bags shall be true six (6) mil with preprinted labels.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Surfactant (wetting agent) - shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one (1) ounce surfactant to five (5) gallons of water or as directed by manufacturer.

G. Impermeable containers are to be used to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with OSHA Standard 29 CFR 1926-1101.) Containers must be both air and watertight.

H. Labels and signs, as required by OSHA Standard 29 CFR 1926.1001 will be used.

I. Encapsulant shall be bridging or penetrating type which has been found acceptable to Eagle Environmental. Usage shall be in accordance with manufacturer’s printed technical data.

J. Disposal labels shall be preprinted on self-adhesive labels with the generator name, abatement site and contractor's name and address. Labels shall not be photocopied and applied with spray adhesive.

2.2 Tools and Equipment

A. Provide suitable tools for asbestos removal, encapsulation and enclosure.

B. The AAC shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.

C. The AAC shall have available sufficient inventory on site for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

D. The AAC shall provide temporary electrical power sources such as generators (when required).

E. The AAC shall have available shower stalls and sufficient hose length and a drain system equipped with 5-micron filters.

F. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative pressure of 0.02 inches of water within the enclosure with respect to the outside area. Equipment shall be checked for proper operation by smoke tubes or a differential pressure gauge before the start of each shift and at least twice during the shift. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the enclosure. No air movement system or air filtering equipment shall discharge unfiltered air outside.

G. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers in diameter or larger.

H. The AAC will have reserve exhaust air filtration system units in order to maintain negative air filtration in the event that a unit malfunctions during use.

I. The AAC shall have available and use recording manometers to monitor pressure differential between the work area and occupied areas of the building. A minimum negative pressure differential of 0.02 inches of water column shall be maintained.

J. The AAC shall have available spray equipment capable of mixing a wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.

K. HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports where asbestos-containing materials may be disturbed.

PART 3 EXECUTION

3.1 Interior Work Area Preparation - General

A. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All temporary installations are to be made by a licensed electrician.

B. Shut down electrical power, including receptacles and light fixtures. Lock and tag out circuits associated with the electrical components in the work area(s). Under no circumstances during the abatement procedures will lighting fixtures be permitted to be operating when the spraying of amended water may contact the fixture.

C. Shut down and/or isolate heating, cooling, and ventilation air systems or zones to prevent contamination and fiber dispersal to other areas of the structure. Lock and tag out circuits associated with heating and cooling units. During the work, vents within the work area shall be sealed with duct tape and polyethylene sheeting.

D. Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffuser, and any other penetration of the work areas, with polyethylene sheeting minimum of six (6) mils thick sealed with duct tape. This includes doorways and corridors which will not be used for passage during work areas and occupied areas. Install 5 micron water filtration socks in all floor drains prior to sealing.

E. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with minimum six (6) mil plastic sheeting sealed with duct tape.

F. Where friable asbestos containing materials are present, establish worker decontamination facility, critical barriers and negative air filtration prior to conducting pre-cleaning activities.

G. Pre-clean movable objects within the work areas, using HEPA vacuum equipment and wet cleaning methods as appropriate.

H. Clean the proposed work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

I. After HEPA vacuum pre-cleaning, conduct work area preparation in accordance with this Specification section.

J. Where fixed walls are not used, one layer of six (6) mil polyethylene sheeting will be applied to a rigid framework of wood, metal, or PVC.

K. Install two layers of four (4) mil polyethylene wall sheeting over all wall surfaces and critical barriers. All overlaps shall be sealed with tape or spray adhesive. Substitute one layer of four (4) mil wall polyethylene sheeting in lieu of two layers of four (4) mil where nonfriable floor tile associated mastic and wall tile adhesive are being removed.

L. Cover all floors in the work area with a double layer of six (6)-mil polyethylene sheeting. Extend the polyethylene flooring a minimum of twelve (12) inches up the walls. Ensure that the wall sheeting overlaps the floor sheeting from the top.

M. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to fire officials.

N. Create pressure differential between work areas and occupied areas by the use of acceptable negative air pressure equipment. The AAC shall ensure required negative air pressure is obtained throughout the containment and the total volume of air within the work area is changed every fifteen (15) minutes.

O. Post all approaches to each work area with Asbestos Warning signs. Warning signs shall be of size and type that are easily readable and are visible from all approaches to the work areas.

3.2 Contiguous Personnel Decontamination System

A. The AAC shall establish contiguous to each work area, where feasible, a personnel decontamination system consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas shall be through this decontamination enclosure only. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.

B. Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower and equipment room within decontamination system shall be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.

C. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two 5 micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.

D. The shower shall contain soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.

E. The AAC shall provide a heated area within the building or in a remote worker decontamination chamber for workers to dress in after showering.

F. Worker decontamination chambers must be constructed prior to work area preparation if damaged friable ACM is present.

3.3 exterior work area preparation - general

A. Where exterior non-friable ACM is to be removed outdoors, post asbestos abatement warning signs and erect temporary barricades to create regulated areas. Regulated areas should be kept clear of any persons not fully trained and protected against exposure.

B. Install single six (6) mil drop cloths extending a minimum of ten (10) feet from the exterior wall of the building or roofs. Extend polyethylene sheeting outward from the base of the structure in order to collect debris when working from higher elevations.

C. Install single six (6) mil critical barriers over any louver, vent or penetration into the building interior within or directly adjacent to the regulated area.

D. Maintain an operable remote worker decontamination system in accordance with Section 3.2 REMOTE PERSONNEL DECONTAMINATION SYSTEM during exterior abatement work.

E. Maintain a work area access control log for each exterior work area.

F. Post asbestos warning signs at 10 foot intervals around the exterior work area. Warning signs must be visible from all approaches to the area.

3.4 Remote Personnel Decontamination System

A. The AAC shall establish a remote personnel decontamination system, where contiguous decontamination systems are not feasible, consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas shall be through a single chamber airlock. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.

B. Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower and equipment room within decontamination system shall be completely sealed between chambers.

C. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two 5 micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.

D. The shower shall contain soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.

3.5 Waste Load Out Systems

A. The AAC shall establish waste load out systems, where feasible, attached to the work areas. Waste load out systems shall consist of a minimum of two (2) chambers that are of suitable size for transporting waste out of the work area. Waste load out systems shall be constructed of two layers of six-mil polyethylene sheeting.

B. Access between rooms in the waste load out system shall be through double flap-curtained openings. The waste load out system shall be used for decontaminating waste containers, bags, bundles, etc. prior to removal from the work area and transporting waste from the work area to the non-work area.

C. Persons working inside the contaminated work area are not permitted to pass from the work area to the non-work area through the waste load out system. Persons inside the contaminated work area shall not be permitted to enter into the clean area of the waste load out system.

D. The waste load out system shall remain sealed at all times except during decontamination of waste containers and transport of waste from the work area to the non-work area.

3.6 Asbestos Removal Procedure – General

A. The AAC shall have a designated "competent person" on the job at all times to ensure establishment of a proper enclosure system and proper work practices throughout the project. At a minimum, the AAC competent person shall perform or supervise the following duties, as applicable:

1. Ensure the integrity of the containment or enclosure.
2. Set up procedures to control entry to and exit from the enclosure.
3. Supervise employee exposure monitoring.
4. Ensure that employees set up, use and remove engineering controls, use work practices and personal protective equipment in compliance with OSHA regulations.
5. Ensure that employees use the worker decontamination facilities and observe decontamination procedures.

B. Abatement work will not commence until all work area preparation is completed in accordance with this technical specification section.

C. Spray asbestos materials with amended water using airless spray equipment or apply approved removal wetting agent to reduce the release of fibers during removal operation.

D. Spraying of amended water shall be adequate enough to allow the ACM to absorb the water. Actual removal of ACM shall not be allowed until all ACM has become adequately wet.

E. Fill disposal containers as removal proceeds, seal filled containers before moving to waste load out system. Wet clean each container thoroughly, double bag, drum or use other approved containerization methods and apply a caution label before moving to holding area. Floor tile waste shall be containerized in rigid lined drums.

F. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris.

G. Solidify all liquid waste prior to containerization for disposal.

H. Sealed disposal containers and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas, via the waste load out system at an appropriate time in the cleaning sequence.

I. At any time during asbestos removal, should the competent person suspect contamination of areas outside the work area(s), they shall cause to stop all abatement work until steps to decontaminate these areas and eliminate causes of such contamination are completed. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.

J. Upon acceptance of the work area by the Owner's Representative, the AAC shall apply an even coating of bridging encapsulant to all exposed surfaces contained within the work area. Apply encapsulant in accordance with manufacturer's recommendation.

3.7 Waste Packaging and Removal Procedure

A. The AAC shall strictly adhere to the requirements of this section for ACM waste packaging and transporting waste from the work area enclosure to the disposal dumpster.

B. The AAC shall utilize lined drums for waste packaging of floor tiles.

C. Waste disposal bags and drums shall be affixed with pre-printed OSHA warning labels, DOT labels and NESHAP labels.

D. Each container of ACM waste shall be made adequately wet prior to sealing the container. Bags shall be sealed immediately following additional wetting procedures. Bags of ACM waste shall not be permitted to remain unsealed while in the work area enclosure.

E. Each bag of ACM waste shall be doubled during waste load out procedures. The following waste load out procedure shall be strictly adhered to:

1. Wet wipe inner bag or drum to remove all ACM contamination. Ensure the inner bag is sealed.
2. Transport bag or drum to the equipment room located in the worker decontamination enclosure.
3. One worker, equipped with personal protective equipment, shall be inside the clean room of the worker decontamination enclosure.
4. The worker in the clean room of the decontamination enclosure shall open a six-mil disposal bag and hold it open inside the shower room where the inner bag containing the ACM waste shall be placed.
5. The outer bag shall be sealed with duct tape inside the shower room.
6. The double bagged or drummed waste shall be removed from the decontamination enclosure and waste generator labels shall be immediately affixed to the outer bag or drum.
7. Waste generator labels shall be printed self-adhering labels and shall contain the Owner's name, the site location address, and the AAC's name.
8. The properly labeled waste shall be transported directly to the lined waste container.
9. The waste container shall be double lined with 6-mil polyethylene sheeting.
10. OSHA warning signs shall be secured to the waste container prior to any loading operations.
11. The waste container shall be kept locked at all times other than loading and unloading.

3.8 MINIMUM Specific Removal Procedure – Sheetrock and Joint Compound

A. Coordinate the removal of the asbestos-containing materials with the General Contractor.

B. The AAC shall sufficiently wet cement joint compound and gypsum ceiling board with removal encapsulant, amended water, or a detergent solution.

C. Score the seam between with a razor knife to create a clean removal joint between removal locations. .

D. Remove and temporarily suspend all lighting fixtures, smoke detectors, diffusers, etc.

E. Install isolation barriers over any opening, which becomes exposed during the work.

F. Remove all gypsum fasteners and dispose of as asbestos-containing waste.

G. Remove and dispose of all insulation exposed during removal. Dispose of as asbestos-contaminated waste.

H. All ACM shall be placed directly into disposal bags or shall be transferred to the asbestos disposal dumpster or waste transport vehicle. Do not allow waste to accumulate on the ground. The AAC shall ensure that no visible emissions are generated during any portion of the abatement operation.

I. Remove all nails, screws fasteners and dispose of as asbestos waste.

3.9 Disposal of Asbestos And Asbestos Contaminated Waste

A. All disposal of asbestos containing and or asbestos contaminated material must be in compliance with requirements of the Office of the Department of Environmental Protection, State of Connecticut Department of Public Health and the USEPA NESHAP regulations.

B. Disposal approvals shall be obtained before commencing asbestos removal.

C. Waste container storage locations shall be pre-approved by the Owner and Owner's Representative.

D. A copy of approved disposal authorization shall be provided to the Owner and Owner's Representative and any required federal, state or local agencies.

E. Copies of all landfill receipts will be retained by the Owner's Representative as part of the project file. The receipts will be signed by the landfill operator on receipt, and the quantity of asbestos debris leaving the job site and arriving at the landfill acknowledged.

F. All asbestos debris shall be transported in covered, sealed vans, boxes or dumpsters, which are physically isolated from the driver by an airtight barrier. All vehicles must be properly licensed to meet United States Department of Transportation (US DOT) requirements.

G. Friable ACM waste shall be placed in double lined enclosed waste containers equipped with a lockable hasp. Waste containers shall be posted with OSHA warning signs during loading and unloading.

H. All liquid waste generated during the work shall be solidified. At no time will liquid wastes be permitted to be stored on site. Liquid waste generated during this project shall be solidified prior to the end of each work shift.

I. Completed waste shipment records signed by the landfill must be returned to the Owner or Owner's Representative no later than 45 days from the time the waste was transported off-site. Completed waste shipment records that are not received by the Owner within 35 days shall require the AAC to begin tracking the waste. The AAC must notify the Owner of intentions on tracking the waste.

J. The AAC must take appropriate actions as outlined in 40 CFR Part 61 NESHAP regulations when completed waste manifests are not forwarded to the Owner or Owner's Representative within 45 days from the time the waste was transported off-site.

3.10 Final Cleaning and Encapsulation

A. A. Upon completion of gross removal of all ACM specified for removal, the AAC shall begin final cleaning of the effected work area. The AAC shall HEPA vacuum and wet wipe all surfaces contained within the work area.

B. All tools or equipment that are not necessary for final cleaning shall be decontaminated or bagged and removed from the work area enclosure.

C. The AAC shall begin final cleaning procedures at the furthest and highest most points from the personnel decontamination facility. The AAC shall ensure that all exposed building components and or surfaces are thoroughly HEPA vacuumed and wet wiped.

D. The AAC shall HEPA vacuum and wet wipe any component specified to remain inside the work area enclosure.

E. The AAC shall thoroughly wet wipe all polyethylene sheeting inside the work area enclosure.

F. Once all surfaces and components within the work area have been thoroughly cleaned, the AAC's Competent Person shall perform a visual inspection of all surfaces and components within the work area enclosure. The AAC's Competent Person shall sign off on the work area stating that all abatement has been completed for this portion of work and that the work area has met final visual inspection requirements as outlined in ASTM E1368.

G. The AAC's Competent Person shall then request a final visual inspection to be performed by the Owner's Representative. The Owner's Representative shall visually inspect all surfaces and components in the work area for residual debris and or dust. Additional cleaning shall be performed at the AAC's expense if the Owner's Representative identifies visual debris and or dust during the visual inspection. Additional cleaning shall be performed until the work area meets the Final Visual Inspection requirements outlined in ASTM E1368.

H. Upon acceptance of the work area by the Owner's Representative, the AAC shall apply an even layer of bridging encapsulant to all surfaces contained within the work area. The Owner's Representative shall verify the completeness of work area encapsulation.

3.11 Reoccupancy Air Clearance Monitoring

A. Re-occupancy air clearance monitoring is not required for this exterior abatement work. A final visual inspection shall be performed by the Program's Asbestos Project Monitor to verify the completeness of work.

B. Areas that do not comply with the final visual inspection criteria shall continue to be cleaned by and at the AAC's expense until the specified criteria (no visible debris or residue) is achieved as evidenced by results of visual inspection

3.12 program's Representative Responsibility

A. The Program has retained the services of Eagle Environmental, Inc to monitor this project. The Program's Representative may collect and analyze air samples to ascertain the integrity of controls, which protect the building from asbestos contamination. Independently, the AAC may monitor air quality within the work area to ascertain the protection of employees and to comply with OSHA regulations.

B. The Program's Representative may collect and analyze air samples during a minimum of three time periods:

1. Pre-Abatement Sampling Period: The Asbestos Abatement Project Monitor shall collect a sufficient number of air samples, inside and outside the proposed work area locations, to establish background air quality conditions. At least one sample will be taken outside of the building.

a. Pre-Abatement air samples shall be collected for a minimum period of ninety minutes at a minimum flow rate of 12 liters per minute, or as required to obtain a volume of 1,000 liters. Samples shall be analyzed by phase contrast microscopy (PCM) using the NIOSH 7400 protocol.

2. Abatement Period: The Asbestos Abatement Project Monitor shall collect samples on a daily basis during the work period. A sufficient number of background samples shall be taken outside of the work area, at the exhaust of the negative pressure filtration equipment, and outside of the building to evaluate the degree of cleanliness or contamination of the building during asbestos removal. Additional samples may be taken inside the work area and decontamination enclosure system, at the discretion of the Asbestos Abatement Project Monitor.

   a. The Asbestos Abatement Project Monitor shall provide a continual evaluation of the air quality of the building during asbestos abatement, using his/her best professional judgments in respect to the State Department of Public Health guideline of .010 fibers/cc and the background air quality established during the pre-abatement period.

   b. If the Asbestos Abatement Project Monitor determines that the building air quality has become contaminated from the project, he/she shall immediately inform the AAC to cease all removal operations and implement a work stoppage clean up procedure. The AAC shall conduct a thorough cleanup of areas of the building designated by the Asbestos Abatement Project Monitor. No further asbestos abatement work shall take place until the Asbestos Abatement Project Monitor has determined that the building's air has been decontaminated.

   c. Abatement air samples shall be collected for a minimum period of ninety minutes at a minimum flow rate of 12 liters per minute, or as required to obtain a volume of 1,000 liters. Samples shall be analyzed by phase contrast microscopy (PCM) using the NIOSH 7400 protocol.

3. Post-Abatement Period: The Asbestos Abatement Project Monitor shall conduct air sampling following the final cleanup phase of the project, once the "no visible residue" criterion as established by Asbestos Abatement Project Monitor has been met. Five (5) samples shall be collected inside containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement sections 19a-332a-12, and 19a-332a-13. Analysis of the samples to determine airborne concentrations of asbestos shall be conducted by Transmission Electron Microscopy (TEM) with a limit of 70 asbestos structures per square millimeter and by Phase Contrast Microscopy (PCM) with a limit of 0.01 fibers per cubic centimeter of air in accordance with the above State of Connecticut DPH Standard for Asbestos Abatement regulations.

C. Inspections may be conducted by the Owner's Representative throughout the progress of the abatement project. Inspections may be conducted in order to document the progress of the abatement work as well as the procedures and practices employed by the AAC. The Asbestos Abatement Project Monitor shall perform the following inspections during the course of abatement activities.

1. Precommencement Inspection: Precommencement inspections may be performed at the time requested by the AAC. The Asbestos Abatement Project Monitor shall be informed 48 hours prior to the time the inspection is needed. During the course of the precommencement inspection, the Asbestos Abatement Project Monitor shall inspect the containment. This shall include, but not be limited to, inspection of barrier integrity, the worker decontamination, facility, negative air filtration equipment ect. If during the course of the precommencement inspection,

deficiencies are found, the AAC shall perform the necessary adjustments in order to obtain compliance.

2. Work Area Inspections: Work area inspections may be conducted on a daily basis at the discretion of the Asbestos Abatement Project Monitor. During the course of the work area inspections, the Asbestos Abatement Project Monitor may observe the AAC removal procedures, verify barrier integrity, monitor negative air filtration devices, assess project progress, and inform the AAC of specific remedial activities if deficiencies are noted.

3. Presealant Inspection: Upon the request of the AAC, The Asbestos Abatement Project Monitor shall conduct a presealant inspection. The presealant inspection shall be conducted after completion of the initial final cleaning procedures, but prior to work area encapsulation. The presealant inspection shall verify that all ACM and residual debris have been removed from the work area. If, during the course of the presealant inspection, the Asbestos Abatement Project Monitor identifies residual dust or debris, the AAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area is free of visible residue.

4. Final Visual Inspection: Following receipt of acceptable reoccupancy air monitoring results and concurrent with removal of the work area containment, the Asbestos Abatement Project Monitor shall conduct a final visual inspection. If residual dust or debris is identified during the course of the final inspection, the AAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area free of visible residue.

CAPITAL STUDIO ARCHITECTS

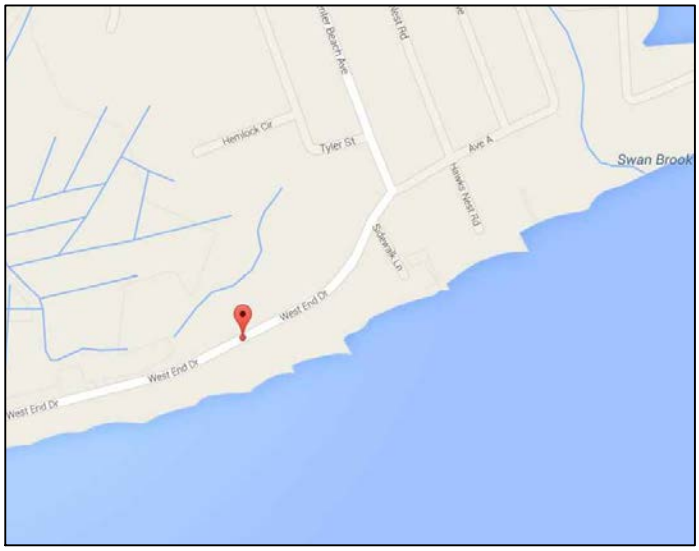
28 WEST END DRIVE
OLD LYME, CONNECTICUT

EAGLE PROJECT NUMBER: 14-028.12T31

INDEX OF DRAWINGS

FP-1 FIRST FLOOR PLAN
FP-2 SECOND FLOOR PLAN

LOCATION MAP

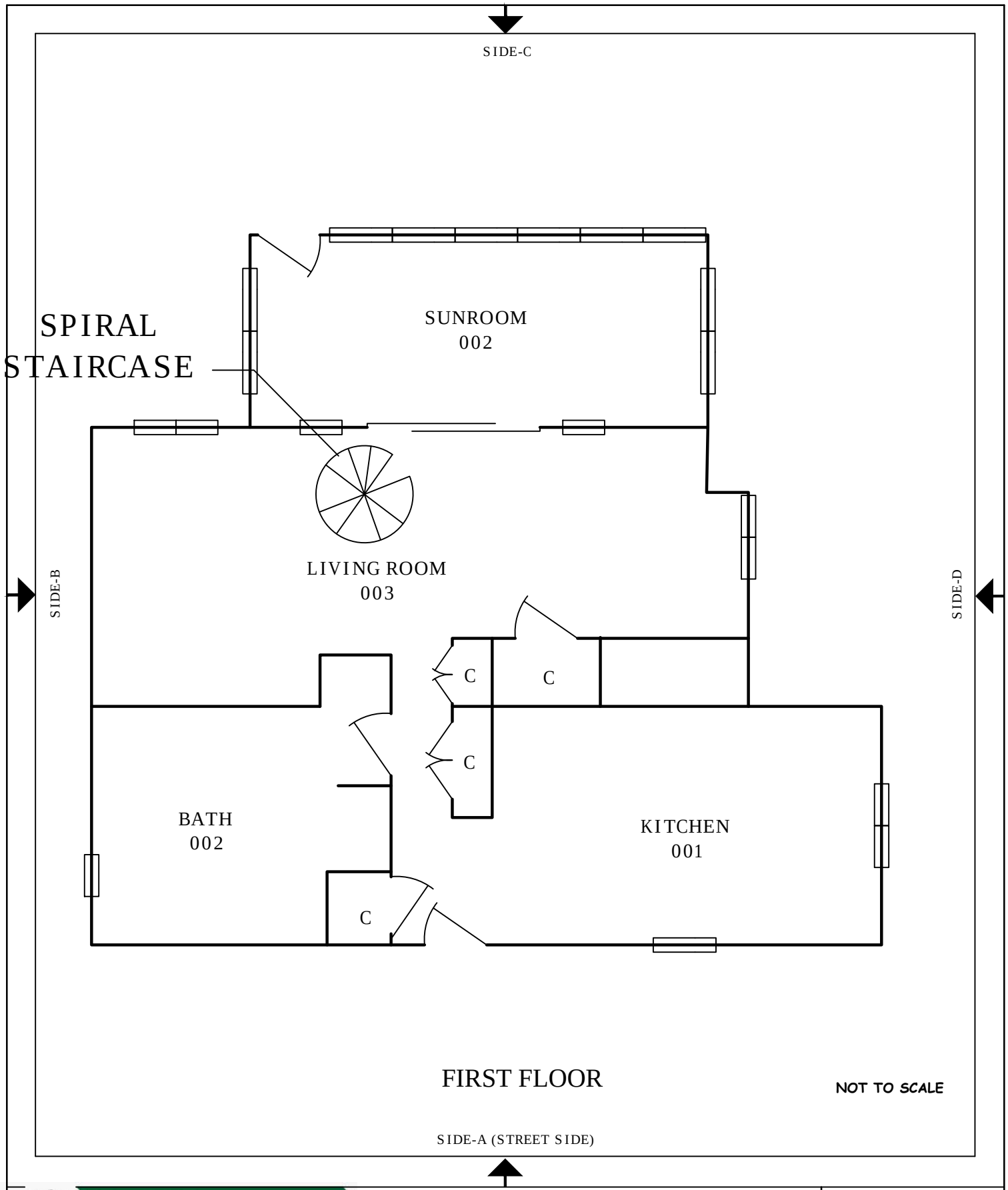


NOVEMBER 13, 2014

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

CSA Project No. 1347-46

ASBESTOS ABATEMENT
020800-20



FIRST FLOOR

NOT TO SCALE

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

DATE: 11/13/2014
PROJECT NO.: 14-028.12T31
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
28 WEST END DRIVE
OLD LYME, CONNECTICUT

SHEET NO.

FP-1

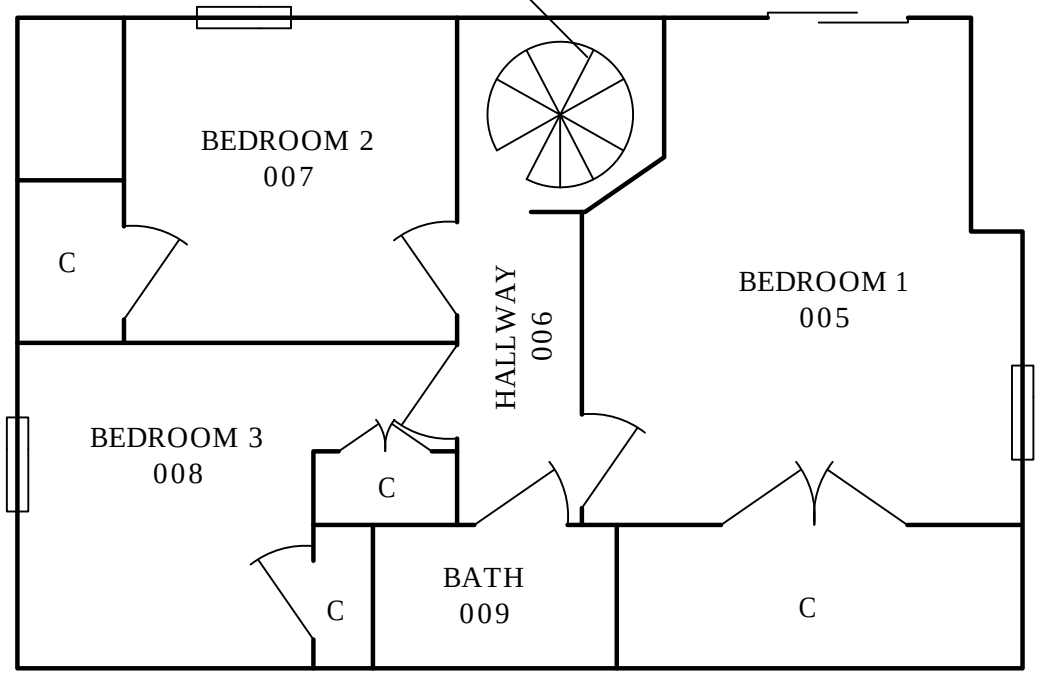
SHEET 1 OF 2

CSA Project No. 1347-46

ASBESTOS ABATEMENT 020800-21

SIDE-C

SPIRAL
STAIRCASE



SIDE-B

SIDE-D

NOT TO SCALE

SECOND FLOOR

SIDE-A (STREET SIDE)

EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-2

SHEET 2 OF 2

DATE: 11/13/2014
PROJECT NO.: 14-028.12T31
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
28 WEST END DRIVE
OLD LYME, CONNECTICUT

CSA Project No. 1347-46

ASBESTOS ABATEMENT 020800-22

END OF SECTION

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SECTION 02200 - EXCAVATION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Excavate for new building piles, pile caps, foundations and slabs on grade.

B. Trench for site utilities as shown on the Drawings.

C. Coordinate with lifting contractor as per schedule and location of cribbing.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Fill and Backfill is specified in Section 02215.

B. Concrete operations are specified in Section 03300.

1.4 - PROJECT CONDITIONS

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

B. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

C. Notify “Call Before You Dig” prior to beginning the work.

D. Existing house will be located approx. 12’-0” above existing grade during excavation operations. Coordinate with lifting contractor.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 - PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Notify utility company to remove and relocate utilities as required.

3.2 - EXCAVATING

A. Excavate to accommodate new structures and construction operations.

B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Cut utility trenches wide enough to allow inspection of installed utilities.

F. Hand trim excavations. Remove loose matter.

G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.

H. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 02215.

I. Grade top perimeter of excavation to prevent surface water from draining into excavation.

J. Remove excavated material that is unsuitable for re-use from site.

K. Stockpile excavated material to be re-used in area designated on site. Protect from erosion.

L. Remove excess excavated material from site.

3.3 - PREPARATION FOR UTILITY PLACEMENT

A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill.

B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

3.4 - FIELD QUALITY CONTROL

A. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations and temporary cribbing (lift operations).

3.5 - PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Protect load bearing cribbing installed by lifting contractor.

END OF SECTION 02200

SECTION 02215 - FILL AND BACKFILL

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Filling, backfilling, and compacting for building volume below grade, slabs-on-grade, and utilities within the building perimeter. Contractor shall provide fill as required to achieve required elevation of new lower level building floor slab.

B. Backfilling and compacting for utilities trenches shown on the Drawings. Contractor shall backfill and compact trenches to elevation of adjacent grade or as otherwise shown on the Drawings.

C. Prepare solid base for cribbing supports; location by lifting contractor.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Lawn & Planting Restoration is specified in Section 02900.

B. Concrete operations are specified in Section 03300.

1.4 - REFERENCES

A. ASTM C 136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2001.

B. ASTM D 698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2000a.

C. ASTM D 1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2000.

D. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3)); 2002.

E. ASTM D 2487 - Standard Practice for Classification of Soil for Engineering Purposes (Unified Soil Classification System); 2000.

F. ASTM D 3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2001.

1.5 - SOURCE QUALITY CONTROL

A. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

B. If tests indicate materials do not meet specified requirements, change material and retest.

C. Provide materials of each type from same source throughout the Work.

1.6 - SUBMITTALS

A. Submit Compaction Density Test Reports.

B. Submit soil gradation reports for all types of materials.

1.7 - PROJECT CONDITIONS

A. Provide sufficient quantities of fill to meet project schedule and requirements. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles as directed by the Owner.

1. Separate differing materials with dividers or stockpile separately to prevent intermixing.

2. Prevent contamination.

3. Protect stockpiles from erosion and deterioration of materials.

C. Verify that survey bench marks and intended elevations for the Work are as indicated.

D. Existing house will be located approx. 12’-0” above existing grade during backfill operations.

PART 2 - PRODUCTS

2.1 - FILL MATERIALS

A. General Fill: Subsoil excavated on-site, or off-site material.

1. Graded.

2. 100% passing 3 ½ inch, not more than 15% passing no. 200 sieve.

B. Structural Fill: Subsoil excavated on-site, or off-site material.

1. Graded.

2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.

3. All structural fill shall be sand, sand/gravel, gravelly sand or processed material meeting the standards of ¾" minus.

C. Granular Fill - Gravel: Pit run washed stone; free of shale, clay, friable material and debris.

1. Graded in accordance with ASTM C 136, within the following limits:

a. 2 sieve: 100 percent passing.
b. 1 inch sieve: 95 percent passing.
c. 3/4 inch sieve: 95 to 100 percent passing.
d. 5/8 inch sieve: 75 to 100 percent passing.
e. 3/8 inch sieve: 55 to 85 percent passing.
f. No. 4 sieve: 35 to 60 percent passing.
g. No. 16 sieve: 15 to 35 percent passing.
h. No. 40: 10 to 25 percent passing.
i. No. 200: 5 to 10 percent passing.

D. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.

1. Grade in accordance with ASTM D 2487 Group Symbol SW.

2. Graded in accordance with ASTM C 136; within the following limits:

a. No. 4 sieve: 100 percent passing.
b. No. 14 sieve: 10 to 100 percent passing.
c. No. 50 sieve: 5 to 90 percent passing.
d. No. 100 sieve: 4 to 30 percent passing.
e. No. 200 sieve: 0 percent passing.

2.2 - ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, woven, silt film.

PART 3 - EXECUTION

3.1 - EXAMINATION

A. Identify required lines, levels, contours, and datum locations.

B. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

3.2 - PREPARATION

A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with fill as directed.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

E. Compact base area under load bearing cribbing by lifting contractor.

3.3 - FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth directly below slabs-on-grade.

G. Correct areas that are over-excavated.

1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 95 percent of maximum dry density.

2. Other areas outside building footprint: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.

3. Compaction Density Unless Otherwise Specified or Indicated:

   a. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
   b. At other locations: 90 percent of maximum dry density.

4. Reshape and re-compact fills subjected to vehicular traffic.

3.4 - FILL AT SPECIFIC LOCATIONS

A. Use general fill unless otherwise specified or indicated.

B. Fill at building:

1. Use structural fill for subgrade within building footprint.

2. Use Granular Fill for 6” directly below slabs-on-grade.

3. Maximum depth per lift: 8" prior to compaction.

4. Compact to minimum percent of maximum dry density as directed.

C. Buried Utility Piping and Conduits in Trenches:

1. Bedding: Use structural fill.

2. Cover with general fill.

3. Fill up to existing grade elevation.

4. Maximum depth per lift: 12" prior to compaction.

5. Compact to minimum percent of maximum dry density as directed.

3.5 - TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.6 - FIELD QUALITY CONTROL

A. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D2922, or ASTM D3017.

B. If tests indicate work does not meet specified requirements, remove work, replace and retest.

C. All expenses in connection with tests specified herein shall be borne by the Owner. The testing laboratory selected to conduct the tests shall be approved by the Owner and the Architect.

3.7 - CLEAN-UP

A. Leave unused materials in a neat, compact stockpile.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.8 – REMEDIAL WORK

A. At the completion of the work, patch lawn areas disturbed by the work of this Contract. Provide additional topsoil, regrade and reseed as required.

B. Patch paved areas disturbed by trenching with the same surface material removed. See additional requirements in Section 01500, cutting and patching.

END OF SECTION 02215

SECTION 02230 – CLEARING & GRUBBING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation and shrubs shown on the plans.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion- and sedimentation-control measures.

1.2 MATERIAL OWNERSHIP

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

1.3 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, driveways, parking areas, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Town of Groton and/or property owners.
2. Provide alternate routes around closed or obstructed traffic ways to the extent possible.

B. Salvable Improvements: Carefully remove items indicated to be salvaged or relocated and store on Owner's premises.

C. Utility Locator Service: Notify ‘Call Before You Dig’ prior to the construction effort.

D. Do not commence site clearing operations until erosion and sedimentation control measures are installed.

E. The following practices are prohibited within close proximity to trees to be preserved:

1. Storage of construction materials, debris, or excavated material.
2. Parking of vehicles or equipment.
3. Excavation unless otherwise indicated.
4. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Erosion Control Materials: Shall meet all requirements of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, and conform to the details provided in the Drawings.

PART 3 - EXECUTION

3.1 PREPARATION

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

B. Locate, clearly identify, and protect trees, shrubs, and other vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to the Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not create impacts outside the limits of construction.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. General: Protect trees and plants remaining on-site.

B. Repair or replace trees, shrubs, and other vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.

3.4 EXISTING UTILITIES

A. Locate, identify, and disconnect utilities indicated to be removed or relocated.

1. Coordinate with applicable utility companies if necessary.

B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner not less than four days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's permission.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Remove stumps and roots of shrubs to be removed.
2. Use care to protect trees to be saved.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal lifts not exceeding a loose depth of 8 inches, and compact each lift to 95% modified proctor density.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil in a manner to prevent intermingling with underlying subsoil or other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

3.9 Storm Drainage

A. Protect existing storm drainage structures to remain from damage during construction.

END OF SECTION 02230

SECTION 02374 – EROSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary erosion and sedimentation control materials and practices.

1.2 QUALITY ASSURANCE

A. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers.

B. Comply with all governing codes and regulations including the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store materials in accordance with manufacturer's written instructions.

1.4 MAINTENANCE SERVICE

A. Maintain temporary erosion control measures until site is stabilized and accepted by the Engineer.

PART 2 - PRODUCTS

2.1 EROSION CONTROL MATERIALS

A. Silt Fencing:
1. Filter Fabric: Extra strength filter fabric (50 lbs/lin.in. min.), or a combination of standard strength (30 lbs/lin inch minimum) and 14 gauge woven wire fence.

2. Fence posts: 2”x2” pressure treated wood, minimum of 48” high.

B. Haybales: Haybales shall be composed of non-degraded straw in reasonable condition.

C. Filter Fabric; Filter Fabric for drywell grate wrap shall meet requirements for Silt Fencing Filter Fabric.

PART 3 - EXECUTION

3.1 GENERAL LAND CONSERVATION

A. All structural erosion and sediment control practices shall be placed prior to or as the first step in grading for all areas.

B. Permanent or temporary soil stabilization shall be applied to disturbed areas within 14 days after final grade is reached on any portion of the site.

C. Any disturbed area not stabilized with seeding, sodding, paving, or built upon by November 1st, or areas disturbed after that date, shall be mulched immediately with hay or straw at the rate of 2 tons per acre and over-seeded by April 15th.

D. At the completion of construction, and establishment of vegetation, all temporary sediment controls shall be removed.

3.2 EROSION CONTROL

A. Provide straw bales and silt fencing in areas shown on the plans, or in other areas deemed as potential erosion locations.

B. Silt fencing shall be placed down-gradient of construction areas, as necessary, to control sediment and minimize erosion until turf is established.

3.3 SILT FENCING

A. Set posts maximum ten feet (10’) apart. Angle posts approximately 5 degrees upslope.

B. Excavate a 6”x6” trench upslope and along the line of posts.

C. Staple wire fencing to upslope side of posts, if applicable.

D. Attach filter fabric to wire fence or upslope side of posts and extend fabric into trench. Top of fabric is to be a minimum of 30” above ground level.

E. Backfill and compact excavated soil.

3.4 MAINTENANCE

A. All erosion and sediment control measures shall be checked weekly and within 24 hours after each rainfall to assure that the measures are functioning adequately. Sediment that is collected will be distributed on the protected portion of the site and stabilized.

B. All stockpiles of earth and topsoil shall be protected with temporary seeding, erosion control fence around the entire perimeter, or other means to prevent erosion.

3.5 SILT FENCE

A. Silt fences and filter barriers shall be inspected immediately after each rainfall, at least daily during prolonged rainfall, and weekly during other periods. Any required repairs shall be made immediately.

B. Should the fabric on a silt fence or fabric barrier decompose or become ineffective and the barrier is still necessary, it shall be replaced immediately.

C. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

D. For any sediment deposits remaining after the silt fence or filter barrier is no longer required, the sediment shall be spread, dressed, and seeded to conform to the surrounding area.

END OF SECTION 02374

SECTION 02458 – STEEL PILES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 WORK INCLUDED

A. This Section includes steel piles; micro piles, mini piles or helical piles.

B. Pile driving will be in an area with limited usable space and head-height.

1.3 UNIT PRICES

A. The Contract Sum: Base the Contract Sum on number and dimensions of piles (or helical piles) indicated from tip to cutoff, plus not less than 12 inches of overlength for cutting piles at cutoff elevations. **Cutoff elevation assumed to be (+8") above bottom/pile cap. Refusal elevation assumed to be local elevation (-32.0), Ref: Boring Logs.**

B. Measurement: Using data obtained during pile driving, Architect and/or Engineer will calculate actual total net length of piles installed. Measurements will be based on effective length of piles (or helical piles) in place, with lengths measured to nearest 12 inches.

1. Additional payment for pile lengths in excess of that indicated, and credit for pile lengths less than that indicated, will be calculated at unit prices stated in the Contract, based on net addition or deduction to total pile length.
2. Unit prices include labor, materials, tools, equipment, and incidentals for furnishing, driving, cutting off, capping, and splicing piles and disposing of cutoffs.
3. No payment will be made for rejected piles, including piles driven out of tolerance, defective piles, or piles damaged during handling or driving.
4. Length of helical piles will be based on a design-build helical pile system. Submit third party design documents signed and sealed by a Professional Engineer licensed to practice in the State of Connecticut.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication and installation details for piles, including driving points, splices, field-cut holes, and pile caps.

C. Welding certificates.

D. Mill test reports.

E. Pile-Driving Equipment: Include type, make, maximum rated energy, and rated energy per blow of hammer; weight of striking part of hammer; weight of drive cap; details, type, and structural properties of hammer cushion; and details of follower and jetting equipment.

F. Pile-driving records.

G. Submit a helical pile system as an alternate design signed and sealed by a Professional Engineer licensed to practice in the State of Connecticut.

1.5 QUALITY ASSURANCE

A. Welding Standards: Qualify welding procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

B. Handle and store piles at Project site to prevent physical damage. Support piles with material in a position, above grade.

PART 2 - PRODUCTS

2.1 STEEL PILES

A. High-Strength, Low-Alloy, Columbium-Vanadium Steel: ASTM A 572/A 572M, Grade 50 (Grade 345).

B. Pipe: A600 Grade C, 46 ksi.

C. Helical Foundation System – Rating = 20 tons conforming to ICC-ES.AC358 acceptance criteria.

2.2 PILE ACCESSORIES

A. Driving Points: Manufacturer's standard one-piece driving point, fabricated from steel castings to provide full bearing of web and flange of pile tip. Cast driving point with integral tapered cutting wedges and with top alignment curbs to encase web and flanges of pile.

B. Splice Unit: Manufacturer's standard splice unit, fabricated from two connected steel plates, of same material as pipe pile, shaped and tapered to encase pipe.

2.3 FABRICATION

A. Fabricate full-length piles by splicing lengths of pipe pile together. Accurately mill meeting ends of piles and bevel for welding. Maintain axial alignment of pile lengths.

B. Fit and weld driving points to tip of pile according to manufacturer's written instructions and AWS D1.1 for procedures, appearance and quality of welds, and methods used in correcting welding work.

C. Pile-Length Markings: Permanently mark each pile with horizontal lines at 60-inch intervals for the first 15 feet and mark the distance at 12-inch intervals for remainder of length.

PART 3 - EXECUTION

3.1 DRIVING PILES

A. General: Continuously drive piles to rock or penetration resistance indicated. Establish and maintain axial alignment of leads and pile before and during driving. Piles can be considered at a refusal rate of 25 blows/inch**, or upon approval of Special Inspector/Structural Engineer.**

B. Heaved Piles: Re-drive heaved piles to tip elevation at least as deep as original tip elevation with a driving resistance at least as great as original driving resistance.

C. Driving Tolerances: Drive piles without exceeding the following tolerances, measured at pile heads:

1. Location: 2 inches from location indicated after initial driving, and 4 inches after pile driving is completed.
2. Plumb: Maintain 1 inch in 10 feet from vertical, or a maximum of 4 inches, measured when pile is above ground in leads.

D. Withdraw damaged or defective piles and piles that exceed driving tolerances and install new piles within driving tolerances. Fill holes left by withdrawn piles as directed by Architect/Engineer.

E. Cutting Off: Cut off tops of driven piles square with pile axis and at elevations indicated.

F. Pile-Driving Records: Maintain accurate driving records for each pile, compiled and attested to by a qualified professional engineer, and testing agency. Submit to Architect/Engineer for final review.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: If required by the Local Building Official, Owner will engage a qualified independent testing agency to perform field quality-control testing.

B. Weld Testing: In addition to visual inspection, welds shall be tested and inspected according to AWS D1.1. **Special Inspector shall review Test Reports.**

C. Special Inspections in accordance with the latest Code and Building Department shall be provided on piles. **Reports to be sent to Owner, Engineer, Contractor and Building Department.**

D. Load Test: At the Owner/Architect or Building Department's request, one pile **designated by Engineer** shall be test loaded and capacity shall be at least twice the design working loads. Piles shall be evaluated with any of the following methods:
1. Davisson Offiset Limit
2. Brinch-Hansen 90% Criterion
3. Chin-Konder Extrapolation

END OF SECTION 02458

SECTION 02750 – CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Concrete Walks

1.2 SUBMITTALS

A. Submittals:

   1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

   2. Joint Filler: Include manufacturer's product data sheet.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: Shall meet CT DOT Form 816 M.03.01.

    a. Fly Ash: Shall meet CT DOT Form 816 M.03.01 13(a)

B. Normal-Weight Aggregates: Shall meet CT DOT Form 816 M.03.01 1&2.

C. Water: Potable and complying with CT DOT Form 816 M.03.01 4.

D. Air-Entraining Admixture: Shall meet CT DOT Form 816 M.03.01 9 (a).

E. Chemical Admixtures: Shall meet CT DOT Form 816 M.03.01 9

F. Joint Filler for Sidewalk Expansion Joint Repair: Sikaflex-2C SL Two-component, self-leveling, polyurethane elastomeric sealant. Or approved equal.

2.2 CURING MATERIALS

A. Curing Materials: Shall meet CT DOT Form 816 M.03.01 10

2.3 CONCRETE MIXTURES

A. Concrete Mixtures: shall meet CT DOT Form 816 M.03.01 Class ‘C’.

2.4 CONCRETE MIXING

A. Ready-Mixed Concrete: shall meet CT DOT Form 816 M.03.01.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Proof-roll prepared subbase surface below concrete walks, pads, etc. Identify soft pockets and areas of excess yielding.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness.

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.4 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.

B. Comply with CT DOT Form 816 M.03.01 requirements for measuring, mixing, transporting, placing, and consolidating concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed paving surface with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.5 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic. Match finish texture to existing concrete to remain adjacent to new sidewalks.

3.6 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete in accordance with CT DOT Form 816 M.03.01 10.

3.7 REPAIRS AND PROTECTION

A. Remove and replace concrete sidewalk that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Engineer.

B. Protect concrete sidewalks from damage.

C. Maintain concrete sidewalks free of stains, discoloration, dirt, and other foreign material. Sweep sidewalks not more than two days before date scheduled for substantial completion inspections.

END OF SECTION 02750

SECTION 02900 – LAWN & PLANTING RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK INCLUDED:

A. Furnish and install loam and grass seed as required to repair and restore grass areas disturbed by the work of this contract.

1.3 SUBMITTALS

A. Submit grass seed analysis.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Loam: Clean natural agricultural soil capable of sustaining healthy growth. Soil shall be porous enough to permit adequate aeration and drainage. Soil shall be relatively free of subsoil, stones, roots, debris, trash and other foreign materials. Use loam stripped from site and provide additional loam from off site as required.

B. Grass Seed:
   1. Analysis:

      70% “Kentucky 31” fescue with 98% purity and 90% germination.

      15% “Kentucky Bluegrass” with 97% purity and 70% germination.

      15% “Creeping Red Fescue” or “Chewing’s Fescue” with 98% purity and 75% germination.

   2. Grass seed shall be fresh, clean, and of latest crop. Deliver seed in unopened containers bearing date and guaranteed analysis, or submit certificate of date and analysis.

PART 3 - EXECUTION

3.1 PREPARATION AND SEEDING

A. Spread loam to compacted depth of 6" or greater.

B. Rake out clods, stones, roots, debris and trash. Largest size of remaining foreign material shall be ¾" diameter.

C. Rake loam smooth.

D. Distribute seed at rate of 5 pounds per 1000 square feet with mechanical seeder on calm day. Seed 50% - 50% at right angles. Seed when weather and ground conditions are proper.
   1. Seeding seasons:
      From August 15 to October 15
      From March 15 to May 1

E. Rake and lightly water seeded loam.

F. In place of dry seeding, hydroseeding may be used. Rate of application shall be the same as specified for dry seeding.

G. Prevent erosion. In areas subject to erosion, stake soil stabilization mat within topsoil. Stakes shall be as recommended by Enka Building Products/Colbond. Alternate methods of preventing erosion may be used if approved by Architect.

3.2 PREPARATION

A. Prevent construction traffic from crossing grass areas.

B. Water grass lightly and frequently until healthy stand of grass is established.

C. Perform maintenance of grass. Water, regrade, reseed and otherwise maintain grass so as to produce healthy uniform lawn.

END OF SECTION 02900

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 -GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. Contractor shall furnish all labor, material, tools and equipment required to complete all cast-in-place concrete work as shown on the Drawings and specified herein.

1.3 - QUALITY ASSURANCE

A. The work of this Section shall conform to the current State of Connecticut Building Codes, which includes the 2003 International Building Code and 2009 International Residential Code, as amended and adopted by the State of Connecticut.

B. The work of this Section shall conform to all requirements of ACI 301, “Specifications for Structural Concrete for Buildings". Although the remainder of this Section states in condensed form, the pertinent provisions of that document, it shall be understood that it has been adopted in its entirety and may be referred to throughout the project for provisions not restated below.

C. Concrete floor and slab construction shall conform to the recommendations of ACI 302.IR, "Guide for Concrete Floor and Slab Construction".

D. The standards of the American Society for Testing and Material and the American Concrete Institute, referred to in these specifications by their serial designation and declared to be a part of these specifications, the same as if fully set forth herein.

1.4 - SUBMITTALS

A. Submit separate concrete mix designs and additives for each strength class of normal weight concrete and for pumped concrete.

B. Prepare for cold weather conditions, if required.

C. Submit reinforcing drawings showing size and location of all rebar.

1.5 - STANDARDS

A. Applicable portions of the latest edition of the following codes and standards are hereby made part of this specification in their entirety as though fully set forth herein:

ACI 211.1	Proportions for Normal, Heavyweight, and Mass Concrete
ACI 214	Recommended Practice for Evaluation of Strength Test Results of Concrete
ACI 301	Specifications for Structural Concrete for Buildings
ACI 302	Guide for Concrete Floor Slab Construction
ACI 304	Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete
ACI 304R	Placing Concrete by Pumping Methods
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309	Recommended Practice for Consolidation of Concrete
ACI 315	Details and Detailing of Concrete Reinforcement
ACI 318	Building Code Requirements for Reinforced Concrete

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Concrete:

1. Cement shall be Type I or Type II Portland Cement, and shall conform to "Standard Specifications for Portland Cement: (ASTM C 150).

2. Aggregates for concrete of normal weight shall conform to "Standard Specification for Concrete Aggregates: (ASTM C 33).

3. Mixing water for concrete shall be fresh, clean, and potable.

B. Normal Weight Aggregates:

1. ASTM C33, aggregates shall be from a single source.

C. Air entraining admixtures:

1. ASTM C260

D. Water-reducing, retarding, and accelerating admixtures:

1. ASTM C494

2. Containing not more than 1% chloride ions.

E. Non-shrink grout:

1. Masterflow by Master Builders, SIKA, or approved equal.

F. Mix water shall be clean, fresh, and potable.

G. Curing compounds:

1. ASTM C309, Kure-n-Seal, or approved equal.

H. Vapor barrier:

1. Polyethylene of thickness indicated on the Drawings.

2.2 - PROPORTIONING

A. Concrete compressive strength at 28 days:

1. 4,000 psi for concrete columns/piers, and pile caps.

2. .....3,000 psi for slabs-on-grade, and grade beams.

3. 3,000 psi for all other concrete.

B. Concrete proportions shall be selected in accordance with ACI 211.1 for normal weight concrete.

C. All concrete exposed to the weather shall be air-entrained with air content not less than 5% and not more than 7% by volume.

D. No air entrainment shall be used for interior concrete, including, but not limited to trowelled slabs on grade.

E. Water-cement ratio shall not exceed 0.50.

F. Maximum slump:

1. 4” for slabs

2. 5” for all other concrete

G. Minimum slump:

1. 2” for slabs.

2. 3” for all other concrete.

H. The nominal maximum size of coarse aggregate shall be not larger than:

1. 1/5 the narrowest dimension between sides of forms.

2. 1/3 the depth of slabs.

3. ¾ the minimum clear spacing between reinforcing bars.

I. All admixtures shall be reviewed by the Architect and the Engineer.

J. Concrete proportions shall be established on the basis of previous field experience or laboratory trial batches with the same materials to be employed in the work.

K. Use accelerating admixture in all concrete placed at ambient temperatures below 50 degrees F. Use hot water if required to meet specifications.

PART 3 - EXECUTION

3.1 - FORMWORK

A. Forms shall result in a final structure that conforms to shapes, lines, and dimensions as required by the design drawings and specifications.

B. Forms shall be substantial and sufficiently tight to prevent leakage of mortar or concrete.

C. Forms shall be properly braced or tied together to maintain position and shape.

D. Formwork shall conform to ACI 347.

E. Form ties shall be type with break off or screw-out ends and plugs which may be easily removed at least 3/4" back of surface of the concrete.

F. Before placing reinforcing steel or concrete, the surface of forms shall be covered with an acceptable form release coating material that will effectively prevent absorption of moisture, prevent bond with the concrete, and not stain the concrete surface.

G. Excess form release coating material shall not stand in puddles in the forms nor shall it come in contact with hardened concrete against which fresh concrete or reinforcing steel is to be placed.

H. Formwork for columns, walls, and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations.

I. Forms and shoring in the formwork used to support the weight of concrete in beams, slabs and other structural members shall remain in place until the concrete has reached a minimum strength of 80% of the specified 28 day compressive strength.

J. Install bulkheads, boxes, etc., for openings required for piping, conduits, and other equipment for other trades.

K. Clean forms just before concrete placement. Remove all chips, wood, sawdust, dirt or other debris.

3.2 - REINFORCEMENT

A. Reinforcing bars shall be ASTM A615 grade 60. All reinforcement required to be welded to structural steel shall be low alloy, Grade 60, deformed steel bars conforming with ASTM A 706.

B. Reinforcement shall be maintained free from dust, mud, rust, oil or ice.

C. Fabrication and placement of reinforcing steel shall be in accordance with CRSI “Manual of Standard Practice” and CRSI “Placing Reinforcing Bars.”

D. Minimum cover on reinforcement:

1. Concrete cast against earth ..... 3"
2. Concrete exposed to earth or weather:
    a. #6 and larger ..... 2”
    b. #5 and smaller ..... 1 ½"
3. Interior surfaces:
    a. slabs, walls..... ¾”
    b. beams, columns ..... 1 ½"

E. Splices shall be lapped 48 bar diameters and securely tied.

F. Heat shall not be used to bend reinforcing bars.

G. Bar chairs and slab bolsters shall have plastic tips where concrete surface is exposed to view.

H. Welded wire fabric: ASTM A185 and A82.

I. Welded wire fabric reinforcing shall be placed at 1” clear from top of slabs on grade. Place mesh on concrete brick or chairs and raise to position in slab as concrete is placed.

J. Welded wire fabric shall be furnished in flat sheets, not rolls.

K. Welded wire fabric shall be lapped at least 8 inches between outermost cross wires and tied at all edges.

L. Welded wire fabric shall be fabricated and installed in accordance with "Manual of Standard Practice - Welded Wire Fabric", Wire Reinforcement Institute, Inc.

M. At all intersecting walls and footings, provide additional horizontal “L” shaped dowels of the same size and spacing as reinforcing indicated in sections. All bars shall lap a minimum of 48 bar diameters with horizontal reinforcement.

3.3 - JOINTS AND EMBEDDED ITEMS

A. Maximum length of pours between wall construction joints shall be 40 feet. Location of joints shall be approved by the Architect.

B. Wall construction joints shall have a 2 x 4 key and horizontal wall reinforcement shall be continued across joints.

C. Saw-cut control joints in slabs on grade at 4’-0” x 4’-0” panels, per column bay maximum.

D. Slab control joints shall be cut within 24 hours of concrete placement.

E. Slab control joints shall be saw-cut 1/8" wide and to a depth of 1/4 the slab thickness.

F. Saw-cut control joints shall be filled with joint sealant.

G. Pre-molded joint filler shall be non-extruding and resilient bituminous type conforming to ASTM D1751.

H. Anchor bolts and other embedded items shall be positioned accurately and supported against displacement.

I. All sleeves, inserts, anchors, and embedded items required for adjoining work or for its support shall be placed prior to concreting.

J. All contractors whose work is related to the concrete or must be supported by it shall be given ample notice and opportunity to introduce and/or furnish embedded items before the concrete is placed.

K. Conduits and pipes of aluminum shall not be embedded in concrete.

3.4 - PRODUCTION OF CONCRETE

A. Concrete shall be batched, mixed and transported in accordance with ASTM C94 and ACI 304.

B. Batching plant equipment and facilities shall conform to "Certification of Ready Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association.

C. Admixtures shall be charged into the mixer as solution and shall be measured by means of an acceptable mechanical dispensing device. The liquid shall be considered a part of the mixing water.

D. If more than one admixture is used in the concrete, they shall be added separately.

E. Ready-mixed concrete trucks shall not be loaded in excess of their rated capacity.

3.5 - PLACING

A. Do not pour concrete until forms and subgrade have been thoroughly cleaned and are free of frost, mud, ice, or water.

B. Convey concrete from truck to forms as rapidly as possible by methods which will prevent segregation or loss of ingredients. Place in forms as nearly as practicable to its final position.

C. When placement is started, carry on as a continuous operation until the placing of a section is complete. Cold joints are not permitted.

D. Consolidate concrete by mechanical vibration. Do not use vibrators to transport concrete in forms.

E. No concrete shall be placed in freezing weather or when freezing weather is forecast by the Weather Bureau to occur within 36 hours, unless special measures and precautions are taken to heat the water and aggregates and to protect the concrete from rapid drying.

F. No concrete shall be placed when the temperature is greater than 90 F. unless special measures are taken to cool the water and aggregate and to protect the concrete from rapid drying.

G. No concrete shall be placed during rain, sleet, or snow unless protection is provided.

H. The maximum elapsed time between introduction of water and placing shall be one hour.

3.6 - FINISHING OF FORMED SURFACES

A. Form tie holes shall be dampened and filled with mortar.

B. All formed surfaces exposed to view shall receive a grout rubbed finish within 24 hours of concrete placement.

C. Tops of walls shall be floated to a texture comparable to formed surfaces.

3.7 - SLABS

A. Interior slabs on grade shall be placed over a polyethylene vapor barrier.

B. Extreme care should be exercised during slab placement to insure that welded wire fabric, if required, is positioned as shown on the Drawings.

C. Slabs shall be constructed in accordance with ACI 302.

D. Interior slabs shall receive a steel trowel finish.

E. Finishing Tolerances: Finish floor slabs to true planes within 1/8" in 10 feet, as determined by a 10 foot straightedge placed anywhere on the slab in any direction.

3.8 - CURING AND PROTECTION

A. Concrete shall be maintained above 50 degrees F. and in a moist condition for at least the first 7 days after placement.

B. Provisions for curing of concrete shall be in accordance with ACI 308.

C. Curing compound shall be Sonneborn Kure-N-Seal or equal and must be reviewed for compatibility with floor finishes.

D. One coat of curing compound shall be applied to all slabs as soon as concrete is firm enough to walk on.

E. In hot weather, concrete shall be protected in accordance with ACI 305.

F. In cold weather, concrete shall be protected in accordance with ACI 306.

3.9 - INSPECTION AND TESTING

A. All expenses in connection with tests specified herein shall be borne by the Owner. The testing laboratory selected to conduct the tests shall be approved by the Architect, Engineer, and Owner.

B. A minimum of three (3) test specimens shall be made for each 50 cubic yards of concrete or not less than three (3) for each day's placement. Two (2) cylinders shall be tested at seven days and one (1) at 28 days. The specimens shall be carefully stored and transported so as not to damage them in any way. Records shall be kept, identifying each cylinder with the locations of placement from which test cylinders were taken.

C. Slump tests shall be performed when each set of test cylinders are cast.

D. If any concrete fails to develop the required 28 day strength, the Architect may order core tests at the Contractor's expense, and if the concrete in place is below strength, the Architect may order the removal and replacement of such concrete at the Contractor's expense, including any additional cost for the Architect's inspection and redesign.

E. The testing laboratory shall send copies of test reports to the Architect, Engineer, Contractor, Owner, and the local Building Department.

END OF SECTION 03300

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. Furnish and install all new wood framing as shown on the Drawings and as specified herein.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Interior woodwork exposed to view is specified in Section 06200.

1.4 - REFERENCE STANDARDS

A. Use lumber and plywood grade-marked in accordance with the following standards:

1. Southern Pine: "Standard Grading Rules for Southern Pine Lumber", published by Southern Pine Inspection Bureau.

2. Plywood: Comply with PS 1 (ANSI A 199.1) or, for products not manufactured under PS 1 provisions, with applicable APA Performance Standard for type of panel indicated.

B. Preservative pressure treated lumber and plywood shall comply with AWPA C2 and C9, respectively, and with the requirements listed below:

1. Wood for ground contact use: AWPB LP-22.

2. Wood for above-ground use: AWPB LP-2.

C. Requirements for all lumber:

1. Lumber shall be seasoned to 19% or less moisture content.

2. Lumber and plywood shall be grade marked to show conformity to specifications.

3. All materials shall conform to ‘FEMA’ *Technical Bulletin 2, Flood Damage–Resistant Materials Requirements*.

D. Requirements for all fasteners, timber anchors, connectors, and post bases:

1. All fasteners, timber anchors, connectors, and post bases and shall comply with 'FEMA' *Technical Bulletin 8-96(FIA-TB-8), Corrosion Protection for Metal Connectors in Coastal Areas.*

1.5 – SUBMITTALS

A. Submit all lumber materials for approval by Architect/Engineer.

B. Submit all LVL, I joists and accessories for approval by Architect/Engineer.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Sills, bucks, blocking, and nailers for use in conjunction with wood construction and where exposed to concrete, masonry, roofing or other sources of dampness: Any species of structural lumber, construction grade, pressure treated, meeting the requirements listed above.

B. Joists, rafters, headers, stringers, beams, posts, studs, plates and other structural support members except those listed below: Douglas Fir-Larch, No.1 grade or better.

C. Blocking, nailers, and other non-structural uses: Any species of structural lumber, construction grade or better.

D. Exterior wall sheathing: nominal 1/2" tongue & groove, APA rated sheathing, Exposure 1.

E. Roof Sheathing: Nominal 5/8", square edge, APA Rated Sheathing, Exposure 1.

F. Flooring Plywood: Nominal ¾" tongue & groove "Sturd-I-Floor" combination subfloor underlayment, or approved equal.

1. Plywood flooring shall be INT-APA Grade C-D plugged, with exterior glue and contain four (4) inner plies.

G. Flooring underlayment: APA rated underlayment, exposure 1, with sanded face or APA rated underlayment A-C, exterior grade, with sanded face.

H. Laminate veneer lumber (LVL): Red Lam or equal: Fb= 2800 psi, E= 2000 ksi

I. I Joists: Red Built Engineered Wood Products, or approved equal.

J. Exterior Wood: Coastal Wood Products – LVL for seaside exposure.

PART 3 -EXECUTION

3.1 – WORKMANSHIP

A. Produce joints which are tight, true and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.

B. Selection of lumber pieces:

1. Carefully select the members.

2. Select individual pieces so that knows and obvious defects will not interfere with placing bolts or proper nailing, and will allow making of proper connections.

3. Cut out and discard defects which render a piece unable to serve its intended function.

4. Lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

C. Do not shim any framing component.

3.2 – GENERAL FRAMING

A. General:

1. Provide framing members of the size(s) and spacing shown on the Drawings.

2. In addition to framing operation normal to the fabrication and erection indicated on the Drawings, install solid wood blocking and backing required for fastening of grab bars and other accessories as required. All exterior blocking to be pressure treated.

3. Do not notch, cut, or bore members for pipes, ducts, or conduits, or for other reasons except as shown on the Drawings or as specifically approved in advance by the Architect.

B. Bearings:

1. Make bearings full unless otherwise indicated on the Drawings.

2. Finish bearing surface on which structural members are to rest so as to give sure and even support. Shim with pressure treated wood or plastic at foundation walls.

3. Where framing members slope, cut or notch the ends as required to give uniform bearing surface.

3.3 – ALIGNMENT

A. On framing members to receive a finished surface, align the finish subsurface to vary not more than 1/8" from the plane of surfaces of adjacent furring and framing members.

3.4 – INSTALLATION OF PLYWOOD SHEATHING

A. Placement:

1. Place plywood with face grain perpendicular to supports and continuously over at least two supports, except where otherwise shown on the Drawings.

2. Center joints accurately over supports, unless otherwise shown on the Drawings.

B. Protect plywood from moisture by use of waterproof coverings until the plywood in turn has been covered with the next succeeding component or finish.

3.5 – INSTALLATION OF PLYWOOD UNDERLAYMENT

A. Preparation: Allow plywood underlayment to acclimate to environmental moisture conditions of the installation area prior to beginning installation.

B. Placement:

1. Place plywood underlayment with face grain (long dimension) perpendicular to supports and continuously over at least two supports. Stagger underlayment end joints by 16" minimum. Offset joints from joints of subfloor below by 2" minimum.

2. The subfloor over which the underlayment will be installed must be smooth, dry, properly fastened and free of joint swelling, warping, or delamination.

3. Position the edges of plywood panels net (lightly butted) without excessive tightness.

4. Fasten the underlayment using 3d (1 ¼") ring-shank nails for plywood panels up to ½" thick. Narrow crown chisel point staples may be used in lieu of nails on panels up to 3/8" thick.

5. Position the fasteners every 3" around edges and 6" in the body of the sheet. Place fasteners so they do not penetrate framing (joists). In structures where the joists and subfloor materials were subjected to wet weather or where the materials are of unseasoned lumber, to prevent nail popping, it is advisable to use staples set 1/32" below the surface to fasten the underlayment. If it is necessary to use nails, set the heads 1/32" below the surface; filling nail holes is not recommended.

6. Sand any uneven joints level and fill any gaps between joints in excess of 1/32" with a recommended latex patching compound prior to flooring installation.

7. For optional adhesive application, see 3.6 F. below.

3.6 - FASTENING

A. Fasteners: All fasteners shall comply with the reference in 1.4, D. above.

1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide, at a minimum, fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M, or stainless steel.

2. Power-Driven Fasteners: CABO NER-272.

3. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. At a minimum, all bolts set in concrete or exposed to the weather shall be galvanized.

B. Metal framing anchors: All timber connection hardware, post bases, and the like shall comply with the reference in 1.4, D. above.

1. Provide timber connection hardware by Simpson or approved equal of the gauges shown on the Drawings, or as otherwise required. At a minimum, provide galvanized anchors for attaching carpentry to masonry or concrete, and for all exterior applications. All V-E Zone structures shall have stainless steel fasteners and connectors.

C. Nailing:

1. Use only common wire nails or spike of the sizes required in the 2009 International Residential Code, as amended, except where otherwise specifically noted on the Drawings. Contractor shall also comply with the "Wood Framed Construction Manual", exposure 3, where it applies.

2. For conditions not covered in the Code, provide penetration into the piece receiving the point of not less than ½ the length of the nail or spike, provided, however, that 16d nails may be used to connect tow pieces of 2" (nominal) thickness.

3. Nail without splitting wood.

4. Pre-bore as required.

5. Remove split members and replace with members complying with the specified requirements.

6. All fastening to comply with American Wood Council, WFCA – 105 mph, or as stipulated in the 2009 International Residential code, as amended by the State of Connecticut.

D. Bolting:

1. Drill holes 1/16” larger in diameter than the bolts being used.

2. Drill straight and true from one side only.

3. Do not bear bolt threads on wood, but use washers under head and nut where both bear on wood, and use washers under all nuts.

E. Screws:

1. For lag screws and wood screws, pre-bore holes same diameter as root of threads, enlarging holes to shank diameter for length of shank.

2. For screws at plywood underlayment, countersink screws such that head of screws is 1/32” below the uppermost surface of the plywood.

F. Adhesives:

1. Contractor shall insure the stability and solidity of the underlayment installation. Contractor may opt to use an approved adhesive construction below underlayment.

2. Any adhesive used shall be troweled on and applied over the entire surface of the underlayment, where underlayment is over another solid surface.

3. Use only adhesives compatible with product being adhered. Adhesives should not be used to install flooring underlayment unless it is known that they will not stain resilient floor coverings.

4. Apply adhesive only in accordance with manufacturer’s instructions and recommendations.

END OF SECTION 06100

SECTION 06670 – EXTERIOR PVC FABRICATIONS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 – WORK INCLUDED

A. Provide exterior PVC Trim Boards in the sizes and locations shown on the drawings.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Sealants are specified in Section 07900.

1.4 – SUBMITTALS

A. Product Data: Submit manufacturer's product data for specified products.

B. Samples: Submit three (3) material samples representative of the texture, thickness and widths required and specified herein.

1.5 - DELIVERY, STORAGE AND HANDLING

A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.6 - WARRANTY

A. Provide manufacturer's 25 year warranty against defects in manufacturing that cause the products to rot, corrode, delaminate or excessively swell from moisture.

PART 2 - PRODUCTS

2.1 – MATERIALS

A. Acceptable products: AZEK Trimboards as manufactured by Vycom Corporation, 801 Corey Street, Moosic, PA or approved equal.

2.2 – ACCESSORY PRODUCTS

A. Fasteners: Standard wood fasteners, stainless steel or hot dipped galvanized.

B. Adhesives:

1. For bonding AZEK to AZEK, use solvent based adhesive systems used for rigid PVC pipe.
2. For bonding AZEK to various substrates, use standard construction adhesives. In general, contact cement, epoxy, rubber based and urethane adhesives are acceptable. Test selected adhesive for suitability.

C. Sealants:

1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.3 – FINISHES

A. Preparation

1. Clean, Dry surface.
2. Nail holes may be finished with a polyurethane or acrylic based caulk matching the board color.

PART 3 – EXECUTION

3.1 – INSTALLATION

A. Manufacturer's instructions: Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.

B. Cutting: Cut sheets and boards using standard saws and carbide blades used for wood.

C. Drilling: Drill using twist drills recommended for metals.

D. Milling: Mill using standard milling machines of various types. Relief angle 20 degrees to 30 degrees; Cutting speed to be optimized with the number of knives and feed rate.

E. Routing: Rout using standard carbide tipped routers used in woodworking.

F. Edge Finishing: Various sanding, grinding or filing tools. Do not allow excessive frictional heat to build up.

G. Nail Location: Standard nailing patterns as recommended by Manufacturer's instructions.

H. Joints: Where AZEK joins AZEK, provide butt joints. Provide full length boards in as much as possible. Joints should only occur where material run exceeds board length.

I. Linear Thermal Expansion and Contraction: When properly fastened, allow for ½" movement for each 18 feet of board.

END OF SECTION 06670

SECTION 07150 - DAMPPROOFING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Furnish and install vapor barrier under all new concrete slabs-on-grade and stone-surfaced areas on grade.

B. Furnish and install infiltration barrier (sheathing wrap) under all new vinyl siding.

C. Furnish and install flexible membrane flashing at all new window sills.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Concrete is specified in Section 03300.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Vapor Barriers:

1. Sub-slab/Sub-stone Vapor barriers: 10 mil thickness Polyethylene.

B. Infiltration Barrier (Sheathing wrap): "Tyvek Home Wrap" as manufactured by Dupont or approved equal.

C. Self-adhering flexible membrane flashing: “Vycor” as manufactured by W.C. Grace Co., or approved equal.

PART 3 - EXECUTION

3.1- INSTALLATION OF SUB-SLAB/SUB-STONE VAPOR BARRIER

A. Install vapor barrier over compacted fill prior to pouring concrete floor slab or installation of surface stone. Do not install more material than will be covered on a given day.

B. Minimum lap 6" at joints. Seal all joints as recommended by barrier manufacturer.

C. Avoid tearing. Patch tears with pieces of vapor barrier lapping tear 6" in all directions. Tape patches in place. Tape around all penetrations through vapor barrier.

3.2 - INSTALLATION OF INFILTRATION BARRIER

A. Install infiltration barrier (Sheathing wrap) on outside of all new exterior wall sheathing in re-built areas of exterior walls, directly below new siding material. Lap horizontal joints upper outside lower, at least 12", and lap vertical joints at least 12". Tape joints. Tape tightly to protrusions. At windows, doors, and other openings, tape infiltration barrier over head and jamb flashings and under sill flashings. Hold infiltration barrier in place using sharp pointed nails with broad plastic heads. Tape rips that occur in infiltration barrier.

B. At new window sills, install flexible membrane flashing. Install in accordance with manufacturer's instructions. Lap over sheathing wrap 8", full width of opening, turning continuous membrane vertically 4” minimum at each jamb.

END OF SECTION 07150

SECTION 07200 - INSULATION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 – WORK INCLUDED

A. Furnish and install insulation of the types, thicknesses and R values, as shown on the Drawings and specified herein.

1.3- RELATED WORK SPECIFIED ELSEWHERE

A. Rough framing is specified in Section 06100.

B. Sealants are specified in Section 07900.

PART 2 - PRODUCTS

2.1 – GENERAL REQUIREMENT

A. All batt, blanket, and fill materials specified in this Section shall conform to the requirements of ASTM E84 as follows:

1. Where exposed as installed in rooms or spaces, including attics, and crawl spaces, shall have a flame spread rating of 25 or less and a smoke-developed rating of 450 or less.

2. Where concealed as installed shall have a flame spread of 75 or less and a smoke-developed rating of 450 or less.

2.2 – MATERIALS

A. Batt Insulation: “EcoTouch Pink Fiberglas” insulation as manufactured by Owens Corning, foil-faced or unfaced, thickness and/or R values as shown on the Drawings.

B. Rigid Foam Insulation: “Foamular High-R CW Plus” extruded polystyrene rigid foam insulation board as manufactured by Owens Corning. Thickness and/or R values as shown on the Drawings.

C. Flashing Tape: *"3M All Weather Flashing tape 8067"*, or approved equal.

PART 3 - EXECUTION

3.1 – INSTALLATION OF BATT INSULATION

A. Install batt insulation between joists of existing floor system construction and elsewhere as shown on the Drawings to form an unbroken blanket. Fit insulation tightly around and behind obstructions. Install tightly edge to edge.

1. Always install foil face (vapor barrier) of insulation facing **warm side** of floor or wall system being insulated.

2. Where there is plumbing in exterior walls, install insulation only on the cold side of the piping; do not install insulation on the warm side of the piping.

3.2 – INSTALLATION OF BOARD INSULATION

A. Rim joists, headers: Provide rigid foam insulation board of the thicknesses/R value shown at rim joists of each floor level, and elsewhere as shown on the Drawings.

B. Floors over exterior spaces: Fasten rigid foam insulation board to the underside of floor system located over newly created exterior space. Install in accordance with manufacturer's instructions. Seal all board joints using specified flashing tape.

END OF SECTION 07200

SECTION 07600 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - RELATED WORK SPECIFIED ELSEWHERE

A. Sealants are specified in Section 07900.

PART 2 - PRODUCTS

2.1 - FLASHING MATERIALS

A. For use in Contact with Concrete or Concrete Masonry Units: Galvanized sheet metal. Thickness: 24 gauge.

B. For all other uses: Aluminum, 0.024" thick. Color/finish: As selected by Architect.

2.2 - ACCESSORIES

A. Fasteners: Use broad-head deformed shank roofing nails for nailing, and use screws, pop-rivets, and other fasteners where appropriate. Use double galvanized or stainless steel fasteners to fasten galvanized steel. Use double galvanized or aluminum fasteners to fasten aluminum. Use of improper fasteners shall be cause for rejection of the work.

B. Solder: ASTM B32, of grade recommended for metal being specified.

C. Sealant: See Section 07900.

PART 3 - EXECUTION

3.1 - INSTALLATION, GENERAL

A. Unless shown otherwise, installation of sheet metal work shall conform to the recommendations of "Roofing and Waterproofing Manual", published by the National Roofing Contractors Association (NRCA), and "Architectural Sheet Metal Manual", published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

B. Wherever metal comes in contact with dissimilar metals, insulation shall be provided between same consisting of a layer of 15 lb. saturated roofing felt bonded in mastic, or the surfaces in contact shall be given a coat of bituminous base paint.

END OF SECTION 07600

SECTION 07900 - SEALANTS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Caulk all new openings in exterior walls, including doors, windows, mechanical/electrical/plumbing openings, and elsewhere as shown. Caulk both inside and outside.

B. The required interior applications of sealant work include, but are not necessarily limited to the following general locations:

1. New sound sealed and waterproof joints.
2. New joints between metal frames and other finished surfaces.
3. New joints between wood frames or wood trim and other finished surfaces.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Finish Carpentry is specified in Section 06200.

1.4 - SUBMITTALS

A. Submit manufacturer's color charts for color selection.

1.5 - DELIVERY, STORAGE AND HANDLING

A. Do not retain at the job site material which has exceeded the shelf life recommended by its manufacturer.

1.6 - PROJECT/SITE CONDITIONS

A. Apply sealants only to dry surfaces.

B. Do not apply sealants when temperature is below 40 degrees F. or less than 46 degrees F. and falling.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. General Exterior Sealant: Single-component Non-sag Urethane Sealant:

1. Products: Pecora Corporation: Dynatrol I LX. Equal products by Tremco or Sonneborn may also be acceptable. Color(s): As selected by the Architect. Multiple colors may be selected.
2. Type and Grade: S (single component) and NS (non-sag).
3. Class: 50.
4. Use(s) Related to Exposure: NT (non-traffic).
5. Sealant Movement: 25/25 - % compression/% extension.
6. Service Temperature: -20 to + 180 degrees F.
7. Meets ASTMC920, TT-S-00230C.

B. Sealant for use in filling interior cracks at door and window trim, countertops, wood base, etc.: Acrylic Latex Caulk (ASTM C384) suitable for painting. Color: white.

C. Joint Backing: Rod stock compatible with sealant being used, size as required.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Prior to application of sealants, the Contractor shall examine the surfaces of the work to which sealants will be applied. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 - PREPARATION

A. Bonding surfaces on both new and remedial jobs must be clean, dust and frost free. Solvent wipe the surfaces using a clean oil-free rag saturated with solvent compatible with surface being cleaned, as recommended by sealant manufacturer. Do not flood surfaces with more solvent than necessary.

B. Do not clean surfaces with soap, detergent or any water-based cleaner. Make sure that apparently clean surfaces are not covered with a thin film of construction dust.

3.3 - APPLICATION

A. Apply joint backing to joints open in back or over 1/2" deep. Compress backing so as to form a firm stop which will resist sealant pressure.

B. Sealants shall be installed with either a hand operated or air-operated caulking gun with sufficient pressure to completely fill voids and joints solidly. Extreme care shall be taken to prevent smearing onto adjacent surfaces. Material shall be heated as recommended by the manufacturer. Joints shall have a neat, uniform, slightly concave appearance.

C. All sealant work shall strictly conform to the sealant manufacturer's technical instructions for surface preparation and application procedures to accomplish a weathertight seal.

D. Tool joints within 10 minutes of application. If masking tape is used, remove tape before a surface skin begins to form.

E. After applying the sealant and after a "skin" has formed, do not disturb the joint for 48 hours.

3.4 - REMEDIAL WORK AND LIMITATIONS

A. Should sealant not completely fill or fully adhere to intended surfaces on first pass, remove bead and reapply. Do not apply successive beads to fill opening or obtain adhesion.

B. If cleaning solvents stain, abrade, or otherwise damage adjacent materials or surfaces, all repair, replacement, etc. shall be performed at no additional cost.

3.5 - CLEAN UP

A. Completely remove excesses, spillage, "tails", and properly dispose of same; use solvents recommended by manufacturer of sealant being applied.

B. Select solvents that are compatible with surfaces being cleaned.

END OF SECTION 07900

SECTION 08550 - CLAD WINDOWS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1-2 - WORK INCLUDED

A. Provide insulating glass, double hung clad windows and sliding glass doors, complete with screens, in the sizes and locations shown on the Drawings.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Rough Framing is specified in Section 06100.

B. Finish Carpentry is specified in Section 06200.

C. Sealants are specified in Section 07900.

1.4 – QUALITY ASSURANCE

A. Windows/window performance shall comply with the requirements of the2009 International Energy Conservation Code as published by the International Code Council and amended by the State of Connecticut.

B. The selected window manufacturer and the General Contractor shall be responsible for grouped or mulled multiple window arrangements complying with a design wind load resistance of 105 mph as a group.

PART 2 – PRODUCTS

2.1 - MATERIALS

A. Basis of Design: 400 Series Tilt-Wash Double Hung Windows and Sliding Glass Doors with “storm watch protection” as manufactured by Andersen Windows & Doors.

1. Subject to compliance with the requirements of the Contract, “Integrity” from Marvin, or “Impervia” from Pella with manufacturer’s impact glazing are also acceptable.

B. Features and Accessories:

1. Color: White.

2. Glazing: Provide low-E with argon gas insulating glazing for all sash.

3. Divided Lites: Provide manufacturer's available "*Simulated Divided Lites*" in pattern(s) as shown on the Drawings.

4. Screens: Provide one (1) full size screen for each window and full sliding screen door at all sliding glass doors.

5. Provide loose jamb extensions for each window, 3" size for field fit.

6. Interior: Manufacturer's standard paint finish. Color: white. Interior hardware: white.

7. Provide manufacturer's standard extension sills & headers, panning systems, etc. and any other accessories required to complete the installation. Color to match windows.

8. Windows must meet or exceed "Energy Star" requirements.

PART 3 - EXECUTION

3.1 - INSTALLATION

A. Install windows in accordance with manufacturer's recommendations and instructions.

B. Tape window flashing fins to sheathing wrap continuously around entire perimeter.

C. As required for watertightness, provide and install continuous vinyl sections of profiles required to accomplish a watertight closure condition. Seal all joints with sealant. Color to match windows.

D. Adjust sash for tight closure and easy operation.

END OF SECTION 08550

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Paint all new interior and exterior surfaces as set forth below. Painting work includes, but is not necessarily limited to, the following:

1. Paint all new interior wood trim not scheduled for transparent finish.
2. Paint all existing interior wall and ceiling surfaces disturbed by the work of this Contract, entire surface, to next corner or break point.
3. Paint all new gypsum wallboard exposed to view, unless noted otherwise.
4. Paint all new interior wood wall panels not scheduled for transparent finish.
5. Paint all new louvers, hatches, and access doors unless factory pre-finished.
6. Paint all new exterior wood trim, soffits, and fasciae provided on a unit price basis as a part of this Contract.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Finish Carpentry is specified in Section 06200.

1.4- SUBMITTALS

A. Submit complete list of proposed materials. For each surface, list materials by manufacturer and name, and list number of coats. List thinners, if any.

B. Submit complete range of standard and custom mix colors of the selected manufacturer for color selections.

1.5 - DELIVERY, STORAGE & HANDLING

A. Deliver all products to job site in manufacturers' unopened containers with seals unbroken and labels intact.

B. Store products so as to minimize danger of fire and protect building surfaces from spills.

1.6 - PROJECT/SITE CONDITIONS

A. Do not paint when temperature of air or surfaces being painted is below 40 degrees F. Do not apply epoxy paint when temperature of air or surfaces being painted is below 60 degrees F. Do not paint when atmosphere is damp, and do not paint when surfaces are damp, unless paint manufacturer states that paint is intended for such use.

B. Do not paint unless lighting is adequate.

C. Provide ventilation during painting and drying periods.

PART 2 - PRODUCTS

2.1 - ACCEPTABLE MANUFACTURERS

A. Besides manufacturer listed in schedule (PPG Industries, Inc. - Pittsburgh Paints), the following manufacturers are also acceptable:

Benjamin Moore Co.
Sherwin-Williams Co.

No other paint manufacturer will be accepted.

2.2 - MATERIALS

A. Use first quality products of the types specified in schedule. Deliver all materials to job site in unopened containers, bearing names of manufacturer and contents.

B. All paints and primers must be less than or equal to the following VOC levels:

1. Flats: 50 grams/liter.
2. Non-Flats: 50 grams/liter.
3. Floor Paint: 100 grams/liter.

C. Use thinners only as recommended or instructed by paint manufacturer.

D. Materials shall meet all requirements of ANSI Z66.1, "Specifications to Minimize Hazards to Children from Residual Surface Coating Materials".

2.3 - COLORS

A. For interior and exterior surfaces, the Architect shall select colors from full range of standard ready-mixed and custom-mixed colors offered by supplying manufacturer. Architect shall submit color selections in schedule form. Follow Architect's schedule exactly.

B. Concealed surfaces, such as door bottoms, may be painted grey.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Examine all surfaces to receive paint.

1. If surfaces are not fit to receive paint; scrape, brush, or remove unsatisfactory materials by mechanical means, then clean and prepare surfaces for painting operation. Follow manufacturer's instructions concerning surface suitability.

B. The start of work on any surface shall constitute acceptance of the condition of that surface.

3.2 - PREPARATION

A. Broom-clean entire area before painting.

B. Clean surfaces to be painted.

C. Remove rust. If, in Architect's opinion, primed products have corroded significantly, strip all primer from such products, prepare again and reprime.

D. Sand and fill rough surfaces, which are not intended to be rough. Spackle interior holes and cracks. Putty fastener holes after applying prime coat.

E. Seal knots and pitch spots. Wash sap and pitch from surface, and apply Western Pine Association Formula WP-578 sealer or equivalent as recommended by selected manufacturer.

F. Protect adjacent surfaces and items. Remove or protect such items as electrical plates and hardware. After painting, reinstall items removed for protection.

G. On galvanized metal products scheduled to be painted, remove factory applied stabilizers using solvent, brush blasting or chemical treatment as required. Properly prepare all galvanized surfaces as required to obtain proper paint adhesion.

3.3 - APPLICATION

A. Architect has specified number of coats of paint based on the assumption that quality of paint, opacity of pigments, extent of thinning, and quality of workmanship will be good. If Contractor disputes Architect's schedule, notify Architect in writing before starting work.

B. Use products as packaged, unless manufacturer specifically directs thinning or other alteration for proper application. Mix all products thoroughly before, and regularly during application.

C. Follow manufacturer's directions for millage thickness application and rate of coverage.

D. Apply paint evenly. Produce uniform surfaces. Avoid runs, sags, brush or roller marks, "holidays", differences in sheen or color, and other blemishes.

E. If specified number of coats is not sufficient to satisfy requirements specified in D. above, as adjudged by Architect, apply additional coats as required to do so.

F. Brush paint into cracks and seams. Cut straight, neat edges.

G. Do not allow paint to get on adjacent surfaces. Clean up spills and spatters as soon as possible, and no later than end of same day.

H. Allow each coat to dry as recommended by manufacturer before applying following coat.

I. Between coats, trowel in place drywall compound to cover defects in surface and sand smooth to match adjacent surfaces. Reprime those areas.

J. At substantial completion, all surfaces shall be clean. If painted surfaces cannot be uniform, rectify condition by cleaning, or repaint them in accordance with 3.2 and 3.3 of this specification section.

K. Sand smooth finish enamel between coats.

3.4 - SCHEDULE

A. General

1. Paint concealed surfaces such as door tops and bottoms and panel frames and edges.

2. Paint mechanical/electrical products unless they are fully concealed and corrosion-resistant.

3. If shop-applied primer coat is in good condition, field prime coat is not required. Patch primer where scratched or abraded.

4. If shop-applied finish coat is in good condition, and if it matches Architect's selected color, field finishing is not required. Patch where not smooth, uniform, and in tact.

B. Paint all new exposed interior surfaces and any existing surfaces disturbed by the work of this Contract, except the following:

1. Items such as window glass, acoustical tile, ceramic tile, plastic laminates, and resilient flooring which are customarily not painted.

2. Shop-finished items such as cabinets, window frames, except as required in A. above.

3. Wood doors, wood trim, and architectural woodwork scheduled for transparent finish.

4. Concrete floors and walls, except where schedule on the Drawings specifically calls for painted concrete floors or walls.

5. Floor, wall, and ceiling surfaces listed in finish schedule not to be painted.

C. Schedule by surfaces. The following schedule is based on the products of Pittsburgh Paints

as manufactured by PPG Industries, Inc. Equal products of other manufacturers listed in 2.1 above are also acceptable. Submit schedule to the Architect as required in 1.4 above. Primer coat may be deleted on previously painted surfaces.

1. Interior Gypsum Wallboard Surfaces:

   Primer: 1 coat Speedhide Quick-drying Latex Primer-Sealer, 6-2.

   Finish: 2 coats Speedhide Interior Enamel Eggshell Latex, 6-411 series.

2. Interior Wood Trim and Wood Wall Panels scheduled for opaque finish:

   Primer: 1 Coat Speedhide Quick-drying Latex Primer-Sealer, 6-2.

   Finish: 2 coats Speedhide Interior Semi-Gloss Acrylic Latex, 6-500.

3. Exterior Wood Siding & Trim:

   Primer: 1 Coat Speedhide Exterior Latex Wood Primer, 6-609.

   Finish: 2-coats Sun-Proof Exterior House and Trim Satin Latex 100% Acrylic, 76-110.

4. Exterior Galvanized Steel:

   Primer: 1 coat Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer, 17-921.

   Finish: 2 coats Speedhide Interior/Exterior WB Alkyd Satin, 6-1420.

   CAUTION: Care must be exercised when preparing galvanized metal products for painting. Galvanized substrates may have factory applied stabilizer which is used to prevent white rusting during storage and shipment. In solvent degreasing operations, some of the stabilizers are not soluble in solvents. Stabilizers remaining on the surface prevent paint from gaining maximum adhesion. Contact paint manufacturer for additional information and assistance.

5. Other Surfaces:

   Follow master specification of selected paint manufacturer for three (3) coat work in normal service area.

END OF SECTION 09900